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ABSTRACT

Background information for teachers on inflation and self-contained learning activities to help students view inflation from both economic and political perspectives are provided. The introduction contains economics and political science frameworks for analyzing policy issues. How to integrate economics and political science is also discussed. Perspectives on inflation and an inflation bibliography are provided. Discussed are price indexes, what inflation is, the economic effects of inflation, and the causes of and the cures for inflation. These topics are the major foci of the student learning activities that follow. The activities can be used in economics, business, government, math, or any course in which the effects of inflation are studied. Students take an inflation pretest and are involved in many activities, including reading and analyzing handouts, playing games, and role playing. Classroom materials for duplication are provided. (RM)

ECONOMICS-POLITICAL SCIENCE SERIES (EPS)

Analyzing Inflation and Its Control: A Resource Guide

Michael K. Salemi

Sarah Leak

1984

Joint Council on Economic Education

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The Joint Council on Economic Education is extremely grateful to the members of its Publications Committee who reviewed the manuscript of this volume. However, responsibility for the published version rests with the author and publisher.

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Lawrence A. Mayer: Director of Publications
Ester Moskowitz: Associate Director of Publications

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Foreword

The Economics-Political Science (EPS) publication series is part of a project the Joint Council on Economic Education began in 1973. The undertaking resulted from a recognition that teachers needed information on how to deal with complex social issues in their classrooms. The J.M. Foundation, which has a strong, long-term commitment to improve the quality of education in citizenship, provided the JCEE with the initial grant to launch the EPS project.

The first step was to hold a national workshop at which key educators were shown how to teach more effectively about these issues. Five regional workshops followed. Funds for these phases were provided by the J.M. Foundation, the Exxon Company, U.S.A., and the Lilly Endowment, Inc.

The next step was to develop teaching materials. Continuing grants from the J.M. Foundation and the Exxon Company, U.S.A., enabled the JCEE to begin preparing resource guides on a number of questions that had important economic as well as political aspects.

This is the sixth and final publication in the EPS series. We believe the series to be especially valuable because of its interdisciplinary focus and because it uses teaching strategies that have significant, measurable outcomes. The project is also noteworthy because it has brought together people of diverse backgrounds: specialists in academic disciplines and in education as well as high school teachers from systems of various sizes and kinds.

We acknowledge with gratitude the support of the funders for their help in making this project possible. We also thank all those responsible for the development of this series, in particular, June V. Gilliard, Director of Curriculum of the Joint Council and the project's director as well as her predecessor, George A. Fersh. Valuable advice and assistance were provided by Anthony F. Suglia and S. Stowell Symmes of the JCEE staff and George G. Dawson, a former JCEE staff member who is now director of the Center for Economic Education at Empire State College (State University of New York).

Michael A. MacDowell
President, JCEE

Preface

Organization and Uses of Unit Resource Material

Policy decisions affect everyone. Consequently, it is important that students acquire the knowledge and skills necessary for understanding the major policy questions facing our society and for participating effectively in the process of public debate and public decision-making.

Analyzing Inflation and Its Control is the sixth in a series of resource guides focusing on economic-political analysis of contemporary public policies and issues. In developing these Economics-Political Science (EPS) guides we have spared no effort to make the contents as widely useful as possible. The guides are designed to be used by high school teachers with instructional responsibilities for economics, government, United States history, problems of democracy, or other social studies courses dealing with contemporary social issues.

The resource guide on inflation and its control consists of several components, each designed to serve specific curricular or instructional purposes. The Introduction provides a general explanation of the conceptual framework used throughout the series for analysis of inflation. It also provides a model teachers may use for extending the study of inflation policy or for creating additional units dealing with economic-political analysis of other matters of public debate and concern.

The Topic Overview has two purposes. First, it provides the teacher with background information on economic and political issues involved in the formation of policies to control inflation. Second, the overview serves as a concrete example of how to apply the conceptual framework described in the Introduction to the economic-political analysis of policy issues.

The instructional activities deal specifically with pedagogical questions pertaining to the why, what, and how of teaching about inflation and policies for its control.

About 8 to 12 class periods are needed to complete all the suggested instructional activities in the sequence presented. It is anticipated, however, that some teachers will wish to use the material in other ways. Therefore, the activities are designed so they may be used singly or in various combinations, depending on the amount of time the teacher wishes to devote to the topic and the needs of the particular student group being taught. To assist teachers in determining which activity or combination of activities is most appropriate for their students, each instructional activity has been keyed to the objectives it is designed to achieve.

We wish to express our appreciation to the writing team that prepared the material for this sixth unit in the EPS series. Special thanks are due Lawrence A. Mayer and Ester Moskowitz, who edited it for publication.

June V. Gilliard
Director of Curriculum, JCEE
EPS Project Director

INTRODUCTION

LAURENCE E. LEAMER AND PAUL A. SMITH

A central purpose of this series is to help students in learning to view society and its problems from both economic and political perspectives. This can best be done through study of specific questions, each of which entails an economic and political analysis of a distinct social problem.

Economics and political science are complex intellectual "disciplines," each having an extensive body of theory and methodology. As such, their applications in the diverse areas of policy decision-making may leave the teacher searching for certain "essentials"—certain core ideas—with which to explain matters to the student. Such essentials can be found in a modest number of basic concepts that mark each discipline. These are presented in separate statements below, followed by a brief discussion of how those concepts may be combined to provide an integrated approach to the teaching of economics and political science.

1. AN ECONOMICS FRAMEWORK FOR ANALYSIS OF POLICY ISSUES[1]

It is useful to think of the concepts that form the basis for economic understanding in terms of several broad "concept clusters." The diagram provided in Figure 1 (page 2) illustrates how these clusters and subclusters are combined to form a schematic framework for economics curricula and instruction.

Every economy, however it may be organized, faces the fundamental problem that economic resources (natural resources, human resources, capital goods) are limited relative to the practically unlimited wants of people in the economy. How people allocate these resources among many competing human wants varies greatly among different economic systems. One broad class of systems solves this complex problem largely by reliance on tradition (e.g., some less developed economies), another one by "command" (e.g., centralized economies such as China and the U.S.S.R.), and a third class by a decentralized market mechanism (e.g., the United States and most Western European nations). In reality, most economies are mixed in their use of the three approaches and in the economic institutions they have developed, and the approaches and institutions change with the passage of time. We focus primarily on the U.S. economic system, but it is important to recognize that other systems face the same central economic problem of *scarcity*, although they deal with it differently.

When examining any economic system it is helpful to look both at its parts (microeconomics) and the whole (macroeconomics). In microeconomics independent elements can be explored, such as what products are produced, how much a firm produces, how much income a family earns, or why corn prices are what they are. But some problems require an analysis from the perspective of the total (macro) economy. Then economists examine aggregates such as general price levels, gross national products, employment levels, and other phenomena.

In our largely private enterprise economy (leaving government aside for a moment) competitive market prices are the dominant mechanism used to allocate scarce resources. Perfect competition rarely exists in the real world, but the competitive market provides us with a model of how markets "should" work when no individual is a big enough part of the total market to have any personal influence on market price.

In striving to maximize profits, businesses try to produce at the lowest possible cost those goods and services that consumers are willing and able to buy. In some cases they also seek to influence consumer demands through advertising and other selling activities. They draw productive resources (such as labor,

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Laurence E. Leamer, who is the author of several JCEE publications, was a professor of economics at the State University of New York at Binghamton previous to his retirement. Paul A. Smith is professor of political science and director of undergraduate programs at the same institution.

1. Adapted from the January 1977 unpublished report prepared by W. Lee Hansen, chairman, Framework Committee for the Joint Council on Economic Education Master Curriculum Project.

FIGURE 1
Framework for Analysis of Economic Policies and Issues

Systematic analysis of economic policies requires:

IDENTIFICATION OF ISSUES

- Issues Pertaining to Relative Role of the Market vs. Government Action
- Issues Pertaining to Overall Performance of the Economy
- Issues Pertaining to Distribution of Income

KNOWLEDGE & APPLICATION OF BASIC ECONOMIC CONCEPTS

The Economic Problem

which arises from scarcity and the need for choice, and necessitates the development of

Economic Systems

for resolving problems and issues dealing with what to produce, how to produce, how much to produce, and how to distribute the fruits of production:

- Microeconomics: Resource Allocation, Income Distribution, etc.
- *and*
- Macroeconomics: Economic Stability and Growth, etc.

KNOWLEDGE OF ECONOMIC INSTITUTIONS

which provides the factual and behavioral background needed to apply economic concepts

EVALUATION OF ECONOMIC ACTIONS AND POLICIES

which necessitates distinguishing between

Questions of Fact or Prediction vs. Questions of Judgment or Values

by applying

Measurement Concepts

for assessing economic performance,

identifying

Goals/Values

to be used as criteria for evaluating policy alternatives,

and

weighing policy choices in terms of

Trade-offs among Goals

land, and machinery) into those enterprises where they will contribute most to meeting consumer demands. While doing so, businesses pay out incomes to workers, landowners, and other suppliers of productive services who are also trying to maximize their economic returns by getting the best possible value or price for what they have to offer. These incomes, in turn, make it possible for income receivers to bid for goods they want. Thus markets in which prices rise and fall in response to changing demands and supplies provide the mechanism that links consumers and businesses, each group seeking to make the best of its position and abilities, yet each dependent upon the other. In economics, this is described as a circular flow model of the economic system. Individuals and businesses who save part of their income and make these savings available for investment in new productive facilities or in human beings increase society's capacity to produce in future years. As a result another circular flow exists, connecting those having funds to invest and those seeking funds to be invested.

Individual freedom of choice is central to the way the largely decentralized, market-directed American economy defines its goals and allocates its limited resources. But those individual freedoms of the consumer, wage-earner, investor, and entrepreneur are limited by laws and social institutions protecting the individual and society. Thus, markets and prices, reflecting shifting demand and supply conditions, are the main regulators of the allocation of scarce resources in the production of the most desired goods and services; but government, unions, trade associations, and other institutions help to set and enforce the rules under which competition takes place, and sometimes participate actively in the process of production and distribution.

There are two general types of queries fundamental to understanding policy issues. One concerns questions of fact or prediction: *What is known* about economic behavior? Or, if we undertake some action, what will be the predicted effects? The other type concerns questions of judgment or values: *What ought to be done* to alter economic behavior? Should we undertake a particular policy or not, given that various people and groups may be differently affected? The failure to distinguish between questions of *what is* and *what ought to be* is the cause of endless confusion and can lead to inappropriate policy analysis.

As we sort through the vast array of questions and issues coming at us from newspapers, television, political campaigns, and our involvement in economic life, we find that most of them can be grouped into the following three broad categories:

One major set of issues concerns the relative role of private market forces and government actions. On these issues we are interested in knowing "what happens," or what is likely to happen, in response to a change in the demand for, supply of, and the resulting prices of individual goods and services; to changes in the supply and demand for labor and capital; to new developments in technology. Response to these questions calls for a description of how the total economic system or its parts behave under conditions of free competition and varying degrees of restriction. A related set of questions pertains to "what ought to be done." What ought to be done, say, when rising prices for any commodity (e.g., oil, lumber, sugar, or coffee) become a political issue? This involves thinking about whether to rely upon the operation of market forces or to rely upon public action via government policy such as price control, rationing, special taxes, and the like. Another way of phrasing the question is: When "should" direct government action be used to allocate resources differently from the way the price system would allocate them? For example, should local government act to allocate energy sources, such as oil or gas? Should government continue to subsidize shipbuilding, farming? Most of these questions concern economic efficiency. To consider appropriate public policy about such questions, one must first determine the consequences of choices, analyze them relative to desired results and values, and then make what one believes to be the most favorable policy decision. But other questions of government action relate closely to economic equity. For example, should government raise gasoline taxes or use a direct quota rationing system to allocate limited gasoline supplies? Only after a detailed examination of all the possible effects would one be in a position to reach a judgment.

Another important category of issues relates to the economy's performance. What "causes" inflation? What "causes" unemployment? What "should be done" about inflation or unemployment? What policies should be pursued when unemployment and inflation exist simultaneously? What "causes" economic growth? What are some of the benefits and costs of economic growth? What is the long-run relationship between economic growth, population, and employment? Between economic growth and the environment? What is the "appropriate" rate of growth? Should we attempt to speed up or slow down economic growth, or pursue a "no-growth" policy? What is the best way to carry out our policies?

A third major category of issues relates to the distribution of income produced by the operation of market forces and the redistribution of government action. Again, it is important to separate "is" from "should be" issues. What is the current distribution of income? What produces this distribution? To what extent does this distribution perpetuate itself? What is the effect of existing and of proposed government policies on income distribution? Should policies be adopted that are designed explicitly to change the distribution of income or economic well-being? Should the tax structure be made more or less progressive? Should schools continue to be financed largely by property taxes? Should policies designed to improve economic efficiency be adopted if they affect the distribution of income? Should government subsidize the housing of elderly and low-income renters? These issues, some immediately vis-

ible and others hidden just below the surface, appear to be critical to virtually all the questions posed earlier. They come up in any evaluation of how the market system works, in determining whether collective decisions alter individual economic decisions, and in assessing the extent to which inflation, unemployment, and growth affect the general well-being of the population. Who gains and who loses, and who should gain and who should lose are the questions that best summarize what is at stake here.

There are several reasons why unequivocal answers to these and similar questions are not readily available. Economic systems are complex, and an understanding of these systems requires a conceptual framework, factual and cultural information, the application of analysis, the making of judgments, and the determination of action to be taken. Moreover, our ability to know exactly how effectively the economy and its components function is limited by difficulties in obtaining accurate and timely measurements of economic activity. Finally, a variety of unanticipated events affects economic activity, and thereby makes it difficult to predict accurately the results of specific economic decisions. Unlike the physical sciences, carefully controlled experiments are difficult to undertake in economics.

Even if our understanding of the economy and economic decision-making were vastly improved, we still could not expect all disagreements on economic issues and questions to be eliminated. Certainly, some disagreements will be resolved as our understanding is increased. Many disagreements will persist, however, because of differences in judgments about the actual or predicted effect of specific decisions, and still others will remain because individual economists, as do most individuals, adhere to different sets of values.

The heart of economics is decision-making—choosing among alternatives. But economic decisions are not made in a vacuum. Rather, they are made in the light of a set of goals. These goals vary from one society to another, from one group to another within a society, and from one individual to another within a group. Among the goals most evident in the modern world and particularly in American society are freedom, economic efficiency, equity, security, stability (full employment and the absence of inflation), and economic progress.

Economic decision-making involves the *opportunity cost principle*. It refers to what must be given up, i.e., to opportunities forgone when scarce resources are used to produce particular goods and services. A decision to produce one good entails giving up the possibility of producing something else that uses the same resources. The cost of producing that "something else" is the opportunity cost of producing the good chosen. For an individual, the opportunity cost of something purchased is the price of whatever could have been bought instead. Opportunity costs for a society are the costs of the alternative uses to which it could have put its productive resources.

A person or a group choosing one good instead of another is making a *trade-off*—that is, giving up less of one thing for more of something else. Society has to make trade-offs too, e.g., between its need for more energy and its desire to preserve the environment. Essentially this involves comparing the various costs and benefits of each of the alternatives and determining how these costs and benefits will affect different groups within the economic system.

Goals or criteria provide a means of evaluating the performance of not only an economic system and parts of it, but also of existing programs and proposed new policies. However, many of the goals conflict, and difficult trade-offs have to be made. Examples are farm price supports, which promote security but reduce efficiency; minimum wage laws, which can be thought of as equitable but may increase teenage unemployment; and wage-price controls, which may restrain inflation, but also reduce efficiency and freedom. Economic analysis does not make explicit value judgments in these policy areas, but it does help people to understand the nature of the trade-offs so that they can form their own judgments in the light of their own values. Perhaps most important, it encourages use of a reasoned approach in dealing with controversial economic issues.

2. A Political Science Framework for Analysis of Policy Issues[2]

The political scientist uses certain major concepts to find meaning in the world of politics. These concepts direct attention to the significant qualities of any political system and provide measures of its effectiveness. As in other intellectual disciplines, there is considerable disagreement in political science about what things are important and how they should be studied. Nevertheless, while political scientists might argue about exact definitions and preferred approaches, the following concepts provide us with working tools for political analysis. Each of the problems we shall be addressing in this series is a problem of public policy, and thus its solution—or nonsolution—must involve political decision-making. These concepts will provide the means for understanding that process.

- The first concept is *authority*. By this we refer to the legitimacy that a political leader or procedure or policy has. A political action is authoritative to the extent that it is accepted as right and proper by the community it affects. Authority, therefore, is a relationship that arises not from the will of governors but from the beliefs of the governed. What gives a political decision authority is usually its connection with some basic *procedure* or

2. The statement of political science concepts was prepared by Professor Smith, with the consensus of the other political scientists involved in the project.

institution that the community views as a fundamental value. Often this is expressed by some historical event or document. For example, we say that the U.S. Constitution gives the President authority to command the armed forces, and the Congress authority to declare war, while neither has authority to do both.

Of course there are many kinds of authority—in art, science, religion, and so forth—all involving standards of performance or truth. The distinctive aspect of political authority is in its relationship to social power. "The state," we often say, embodies the authority to make "final" decisions affecting social values or, more specifically, to use coercive force. Political authority is a tricky concept because it is often confused with power and because its exercise almost always means that some members of the community must do things they don't want to do. This complicates the quality of approval implied by authoritative acts. Authority wanes as this complication grows.

- Our second concept is *power*. Power is the capacity to get people to do things they would not otherwise do, with *political* power activating instrumentalities of collective sanction—customarily the state. Obviously, power has many sources. It can "come out of the mouth of a cannon" or it can rest on such forces as love, money, oratory, knowledge, or authority. Like authority, power expresses a relationship. It rests on shared values and unequal resources. Power is authoritative only when its exercise is accepted as legitimate by the community. When power goes beyond authority, deep conflicts occur in the community and governments must use more force and coercion to sustain themselves and carry out policies. We ordinarily think of democratic government as a model in which power and authority overlap and where explicit procedures of consent are used to determine authority. The distribution (who has how much) and exercise of power are thus key factors in the way problems of public policy are handled in the political system.

- Although we have used the term "public policy" as if it were a simple and commonly understood concept, in recent years political scientists have given considerable attention to its meaning and analysis. One reason for this is that it is often difficult to know when an action is or is not part of a "policy," and when nongovernmental institutions actually might be "making" policy. For our purposes, this third concept refers to *patterns of action* by government that are directed at recognized social problems. Thus we think of public policy not as one action but as a *series* of actions having political authority and aimed at some coherent set of social needs. Policy, therefore, is something that results from what government does and that reflects the power, values, and skills of the political community.

- In order to deal with the multiple group and individual actions that go into policymaking, political scientists often use the concept of *process*. This refers to the dynamic relationships—especially the relationships of influence—among those who take part in the various steps through which policy is suggested, formulated, authorized, changed, and so forth. Sometimes the "policymaking process" refers to what happens in the political system as a whole, and sometimes to actions leading to a particular policy or set of policies. In either case, process is always active in nature, and the term emphasizes that governing or policymaking cannot be described adequately by formal structures of authority or power.

- This brings us to our fifth concept, *institutions*—well-established and "structured" patterns of behavior through which power is exercised and governmental actions are taken. Congress, the Presidency, the Supreme Court, political parties, elections, regulatory agencies, and city councils are all political institutions. Each of these is composed of a distinct structure of rules, procedures, roles, expectations and rewards; and each serves certain functions. In America institutional development is well advanced and policymaking is largely channeled through certain types of political institutions designed to "produce" policy. Since institutions are by definition well-established, and elements of their structure are often defined by formal rules (laws), political institutions tend to embody large amounts of authority in their respective areas of jurisdiction. Indeed, we often refer to persons who hold positions or offices in government as "authorities." So strong is this institutionalization that political activities outside of them are often viewed with suspicion, if not outright opposition. For example, street or courtroom demonstrations are usually treated as highly controversial and "out of order" in the American community.

  Political institutions, therefore, tell us a lot about public policymaking. As embodiments of authority, they are preferred channels for political action and power. They are not only natural targets for those in the community who wish to influence policies, but also are guides to who has community power. For example, congressional committees are the focus of political activity by those community interests over which the committees have jurisdiction; hence, those same committees usually become biased in favor of those very interests. The same thing happens to regulatory agencies. It is easy to see, therefore, that most policy processes occur in and around institutions. Moreover, important relationships develop between political institutions and other types—economic institutions, for example. Business corporations, labor unions, and markets have close and complex ties to political institutions ranging from committees of Congress and federal regulatory agencies to small-town governments.

- Our sixth and last concept is political *participation*—activities that are part of political decision-making, the results of which are supported by the power and authority of the state. The first point to be made about participation is its diversity. Voting is probably the form of participation most Americans would think of before any other, since free elections are an institution in America. But for those of us interested in public

policymaking, other forms of participation are more useful—writing letters to members of Congress, direct lobbying, or contributing to political campaigns, for example. Bribing or assassinating or providing information to government officials are other examples. These remind us that some forms of participation are more legitimate, more costly, or more effective than others.

A second point about participation is apparent from the above description: some members of the community participate more than others. Although it is not easy to summarize the enormously complicated nature of this point, as a rule the more resources of wealth, skill, or status people have, the more and more effectively they participate. The fact that this generalization can be made for every known political system has obvious implications for the distribution of power, the nature of policymaking, and the outcomes associated with policies. Democracies pride themselves on expanding participation, and this is a public value in the United States. Even so, the general relationship between resources and participation remains. Moreover, participation is greater in some areas of policymaking than in others. For example, fewer Americans "decide" the level of defense expenditures each year than where bridges will be built over inland waterways. Participation must be measured and judged not only in terms of amount, but also in terms of quality and breadth. Some men and women might participate with great intensity (and effect) in a relatively narrow area of policy, while others might participate over a wider range and with less effectiveness in any one area. Thus political participation is many-faceted and complex.

Looking back on the six concepts we have singled out for special emphasis in the understanding and application of political science, we see that each one in itself has a good chance of becoming an arena of controversy in the policymaking process: Does a particular policy represent an "abuse or a maldistribution of power"? Did the policy process wrongly exclude deserving groups in the community? Does government intervention constitute a "misuse of authority" or the "abridgment of rights"? The reason for this is that these concepts not only involve *description* and *analysis* of politics, but the *evaluation* of politics as well. Each carries with it values and standards. How much power is good? What extent of authority is proper? Who should participate, and in what way? And beyond this is the question of political *effectiveness*, the capacity of the political system to act, to work, to get things done. Remember that Mussolini was originally complimented because "he got the trains to run on time" (which later turned out to be questionable). So the effectiveness of a governing arrangement or of a public policy also becomes (and hardly surprisingly) a criterion of value.

Finally, we are left with the question, "What is politics?" Political (or "public") authority, power, process, policy, institutions, and participation all involve conflicts of value. Politics is the working out of these conflicts so that policies can be made and governments can function. In democracies politics is marked by bargaining, compromise, and accommodation, and it is this meaning of politics that is most common in America. Where there is policy unanimity within a political community or where policies are imposed on a community, there is no place for politics. Politics, therefore, occurs where there is conflict over social policies and where those conflicts are resolved with a minimum of value loss to any particular interest. Some members of the community will win, others will lose. Some will get more than others. But the gains and losses will be limited by the process of politics. Politics is often looked upon as a necessary evil, with suspicion and skepticism. But as you consider the different problems of public policy, and the conflicts and controversies over solutions that divide the community, imagine what policymaking would be without politics. It would be policymaking of absolute unanimity or absolute coercion, or both. Neither of these is consistent with our basic ideals of individuality and the free and vigorous expression of ideas.

3. Integrating Economics and Political Science

While economics and political science are separate disciplines, it is important to keep in mind that they have much in common, and that in effective analyses of public policy they almost always must be used together. Indeed, "political economy" itself has a long and distinguished tradition as an intellectual discipline. The similarities and differences between economics and political science are summarized in Figure 2.

Both economics and political science are concerned with human values and with the decisions about those values that have social consequences. Both disciplines are social sciences, which means that both have similar standards of scientific logic, evidence collection, and construction of theory. In short, they share a common emphasis on verified explanations of patterns of social life. Both, therefore, are concerned with social problems. See Part II in Figure 2 for a summary of the four steps in a rational approach to the study of social problems.

But the two disciplines differ in their framework for analysis, institutions, fundamental concepts, and type of evidence or "data" they most commonly employ. Economists and political scientists have therefore developed different areas of expertise. Economists are experts on the vast array of stable and changing conditions that are related to the distribution and exchange of goods and services. They concentrate their attention on the institutions or arenas where these economic decisions take place. The most notable arenas are what economists call "markets," in which prices are determined by the decisions of buyers and sellers. Here the data are commonly in the form of units of economic value—*money*—which have the great advantage of precision and comparability.

FIGURE 2

THE SUBJECT MATTER OF POLITICAL ECONOMY:
A Framework for Analysis of Political-Economic Policies and Issues

ECONOMICS (Economic Science)	POLITICS (Political Science)
FOUNDATION	
THE ECONOMIC PROBLEM (Wants > Resources → Scarcity, i.e., our wants exceed available resources and therefore scarcity exists)	THE POLITICAL PROBLEM (Conflicts of interest)
THUS	
I. Political economy is the study of the **methods** by which society—	
employs its resources (human, capital, natural, time) productively for the fulfillment of human wants.	resolves conflicts of interest over the authoritative allocation of values; thus a study of power.
Toward these ends	
Economics is a study of how a society decides—	Politics is a study of how a society decides—
a. **What** wants to produce (i.e., what wants to fulfill) and **how much** to produce	a. **What** goal values are to be sought and given authority
b. **How** to produce most efficiently (i.e., how to allocate resources most productively to their alternative possible uses)	b. **How** societies are to be organized for the pursuit and use of power and authority (i.e., mechanisms for resolving conflicting values, achieving social goals)
c. **For whom** to produce (i.e., who is to get what and how much and how is this to be decided)	c. **For whom** the organization exists (i.e., who gets what; whose goals are served?)
II. Political economy is the study of **social problems** relating both to the functioning of the organization as a whole and to its particular institutions.	
Both economics and political science usually employ a problems approach involving four steps—	
a. **Definition of the Problem**—What desired goals are believed to be inadequately served by existing institutions? How does "what is" conflict with what many think "ought to be"?	
Economics is concerned with problems relating particularly to the goals of—	Politics is concerned with problems relating particularly to the goals of—
1. Efficiency and productivity	1. Justice in the exercise of power
2. Growth	2. Equity in the distribution of power (income, deference, security, influence)
3. Stability (both full employment and general price stability)	3. Freedom (both limits on the use of power and access to resources needed to realize individual potential.
4. Security	4. Effectiveness
5. Equity in the distribution of income	
b. **Understanding of the problem**—What concepts, what analytical tools, what facts do economics and political science have to contribute to an understanding of the problem and its proposed solutions?	
What do we know about how productively resources are being employed for the fulfillment of human wants related to the problem and the consequences for other values?	What do we know about value conflicts (i.e., conflicts of interest) related to the problem, how they are being resolved, and the resulting allocation and use of power?
c. **Public policy alternatives**—What are their economic and political implications? How may citizens, as individuals and groups, influence policy decision-making?	
What will be the probable consequences, both in the short run and long run (the seen effects and the unseen), for the economic goals stated above?	Who is proposing what and why? How does private interest relate to public interest? What are the probable consequences for the political goals identified above?
Thus what policy alternatives will bring the greatest net realization of values?	
I.e., a more optimal allocation (use) of resources (so that their marginal value products in all alternative uses will be equal).	I.e., resolution of the problem with a minimum value loss to any participant and a maximum value gain to all.
Which policy alternative is most compatible with one's economic philosophy (i.e., one's view of the proper role of government in relation to the economy)?	
d. **Action**—How may one implement one's views?	
How does one act as consumer, producer, as a member of an interest group to bring about desired changes?	How may one as a citizen or leader participate in politics to be most effective in bringing about desired changes?

Political scientists, on the other hand, are experts on the distribution and use of social power and on the institutions through which that power is mobilized and made authoritative. Most notably, those are institutions of government, political parties, and elections. Since there are no measures of power or authority comparable to those of money and market value, political scientists use various forms of data to study politics, including votes, opinion surveys, laws, and judicial decisons. It is also true that just as economists recognize that actions of government affect economic conditions directly and indirectly, political scientists know that economic resources are sources of social power and that economic issues are a major element of politics.

Insofar as alternative social goals can be assigned economic values and markets exist in which those values can be expressed and measured, economic analysis can be used to judge the desirability of proposed policies. Cost-benefit analysis is one way of determining desirability: actions will be undertaken if the benefits exceed the costs, but will not be undertaken if the costs exceed the benefits.

When, however, human values cannot be measured as economic goods, or when markets are for some reason (e.g. if they are monopolistic) not effective in their pricing and distribution functions, then policy decisions tend to be moved from the economic to the political arena. The realm of politics can encompass conflicts among alternative human values and social goals of all sorts, with the resulting policies being enforced through the power and authority of government. For each of the social problems treated in this series, you will find it interesting to observe how economic and political factors together contribute to both the cause and possible solutions of the problems and how social scientists analyze in their distinctive ways what the problems are and how they might be solved.

While we recognize the importance of the other social sciences and the extent to which they enhance one's understanding of public problems and issues, our aim here is to combine only two of these disciplines: economics and political science. The teacher resource materials contained in this and other units in the series provide concrete illustrations of how economics and political science may be combined to enable students (1) to analyze and understand policy issues and (2) to participate effectively in the political process through which policy alternatives are examined, promoted, and acted upon.

TOPIC OVERVIEW

PERSPECTIVES ON INFLATION

MICHAEL K. SALEMI

A 500-SHEKEL NOTE IS ISSUED IN ISRAEL LARGEST SO FAR

TEL AVIV—A 500-shekel banknote bearing a portrait of Baron Edmond de Rothschild went into circulation here. The bill is to spare Israeli wallets from bursting with ever-thickening wads of banknotes, the highest of which was only 100 shekels until now.

The "Rothschild" is expected to lose half its value in one year if the current triple-digit inflation continues. The 1982 inflation total is expected to hit 130 percent.

The "Rothschild" was worth $15.50 when sent into circulation Wednesday. The 100-shekel bill, worth $6.60 a year ago, is down to $3.10. Bank of Israel officials already plan a 1,000-shekel bill and are looking ahead to a 2,500 or 5,000-shekel whopper bearing a picture of the late Mrs. Golda Meir, Israel's former prime minister.

—*International Herald Tribune*, December 3, 1982

INTRODUCTION

This publication is about inflation—its nature, its effects, its causes, and how to stop it. The news item above provides an apt introduction. On the surface, the item concerns an easy "fix" to a mundane problem: if price levels double annually, a convenient solution is to use currency of higher denominations. But the item also suggests some more interesting questions.

First, how could inflation in the United States decrease from double-digit levels in 1980 and 1981 to 6.1 percent in 1982 while the Israeli inflation rate rose to 130 percent? It is not because the United States has a larger economy. In tiny Switzerland, the inflation rate during the past decade has been roughly half that of the United States. Second, are there more serious reasons to end inflation than merely to prevent "wallets from bursting" as the *Herald Tribune* states? Yes, but not because inflation necessarily makes it difficult for people to afford goods and services. Third, what is the

This monograph was prepared while the author was a research associate at the Graduate Institute for International Studies in Geneva, Switzerland, on leave from the University of North Carolina at Chapel Hill.

I wish to thank my colleagues at the institute, and especially Hans Genberg, for their help and support. I wish also to thank Carrie Benoit Salemi who read and commented on the manuscript. Finally, I wish to thank Dr. Daniel Ryan, who taught me high school social science and American history with a skill and verve that I still admire.

connection between inflation and the amount of money in circulation? The article suggests that more inflation implies a greater need for money. In what follows we will see that the opposite is more fundamental—rapid growth in a nation's money supply eventually causes price inflation in that nation.

Most economic policies that aim to control inflation are politically controversial. The Nixon administration's wage and price controls of 1971–72, President Ford's WIN (Whip Inflation Now) exhortation, and the calls made by Presidents Carter and Reagan for reduced government spending and a smaller Washington bureaucracy all met serious opposition. There are three basic reasons why inflation is politically controversial. First, many in government see inflation as offering a more attractive source of new revenue than does additional taxation. Second, there is not universal agreement among or between economists and politicians as to the causes of inflation. And third, once it is firmly established, inflation is costly to end. Moreover, those costs are likely to be borne more by some members of society than by others. In what follows, these and other ideas are explained.

1 PRICE INDEXES—OUT OF MANY, ONE

1.1 The Differences between Inflation and Relative Price Changes

Changes in prices are a fundamental part of the working of the economy of the United States. In our economy, prices function as a giant signaling system that relays information regarding the relative scarcity or abundance of goods and services to all those who produce, consume, buy, and sell. Since the economy is constantly buffeted by changes and shocks such as severe alterations in weather, strikes, the impact of new inventions, bankruptcies, abrupt changes in tastes or fads, and innumerable others, it is not surprising that prices are constantly altering in relation to each other. These price changes—some up, some down—are a crucial part of the economy's adjustment to all the changes and shocks it experiences.

Not all price increases constitute inflation. If unseasonably cold weather in Florida damages the orange crop, the price of oranges will increase. It would be a mistake to describe such a price increase as inflation or as the result of inflation. Orange prices increase in order to ration the now smaller supply of oranges among prospective consumers. The key here is that the price of oranges has risen relative to other products in general and to other fruits in particular. Many consumers will therefore substitute grapefruit for orange juice at breakfast because orange juice is now relatively more expensive.

Inflation is quite different from relative price changes. Inflation occurs when all or most prices tend to increase together over a sustained period of time. The forces that cause inflation are very different from those that cause relative price changes. Relative price changes are necessary for the efficient functioning of any economy. Inflation itself is by no means similarly necessary. While some members of society benefit from inflation, an overwhelming case can be made that society as a whole would be better off with less inflation, and, particularly, with less erratic movements in the rate of inflation than we experienced in the 1970s and early 1980s.

1.2 An Example of a Simple Price Index

The last sentence above uses the term "the rate of inflation" as if there were, in any month or year, one precisely defined answer to the question "How rapidly are prices rising?" A little reflection will suggest, however, that no such precision is possible. In Chapel Hill, North Carolina, where I live, the price of hamburger may have increased by 7 percent from 1981 to 1982, the price of gasoline by 10 percent, the price of canned string beans by 3 percent, the price of a movie ticket by 15 percent. On the other hand, the price of pocket calculators may have fallen by 15 percent while the price of a pizza—with sausage and mushrooms—at my favorite pizzeria may not have changed. Which one of these numbers or what combination of these numbers could reasonably be called the rate of inflation?

There is no single correct answer to the above question, but some answers are more reasonable than others. Economists use price indexes to measure the rate of inflation. Generally speaking, a price index is a number that compares the prices of a basket of goods with the prices of those goods in some reference or base period. There are three price indexes that economists commonly use and that are frequently referred to in newspaper and TV reports: the consumer price index, the producer price index, and the GNP deflator. Before discussing these indexes, it is useful to work through an example that should help explain in very simple terms how changes in a group of prices can be measured.

The economy offers a vast array of goods and services. But younger consumers care about only a very few of these. My daughter Caitlin, for example, spends her allowance on chocolate bars and salted-in-the-shell peanuts. During 1981 Caitlin received an allowance of one dollar per week. In 1982 she declared that she wanted an increase because her dollar "didn't buy as much as it did last year." The data that describe her situation are presented in Table 1.

TABLE 1
Cait's Candy and Peanut Expenditures

	Candy Bars		Peanuts		
Year	Price Each	Quantity per Week	Price per Lb.	Quantity per Week	Total Expenditures per Week
1981	$.20	3 bars	$.40	1 lb.	$1.00
1982	$.30	3 bars	$.50	1 lb.	$1.40

The table shows that between 1981 and 1982 there was a 50 percent increase in the price of candy bars and a 25 percent increase in the price of peanuts. A price index that reflects the relative importance of candy and peanut prices to Caitlin would be:

$$C.P.I. = (3 \times PCANDY) + (1 \times PNUTS)$$

where *C.P.I.* stands for Caitlin's Price Index and *PCANDY* and *PNUTS* are the prices of candy bars and peanuts, respectively. This price index is a weighted average of the prices that matter to Caitlin. The weights (3 for candy and 1 for nuts) reflect her actual purchases in 1981, when she bought three candy bars and one pound of peanuts each week. In 1981 the price level for Caitlin as measured by the index was $1.00, i.e., (3 × $0.20) + (1 × $0.40). In 1982, the price level could be reasonably measured as the cost of the quantities of candy bars and peanuts that Caitlin consumed each week in 1981. By this measure the price level in 1982 is $1.40, i.e., (3 × $0.30) + (1 × $0.50). Together these numbers mean that Caitlin would need an allowance of $1.40 to buy in 1982 what $1.00 would buy in 1981. It would thus seem appropriate to raise Caitlin's allowance by 40 cents per week.

The example gives one answer to the problem of how to express inflation as a single rate when in reality prices of different goods move at different rates: use a fixed weight average. Based on our calculations for Caitlin, prices on average rose 40 percent between 1981 and 1982, although neither candy bars nor peanuts increased exactly this much.

But Caitlin is not concerned with indexes; she is concerned with the buying power of her allowance. Because that buying power has been diminished owing to an inflation rate of 40 percent, a 40 percent increase in her allowance will make it possible for her to purchase in 1982 the same weekly basket of goods she purchased in 1981. But she may not choose to do so. Since relative prices have changed, it is possible that she may alter her buying pattern. In 1981 a pound of peanuts were twice as expensive as a candy bar; in 1982, the peanuts were only 67 percent more expensive, i.e., peanuts were relatively less expensive than candy in 1982 compared to 1981. Consequently, with an allowance of $1.40, Caitlin may well be better satisfied with a market basket that contains fewer candy bars and more peanuts. So in 1982 she may cut her purchase of candy from three bars to two bars, and increase her purchase of peanuts from 1 pound to 1.6 pounds. The total cost of this basket is also $1.40.

1.3 The Consumer Price Index

The U.S. price index that is probably most widely known is the Consumer Price Index (CPI). The index is based on the prices consumers pay for a fixed market basket of goods and services. When newspaper articles or TV broadcasts discuss the rate of inflation, they are most often talking about the amount of increase in the CPI. The CPI was first constructed during World War I as a basis for adjusting shipbuilders' wages, which had been placed under government control during the war. The CPI has been revised several times since then; the most recent revision was introduced in early 1978. Gathering information for the CPI and computing it are the responsibility of the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor.

The market concept underlying the CPI is quite simple. The BLS conducts interviews with consumers and uses other survey techniques in order to construct a list of goods and services that represent the purchasing pattern of typical urban consumers and their families. In this way, the BLS determines what goods and services should be included in the CPI and the importance in the index—the "weight"—that each good and service should receive. The weights for the CPI remain unchanged until a new market basket survey is conducted. The two most recent surveys of the market basket were conducted in 1960–61 and 1972–73.

Every month representatives of the BLS visit stores and get information from other vendors (e.g., telephone and other utility companies) to determine what each item in the market basket costs. They are careful to conduct their surveys in a way that mimics the actual buying habits of consumers—for example, they price goods at supermarkets to the same extent that urban consumers buy there. In recent years the CPI has thus relied more heavily on supermarket prices and less heavily on the prices of similar goods at local "Mom and Pop" grocery stores.

After all the necessary data are collected each month, the BLS constructs price indexes for individual items, for groups of related items (e.g., food), and for the entire market basket. Here is the general procedure by which the BLS calculates the index for the total ("all items") CPI. (The same procedure applies to the components of the CPI, e.g., food, apparel, medical care, etc.)

a. BLS finds the total cost of buying a very specific market basket of goods and services in the base period. Let us assume that the total cost of pur-

chasing this market basket in the base period is $9,000. The base period of any index is arbitrarily set as equal to 100.0. In this case:

$$\frac{\$9,000}{\$9,000} \times 100.0 = 100.0$$

b. BLS finds the total cost of buying the *same market basket* in a subsequent period. Let us assume that the total cost is $11,500 in the subsequent period. The index number can then be derived by making the following calculation:

$$\frac{\$11,500}{\$9,000} \times 100.0 = 127.8$$

The index in the subsequent period is then 127.8. Hence, the CPI has risen 27.8 percent compared to the base period because

$$\frac{127.8 - 100.0}{100.0} \times 100.0 = 27.8\%$$

c. If, in a still later period, the cost of the market basket rose to $12,000, then the CPI for that period would be 133.3, obtained as follows:

$$\frac{\$12,000}{\$9,000} \times 100.0 = 133.3$$

The rise since the base period would be 33.3 percent because

$$\frac{133.3 - 100.0}{100.0} \times 100\% = 33.3\%$$

d. Anyone who has access to the above index numbers can calculate the percent increase from the second to the third periods as follows:

$$\frac{133.3 - 127.8}{127.8} \times 100.0 = 4.3\%$$

which means that the CPI has risen 4.3 percent between the second and third periods.

Now for an actual example. In 1982, the CPI averaged 289.1. The base for the CPI is 1967, meaning that the index stood at 100.0 in that year. These two numbers signify that a consumer purchasing the typical urban consumer's market basket in both years would have spent $2.89 in 1982 for each $1.00 spent in 1967. This does not mean, however, that an urban family's spending—or cost of living—increased by 2.7 times over this fifteen-year period. The increase in the consumer price index will overstate the increase in actual spending to the extent that as relative prices change, consumers buy less of goods and services that have become relatively more expensive and more of those that have become relatively less expensive. In other words, "substitution" that, in effect, lowers the level of living, may take place.

1.4 The Producer Price Indexes

Producer Price Indexes (PPI)—formerly called wholesale price indexes—measure prices received by producers of commodities in all stages of processing, rather than prices charged to consumers. Hence, these BLS indexes include prices of goods that are not used by consumers, such as raw materials and heavy machinery. And the consumer goods prices that are included in these indexes exclude that portion of consumer retail price that represents transportation costs to the retailer, sales taxes, and the sales and other costs of retailing the good. The BLS calculates the PPIs monthly from data obtained mainly by mail questionnaires sent to the producers.

The BLS records the prices of nearly 3,400 commodities—no services are included directly—for the PPI every month. From these it computes separate PPIs for different stages of production—raw materials (e.g., wheat, cotton, iron and steel scrap), intermediate materials (e.g., flour, fabrics, and sheet metal), and finished goods (e.g., bread, apparel, and autos). There are also separate PPIs for different commodity groups such as chemicals, fuels, furniture, machinery, textile products, metals and metal products, etc. BLS also compiles an "all commodities" index.

The PPIs, like the CPI, are fixed weight indexes, meaning that the weights of the index are changed only infrequently. The result is that the indexes often do not reflect changes in the relative importance of various raw materials or in the specific product mix that may occur in a given industry.

There is evidence that the PPIs—especially the one for finished products—tend to signal changes in trend that will later appear in the CPI. In other words, changes in the PPIs are likely to be reflected in the CPI several months later. Thus, the CPI will respond more slowly to inflationary forces than the PPIs. This is not surprising. Consumer goods often pass through a production and marketing process that takes many months to complete.

1.5 The GNP Deflator

The GNP Deflator (GNPD) is often called an *implicit* price index. It is implicit because it is a by-product of the computation of the Gross National Product (GNP) statistics carried out quarterly by the Department of Commerce. Put simply, the GNPD results from the following process. Commerce computes the value of all final goods and services produced by the economy in the current quarter in two ways: First, the value of those products is computed at currently prevailing retail prices. Second, the value of those products is recomputed at the prices that prevailed in the base year (at this writing, 1972). The GNP Deflator is the ratio of the first number to the second. It gives a comparison of current prices to base-year prices.

The GNPD differs from the PPIs and the CPI in several important ways. First, it is the most comprehensive of all price indexes because it includes the prices

of all the goods and services produced in the economy. Unlike the PPIs, it includes actual prices paid by consumers and also includes services. Unlike the CPI, it includes prices of goods used by industry (e.g., machinery) and goods exported to other countries. Second, it is a variable weight index, not a fixed weight index. Therefore, changes in the GNPD reflect both *changes in prices* and *changes in the composition of output* from one period to another. Third, unlike some of the PPIs, the GNPD reflects prices of finished products only.

Each of the price indexes described is available on an average annual basis in the section on prices in the *Statistical Abstract of the United States*. The annual averages for the CPI and the PPIs are based on indexes that are calculated and issued monthly; the annual average for the GNPD is based on an index that is calculated and issued each quarter.

2 WHAT IS INFLATION?

As we have stated earlier, inflation is persistent growth in the general level of prices. Price indexes are used in the United States and other economies to measure the general level of prices. From this point forward, then, we will consider inflation to be persistent growth in a consumer price index, a producer price index, or a GNP deflator. All three will usually rise in a general period of inflation.

2.1 The Inflation Rate

In Section 1.2 we saw that Cait's price index stood at 100 in 1981 and 140 in 1982. We concluded that relative to the goods she consumes, Cait experienced an inflation rate of 40 percent between those two years. We may verify that observation as follows:

$$\text{Cait's Inflation Rate} = \frac{\$1.40 - \$1.00}{\$1.00} \times 100.0$$
$$= 40.0\%$$

The computation of the inflation rate shown in the above formula comprises four steps:

a. Compute the arithmetic difference between the value of the price index at the later date (1982) and its value at the earlier date (1981): \$1.40 − \$1.00 = \$0.40.

b. Divide the difference by the earlier price index value to convert the difference into a ratio (a unitless number): \$0.40 / \$1.00 = 0.40.

c. Divide the resulting ratio by the number of years intervening between the two dates to which the price index refers to convert the number into an average *annual* rate of change: .40 / 1 = .40.

d. Multiply by 100 to express the inflation rate as a percentage: .40 × 100 = 40%.

For a second example recall from Section 1.3 that the CPI stood at 289.1 in 1982 and at 100 in 1967. (Each of these numbers is a simple average of the twelve monthly CPI values for the year.) To get the total amount of inflation between 1967 and 1982 we perform the following operation:

$$\frac{289.1 - 100.0}{100.0} \times 100.0 = 189.1$$

Since inflation has amounted to 189.1 percent in fifteen years, dividing by 15 implies that, on average, between 1967 and 1982 consumer prices grew at an annual rate of 12.6 percent.[1] A third example illustrates that the inflation rate may be very sensitive to the exact dates on which a price index is observed. The CPI stood at 265.1, 283.4, and 283.1 for March 1981, February 1982, and March 1982, respectively. Using the formula presented above we conclude that from March 1981 to March 1982 the inflation rate was 6.8 percent but from February 1982 to March 1982 the inflation rate was −1.3 percent:

$$\text{CPI Inflation Rate (March 1981 to March 1982)} = \frac{283.1 - 265.1}{265.1} \times 100.0 = 6.8 \text{ percent}$$

$$\text{CPI Inflation Rate (February 1982 to March 1982)} = \frac{283.1 - 283.4}{283.4} \times 100.0 = -0.11 \text{ percent}$$

In order to compare the latter computation, which is for one month only, with the preceding computation, which is for a year—or twelve months—we must multiply the second result by 12. The result we obtain is −1.3 percent. Which of these two numbers more truly characterizes inflationary conditions in the U.S. economy in March 1982? Again, there is no single correct answer to this question. The 6.8 percent figure represents twelve months of inflation experience and is less likely to be influenced by an "unusual" rate of price increase in any month. The figure −1.3 percent, which means that consumer prices actually *fell* between February and March, may indicate a new inflation trend or may simply be an aberration.

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1. Another formula is generally used to compute inflation rates when the interval between two observed index numbers is longer than a year or two. Let $In(t,s)$ designate the inflation rate between the terminal year (t) and the starting year (s). Then

$$In(t,s) = [\ln CPI(t) - \ln CPI(s)] / (t - s)$$

where ln *CPI* is the natural logarithm of the index number. This formula was used to compute the inflation rates in Tables 2 and 3 and in Figure 1. The formula is similar in concept to that embodied in compound interest calculations.

2.2 Inflation in the United States

Between 1965 and 1980 the United States experienced a period of inflation unlike any other in the past hundred years of its history. Not only was the rate of inflation high by historical standards but it grew steadily as well. As measured by the CPI, the inflation averaged 6.6 percent per year for the entire period, 4.2 percent for 1965–70, 6.7 percent for 1970–75, and 8.9 percent for 1975–80. The highest rates were reached in 1979 (11.3 percent) and 1980 (13.5 percent).

Many people, economists and noneconomists alike, wondered whether high inflation rates had become part of the natural economic order, and some questioned whether a superinflation such as that experienced in Europe after World War I and in some South American economies today might possibly occur in the United States. During 1982 the combined effects of a restrictive Federal Reserve policy and a recession substantially slowed the rate of growth in the CPI, and the inflation rate was down to 6.1 percent. Whether 1982 represented the beginning of a period of moderate price rises or merely a pause in a continuing period of high inflation was a big question when this publication went to press.

High inflation rates have not always been the norm for the U.S. economy. Indeed, the decade-by-decade inflation rates reported in Table 2 show that before 1965 the United States experienced other periods of relatively rapid inflation (1910–20); periods of moderate inflation (1860–70 and 1950–60); periods of relative price stability (1880–1910); and even periods of definitely declining prices (1870–80 and 1920–40). In fact, between 1930 and 1932—the early part of the Great Depression—consumer prices fell at an average rate of 9.0 percent per year. History, at least, shows that one should not conclude that U.S. prices can only go up.

Relative to other industrialized countries, our inflation experience since 1965 has been worse than some and better than others, as Table 3 shows. The U.S. inflation rate was on the low side during the 1960s. From 1970 to 1977, the United States also experienced relatively low inflation rates, but between 1978 and 1981 U.S. inflation increased and tended to be on the high side. Table 3 also shows that inflation accelerated after the mid-1970s in all of the countries shown. This is not surprising because the oil price rises engineered by the Organization of Petroleum Exporting Countries (OPEC) contributed to inflation in these and other countries. Moreover, the economies of the industrialized countries are so closely connected by international trade and by financial markets that economic problems are quickly transmitted from one country to another.

None of the inflation rates in the industrialized countries listed in Table 3 come even remotely close to the highest experienced in this period. In 1980, according to the International Monetary Fund, the worst consumer price inflation was recorded by Israel. Its

TABLE 2
U.S. Consumer Price Indexes and Inflation Rates

DECADAL AVERAGES OF ANNUAL INFLATION RATES*

1860–1870	3.5%	1920–1930	−1.8%
1870–1880	−2.7%	1930–1940	−1.7
1880–1890	−0.7	1940–1950	5.6
1890–1900	−0.8	1950–1960	2.1
1900–1910	1.1	1960–1970	2.7
1910–1920	7.9	1970–1980	7.8

ANNUAL INDEXES, 1950–1982 (1967 = 100)

1950	72.1	1970	116.3
1951	77.8	1971	121.3
1952	79.5	1972	125.3
1953	80.1	1973	133.1
1954	80.5	1974	147.7
1955	80.2	1975	161.2
1956	81.4	1976	170.5
1957	84.3	1977	181.5
1958	86.6	1978	195.4
1959	87.3	1979	217.4
1960	88.7	1980	246.8
1961	89.6	1981	272.4
1962	90.6	1982	289.1
1963	91.7		
1964	92.9		
1965	94.5		
1966	97.2		
1967	100.0		
1968	104.2		
1969	109.8		

SOURCE: Annual data for 1860–1970 from *Historical Statistics of the United States, Colonial Times to 1970* (Washington, D.C.: U.S. Bureau of the Census, 1975), Series E 135–166; 1970–1982 from *Survey of Current Business*.

*Calculated using the formula in text footnote 1.

TABLE 3
Inflation Rates in Several Industrialized Economies

	Average		Yearly			
	1961–70	1971–77	1978	1979	1980	1981
U.S.	2.8	6.6	7.7	11.3	13.5	10.4
Japan	5.8	10.7	3.8	3.6	8.0	4.9
Germany	2.7	5.6	2.7	4.1	5.5	5.9
France	4.0	9.0	9.1	10.8	13.6	13.4
U.K.	4.1	13.9	8.3	13.4	18.0	11.9
Italy	3.9	13.1	12.1	14.8	21.2	19.3
Canada	2.7	7.5	9.0	9.1	10.1	12.4
Switz.	3.5	5.8	1.1	3.7	4.0	6.5

SOURCE: *Main Economic Indicators*, published monthly by the Organization for Economic Co-operation and Development (OECD), Paris.

rate of 131.0 percent meant that prices substantially more than doubled during 1980 alone! In that same year Turkey experienced an inflation rate of 110.2 percent, and Argentina, Brazil, Uruguay, Peru, and Bolivia posted rates of 100.8 percent, 82.8 percent, 63.5 percent, 59.2 percent, and 47.2 percent, respectively. Anyone in Israel and Turkey whose wage rate did not at least double in 1980 was likely to have been worse off at the end of the year than at its beginning. And people whose income was fixed in Israeli shekels or Turkish lira must certainly have suffered a serious decline in their level of living.

2.3 Hyperinflation: Inflation Out of Control

Even the triple-digit inflation rates experienced by Israel, Turkey, and Argentina in 1980 fell far short of the record inflations experienced by Germany and several other European countries after World War I. On average during July 1920–June 1923, the rate of inflation in Germany equaled 933 percent per year. And the worst was yet to come in the last months of 1923. During January of that year, the French and Belgians reoccupied part of the Ruhr region of Germany, a coal mining and steel manufacturing center, because they claimed that Germany had failed to make the reparation payments demanded of it by the Allies after World War I. The Germans responded with a policy of passive resistance that included a general strike throughout the region. The German government paid the striking workers as a demonstration of its support of their cause, an action that added to inflation.

During November 1923, German inflation had reached a staggering and virtually incomprehensible annual rate of 214,387 percent. It is difficult to appreciate the impact of inflation of this magnitude—approximately 25 percent per hour! Workers sought payment from employers twice daily so that they could buy goods in the middle of the day before their wages had lost their value entirely. And the central bank (the official bank of the German government), dissatisfied with the rate at which the available presses were printing new money, recalled old banknotes and simply added zeros to increase the number of German marks each note represented.

Much has been written about the causes and consequences of this famous inflation. The Italian economist Constantino Bresciani-Turroni argued that the hyperinflation destroyed the German middle class and paved the way for the rise of Hitler's Nazi regime. The inflation most certainly destroyed the German monetary system and forced Germans to resort to barter in order to exchange goods and services. Who would be willing to accept payment in currency when currency lost half its ability to buy goods every two hours?

Without a doubt the German hyperinflation occurred because the German central bank increased the quantity of German marks in circulation during this period at astronomical rates. It did so in order to pay for the goods and services needed by government and in order to make transfer payments such as those for social security and veteran's pensions to German citizens. The head of the German central bank, however, put the blame for the inflation on the Allies. He argued that the Allies wanted Germany to pay war reparations which were beyond its capacity to pay. Whatever the ultimate cause of this great inflation, clearly it ended only after the German government agreed to cease the unlimited printing of money to pay its expenses. More about this in Section 4.

3 THE ECONOMIC EFFECTS OF INFLATION

Among the most widely held economic beliefs is that inflation is detrimental to the well-being of society. If asked why inflation is bad, many people would answer that inflation makes goods and services more expensive and thus lowers living standards. But this answer cannot be true for a society as a whole. As inflation rises, the incomes received by that society's members rise as well. To argue that inflation lowers a society's well-being one must demonstrate that inflation wastes resources, creates undesirable reallocations of income or of wealth among a society's members, or leads members of a society to make choices that are inferior to those they would otherwise have made. What follows is an attempt to show how inflation alters the choices members of a society make and then to indicate who gains and who loses from inflation. First, however, it is important to make clear the difference between anticipated inflation and unanticipated inflation and that the two have very different economic effects.

3.1 Anticipated and Unanticipated Inflation

To understand the difference between anticipated and unanticipated inflation and the effects of each, it is useful to ask the economist's what-if question: What if the inflation rate in the United States stabilized and remained at a rate of 10 percent per year month after month, year after year? If there was so little variation in the rate of inflation that everyone came to regard a 10 percent inflation rate as a normal part of economic life, would there be any reason to attempt to lower

that rate? Put another way, should this economy try hard to achieve an inflation rate, say, of 5 percent rather than 10 percent?

The perhaps unexpected answer is: "Not very hard!" Because members of this "what if" society can accurately predict that prices next year will be 10 percent higher than prices this year, they will enter into economic arrangements that reflect this information. For example, on the assumption that the average of all prices will rise about 10 percent annually, both employees and employers will understand that wage increases of at least 10 percent per year are necessary for wages to keep up with prices. The same economic forces that prevent employers from lowering wages in a world of little or no inflation would in general act to increase wages at a pace at least equal to 10 percent per year.

Borrowers and lenders would also realize that dollars repaid in the future will lose purchasing power at the rate of 10 percent per year. They will thus see that part of the interest rate charged should be compensation for the anticipated decline in the ability of dollars to purchase goods and services in the future. Therefore, interest rates of 14 to 16 percent—10 percent to maintain the purchasing power of the principal and 4 to 6 percent as "real" interest—would not be regarded as unreasonable or extraordinary.

There would be some economic gains if a "sure" 10 percent average inflation rate were replaced with a "sure" 5 percent average rate, but the gains would be small. If the inflation rate were lower, the economy would enjoy what the Nobel prizewinning economist James Tobin has called a "saving on shoeleather." He means that, if the inflation rate were lower, people would be willing to hold more cash and would thus make fewer trips to the bank to withdraw funds from interest-bearing accounts. In addition, if the inflation rate were lower, businesses would not have to go to the trouble and expense of changing their price labels so frequently.

Most of the important social costs of inflation result because inflation is always more or less unexpected when it occurs. Put differently, it is not inflation but erratic changes in the rate of inflation that account for most of inflation's social cost. A society whose inflation rates are both high and quite variable is one in which it is hard to formulate economic plans because it is difficult to predict what inflation will do to the value of the dollar in the future. In taking a closer look at the social costs of inflation, it is useful to divide them into two types: those that affect economic efficiency and those that affect economic equity.

3.2 The Effects of Inflation on Economic Efficiency

It is impossible to comment fully here on all the ways in which inflation affects economic efficiency. Inflation affects virtually every economic action we take—working, investing, saving, borrowing, consuming—because each requires an exchange involving money, and some of the transactions take a long time to complete. Two very important effects of inflation on economic efficiency will be discussed in what follows. The first is that inflation makes lending riskier and, thus, borrowing more expensive than it otherwise would be. The second is that inflation makes economic information more difficult to interpret.

3.2.1. THE RISK PREMIUM EFFECT. Imagine a period of very little or no inflation such as that in the United States during the 1950s. Suppose that during this period the interest rate was 3 percent. (The U.S. government actually paid between 2 and 4 percent during the 1950s.) Now suppose instead that the inflation rate during this period had been steady at 10 percent. What would have happened to the interest rate? It would probably have been 13 percent. The extra 10 percent added to the interest rate when inflation is a steady 10 percent is called an inflation premium. It compensates the lender for the decline in the purchasing power of the principal of the loan brought about by inflation.

A 13 percent interest rate at a time of steady 10 percent inflation gives lenders the same "real" return on their loans as does a 3 percent interest rate when there is no inflation. It is likely that borrowers and lenders would each settle for a 3 percent rate in the latter situation and a 13 percent in the former. The reason is that the lenders' gains and the borrowers' costs in terms of purchasing power over goods and services would be the same in both instances.

But suppose that the inflation rate had not been steady at 10 percent but had oscillated around 10 percent in an irregular, unpredictable way. The average inflation rate during the period might still be 10 percent, but during some subperiods the inflation rate might be 15 percent or more. Because of the erratic movements in the inflation rate, lending is riskier than it otherwise would be. Lenders might therefore demand a risk premium in the form of an interest rate higher than 13 percent to be willing to take on this extra risk. Thus interest rates in this situation might be 15 percent or higher (3 percent base rate + 10 percent inflation premium + 2 percent risk premium).

When inflation is so erratic that risk premiums are required to induce lenders to lend, it will affect the efficiency of the economy in several ways. Because borrowing will be more costly, business firms will invest less in capital goods than they otherwise would. Investment in "human capital" will be similarly affected because some students will find it too expensive to borrow funds to stay in school. As a result, new technology and new ideas will be introduced into our economy more slowly and, hence, economic growth will also be slowed. Since, ultimately, improvements in our levels of living depend upon economic growth,

Why Inflation Makes Lending Riskier

The following example illustrates why uncertainty about inflation is an important source of risk. Suppose the date is January 1, 1983, and you have $100.00 which you can either use to purchase consumer goods or lend to your bank for a period of five years. (Of course, in reality you have many more options, but for the sake of simplicity we will consider only these two.) Lending your money to the bank is an attractive opportunity because the bank will pay, say, 7 percent interest for the use of your funds. This means that on December 31, 1987, the bank will return your principal ($100.00) and pay you $7.00 for each year that it had the use of your funds. (For the sake of simplicity, simple rather than compound interest rates are used in this example.) The true return on this loan depends, however, on the amount of inflation that occurs between January 1, 1983, and December 31, 1987. If you expect the rate of inflation to be 5 percent during this period, then the loan may seem an attractive prospect. On December 31, 1987, you will receive $135.00. Since you expect prices to be 25 percent higher on that date than they are on January 1, 1983, you expect this amount to be sufficient to buy 10 percent more goods than you can buy on January 1, 1983. This "consumption bonus" is payment for your patience.

What happens if you are mistaken and the rate of inflation during the loan period turns out to be 10 percent rather than the 5 percent you expected. You will still receive $135.00 on the day the loan matures. But since prices will be 50 percent higher on December 31, 1987, than they were on January 1, 1983, your $135.00 will purchase 15 percent fewer goods in 1987 than your $100.00 would have purchased in 1983! Certainly, then, lending money—and for that matter borrowing money—during a period when the rate of inflation varies unpredictably is risky business.

lower rates of capital formation have negative consequences for all members of society—for workers as well as for the owners and managers of businesses.

When it assumed office the Reagan administration to a large extent justified making the "fight against inflation" its number-one economic priority because of the stimulus lower inflation would give to capital formation. As we will see later on, however, the costs of ending inflation once it is firmly rooted in the economy are substantial and are not shared equally by society's members. For example, it was understandably difficult for the Reagan administration to convince unemployed auto workers that the fight against inflation was *their* number-one priority. Economists and political scientists often observe that a policy may be in the national interest but may nevertheless be difficult to carry out because some well organized groups perceive that the policy is not in their specific interest. Each group can think of many reasons why it should be excused from sharing in the costs of executing the policy.

3.2.2 THE INFORMATION EFFECT OF INFLATION. Inflation also lowers economic efficiency by making it more difficult for workers, business managers, and entrepreneurs to interpret correctly the economic signals they receive. As mentioned in Section 1, a free market economic system depends upon changes in *relative* prices to signal changes in the available supplies of particular goods and services as well as changes in the preferences of consumers. Inflation makes it more difficult to interpret the meaning of price signals. When people make economic decisions, they may find it difficult to distinguish between a price increase that is due to inflation alone and one that is due to a shortage of a good or service.

Consider, for example, workers in Detroit, Michigan, who earn $10.00 per hour. (Wages are the "price" of their labor.) Suppose they hear that workers with skills similar to their own are being hired at $14.00 per hour in Houston, Texas. Should workers interpret this wage difference as an economic incentive to move from Detroit to Houston? Perhaps and perhaps not. It may be that the higher Houston wage is the result of inflation that has caused prices in Houston to rise more rapidly than prices elsewhere. Wages may also be higher in Houston because prices there are expected soon to exceed those elsewhere. If either alternative is true, workers may interpret the higher Houston wage as representing an opportunity for enjoying a better level of living in Houston, but such an interpretation could be mistaken. Workers may move to Houston and later regret the decision. Mistakes of this sort are far more likely to occur when inflation is erratic or when it is greatly unequal in different parts of the country.

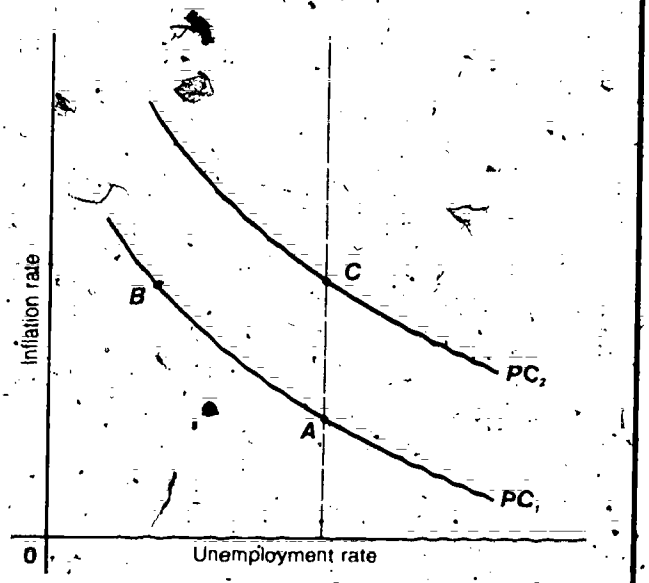
3.3 The Effects of Inflation on Economic Equity

Unexpected inflation can have quite serious effects on the distribution of income and wealth in a society. Recall Bresciani-Turroni's point that the German hyperinflation destroyed the German middle class after

The Phillips Curve
An Example of the Information Effects of Erratic Inflation

On the basis of research by A. W. Phillips and others, many economists had come to believe in the 1960s that there was a stable trade-off between inflation and the labor unemployment rate. Graphs picturing the trade-off—like the one below—came to be called Phillips curves. Noted M.I.T. economist Robert Solow described the Phillips curve as offering a menu of possibilities for government policy. The government, he argued, could lower unemployment but only at the cost of higher inflation rates. That is, the government through monetary, spending, and tax policy could choose the economy's position along a Phillips curve. This is illustrated below by the PC_1 curve. It shows that the unemployment rate can be reduced from point *A* to point *B*, but that inflation will be greater at *B* than it was at *A*.

The idea of such a trade-off between the unemployment rate and inflation was discredited during the 1970s. The United States then experienced a period of higher unemployment and rising inflation rates. It was as if the Phillips curve had shifted to the northeast (from PC_1 to PC_2 in our diagram). That is, the unemployment rate at *C* on line PC_2 was the same as that at *A*, but with a higher rate of inflation than had previously been experienced when the unemployment rate was at *A* and the economy was on line PC_1. Why the shift from PC_1 to PC_2? University of Chicago economist Robert Lucas provided an answer based on the information effects of inflation. When "new" inflation occurs, it is likely that workers and businesses will misinterpret rising prices and wages as evidence of higher economic rewards for their labor and products. The result is movement along a Phillips curve (in our diagram, from *A* to *B* along PC_1). But as time passes, people come to regard higher inflation as normal. Firms are less likely to interpret rising prices as higher relative prices for their products. Workers are more likely to bargain aggressively for higher wages. The result is that the Phillips curve will shift from PC_1 to PC_2. Lucas has thus argued, in the same spirit as Nobel-prize winning economist Milton Friedman, that no stable trade-off between inflation and unemployment exists in the long run.



World War I. He was answering the important question of who is hurt by inflation and who gains from it. It is possible to determine only one clear gainer from inflation—the government (because it is a large net debtor—see section 3.3.1). It is far more difficult to determine which groups of citizens—the aged, wage earners, low income families, etc.—lose the most from inflation (section 3.3.2).

3.3.1 HOW GOVERNMENT BENEFITS FROM INFLATION—THE EFFECT ON EQUITY. Most of us have heard the rule of thumb: "Inflation helps debtors at the expense of creditors." This rule is easily understood. When unanticipated inflation occurs (for example a 5 percent inflation rate when a zero rate was widely expected), debtors pay back their loans in dollars that turn out to have less value than when the borrowing agreement was made. Because the inflation was not expected, no inflation premium was built into interest rates at that time. In such a case, debtors enjoy a windfall in the form of a lower interest rate than one appropriate to what the rate of inflation later turned out to be. Many of us need not look far to see examples of such a windfall. Ask those who bought houses in the late 1950s or early 1960s what the rate of interest on their mortgage is. The answer is likely to be in the 5 to 6 percent range—quite low compared to the mortgage rates prevailing in the 1970s and early 1980s.

The government sector benefits from unanticipated inflation in two ways: as a debtor and as a tax collector. The government sector in the United States (federal, state, and local) is the biggest debtor in our economy. As of mid-1983, the gross debt of the federal government alone was about $1.3 trillion and rising. By and large, the government sector owes these debts to the household sector (private citizens). Much of the out-

standing debt was issued before the mid-1970s at rates of interest that did not contain inflation premiums large enough to compensate for the inflation that occurred thereafter. When that inflation occurred, it provided a gain in the form of cheap credit to the government at the expense of private citizens.

The government sector benefits from inflation in a second way because income tax rates in the United States are not adjusted for inflation. Inflation raises effective tax rates, as the following example shows.

Our tax system is progressive, meaning that, other things being equal, individuals with higher incomes pay a higher percent of their incomes in taxes. Consider the case of John and Jane Q. Public (see Table 4). In 1980, they had a gross income of $20,000 and paid federal income taxes of $2,480. Between 1980 and 1981 the Consumer Price Index increased by 10.4 percent and the Publics' gross income kept pace exactly by rising to $22,075. However, because their income rose, in 1981 the Publics were taxed at the rate of 13.4 percent instead of their 1980 rate of 12.4 percent. As a result, the Publics' after-tax income increased but, considering the increase in consumer prices, they had less spending power in 1981 than in 1980. Thus, the Publics actually experienced an effective *increase* in taxes. If federal tax rates had been adjusted for inflation—the technical term for such an adjustment is "indexation"[2]—their tax rate would have remained at 12.4 percent. In that case, their after-tax spending power would have remained the same in 1981 as in 1980.

TABLE 4

The Effect of Inflation on John and Jane Q. Publics' Federal Income Taxes

	1980	1981
1. Adjusted gross income	$20,000	$22,075
2. Tax rate	12.4%	13.4%
3. Taxes—(line 1 times line 2 ÷ 100)	$2,480	$2,958
4. After-tax income (line 1 minus line 3)	$17,520	$19,117
5. CPI (1967 = 100)	247	272
6. Spending power in 1967 dollars (line 4 ÷ line 5)	$7,093	$7,028

NOTE: The above assumes that the Publics have one child, file a joint tax return, and claim the standard exemption.

2. Under indexation, a rise in income that is due to inflation is not subject to an increase in tax *rates*. In the example above, since the Publics' rise in income, 10.4 percent, was the same as the increase in inflation, their tax rate would have remained at the previous year's level, 12.4 percent, instead of rising to 13.4 percent, and their income after taxes would have remained unchanged instead of declining. As we go to press, indexation of federal income tax rates is scheduled to begin in 1985.

The statement that government gains from inflation at the expense of taxpayers and those who hold government debt is an incomplete assessment of the situation unless another issue is addressed. What would be the effect on the economy—particularly on the distribution of income among the population—if the government's interest payments and tax receipts were fully indexed for inflation? This is a difficult question to answer. If the government made up the resultant decrease in its revenue by raising income tax rates (while preserving indexation), there is some evidence that income equality would improve. This is so because the inflation tax tends to fall more heavily on the poor than does the income tax itself. This means that lowering the inflation tax and raising the income tax would tend to shift the total tax burden from lower-income to higher-income citizens.

If the government tries to make up the decline in its available cash by decreasing general government spending and government transfer payments,[3] the answer would depend on precisely which programs were affected. For example, those who view the overall effect of government as improving income equality through transfer payments programs are likely to believe that reductions in such programs would be to the disadvantage of lower-income taxpayers.

It is possible to object to the inflation tax on political as well as economic grounds. The inflation tax is a form of "taxation without representation" since no member of the House or Senate need vote for the tax and no appropriation bill need be prepared. The Reagan administration pointed out that the controversial tax cuts of 1981 and 1982 merely offset part of the increases in the inflation tax that were a by-product of the inflation of the late 1970s and early 1980s.

3.3.2 WHO GAINS AND WHO LOSES FROM INFLATION?

There have been many studies during the past thirty years that have attempted to identify those who gain and those who lose from the onset of inflation. As mentioned above, these studies generally find that the government sector benefits at the expense of the household sector, and that the net impact of inflation on the business sector is relatively small. But that still leaves the question of whether some groups within the household sector are more likely to be hurt or to be hurt more seriously than others.

By and large, the available studies seem to conclude that it is difficult to find any groups that suffer substantially more than others from inflation. To some this will seem surprising because there appears to be

3. Transfer payments are income payments to persons for which they do not render current services. They include payments for social security and related programs, unemployment insurance, veterans benefits, food stamps, supplemental security, and other benefit or welfare programs.

a widely held view that the elderly suffer much more from inflation than do other groups. Keep in mind, however, that as a group, the elderly are more likely than others to own their own homes, and historically a home has proved to be a very good hedge against inflation. (This means that home prices have tended to keep pace with inflation.) Also keep in mind that social security payments are indexed, and that pensions that are fixed in dollar amount actually account for a very small fraction of the income of the elderly. While it will always be possible to find some elderly persons who have been made worse off by an inflation, the available evidence is that the elderly as a group do not suffer more than others from inflation's effects.

One frequently studied hypothesis concerning the incidence of inflation is the wage lag hypothesis. The wage lag hypothesis states that wages adjust more slowly to inflationary forces than do prices. This implies that during a period of unanticipated inflation the level of living of wage earners will decline. Proponents of the hypothesis point out that workers typically sign contracts that specify dollar wages for one or more years at a time. These workers must wait until the contract expires to try to "catch up" with inflation. Studies of the wage lag hypothesis have produced such mixed results that the only safe conclusion seems to be that wages probably do lag behind other prices during some episodes of inflation but that wage lags do not invariably occur. One reason for the ambiguity of the findings is that many union contracts now contain cost-of-living escalators or COLA's. The escalators raise wages during periods of inflation, though not necessarily by as high a percentage as prices rise.

However, there does seem to be evidence of a wage lag in recent years. Table 5 shows an index of hourly earnings (wages plus other cash compensation) for the U.S. manufacturing sector between 1978 and 1982. On the basis of the ratio of the wage index to the Consumer Price Index it would appear that wages have not kept pace with inflation during this four-year period. The ratio declined from 1.06 in 1978 to 0.98 in 1982. (It is the change in these numbers rather than their precise level that is meaningful.) This simple comparison does not take account of other forces that may have been at work at the same time. During this period there is some evidence that the amount of work experience of the average manufacturing worker was declining because of changes in the age and gender composition of the manufacturing labor force.

There is a second hypothesis about the impact of inflation on the equality of income distribution. It concerns the relative ability of different groups in the economy to protect their accumulated savings from losing buying power through inflation. Savings held in the form of cash lose value most quickly. An inflation of 10 percent per year implies that cash assets (currency and most checking account deposits) lose 10 percent of their purchasing power in the same period. Other assets offer "protection" against inflation if the interest which the assets earn tend to rise with inflation or if the market value of the assets tend to increase with inflation; housing is an example. Studies suggest that middle-income households have been the most successful in protecting their wealth against inflation because they have held most of their wealth in the form of real estate—the family home. Households that bought homes during the late 1960s and early 1970s gained in at least two ways. First, they borrowed funds to purchase their homes at interest rates that turned out to be a good deal less than those prevailing later. Second, they enjoyed capital gains as the market prices of their houses tended to keep pace with or outpace the rate of inflation. These gains by mortgage borrowers came at the expense of mortgage lenders, especially at the expense of savings and loan associations.

TABLE 5
Recent Wage and Price Data for the U.S. Economy

Year	Annual Inflation Rate	Hrly Earnings in Mfring (1975 = 100)	CPI (1975 = 100)	Ratio of Earnings to CPI
1982	6%	176	179	0.98
1981	10	165	169	0.98
1980	14	151	153	0.99
1979	11	139	135	1.03
1978	8	128	121	1.06

SOURCE: *Main Economic Indicators* (OECD).

The rich and the poor tend to hold a larger fraction of their accumulated savings in the form of cash assets and thus to lose more than the middle class with the onset of inflation. Of the two groups, studies indicate that the rich are quicker to react to inflation by adjusting their asset holdings in appropriate ways. The poor are slower to respond to inflation for several reasons. Low-income individuals are less likely to understand which assets will afford better protection. In the most recent inflation, for example, they were doubtless less likely to understand the benefits of putting savings into money market funds, a type of asset that became increasingly available during the 1970s. The poor also are more often bound by institutional restrictions. During the 1970s assets that offered high rates of interest often had minimum purchase requirements of several hundred to several thousand dollars. Meanwhile, regulatory limitations held interest payments on passbook savings accounts to a max-

imum annual rate of 5¼ percent at commercial banks and 5½ percent at savings banks and savings and loan societies.

4 THE CAUSES OF AND CURES FOR INFLATION

As explained in the previous section, the U.S. economy would be better off if we could eliminate erratic changes in the rate of inflation such as those we experienced starting in 1966. Unhappily, there is a lack of widespread agreement among both economists and government policymakers about how to deal with inflation. As a result, any policy designed to eliminate or reduce inflation is almost always controversial. Some critics will doubt that the policy will be effective; others will claim that the costs of ending inflation by that policy will be borne unfairly by themselves or by their constituents. What follows presents what appear to be the most important explanations of inflation and the cure(s) implied by each, as well as a discussion of why the costs of ending inflation fall more heavily on some members of society than on others.

4.1 The Monetarist View: Inflation Results from Too Rapid Growth in the Quantity of Money

Most economists agree that there is a connection between an economy's monetary policy and the rate of inflation that the economy experiences. Monetarists believe that the connection between the growth of the money supply and inflation is a close and strong one. Milton Friedman, a winner of the Nobel prize, states the monetarist position succinctly: ". . . [I]nflation is always and everywhere a monetary phenomenon. . . . Inflation occurs when the quantity of money rises appreciably more rapidly than output, and the more rapid the rise in the quantity of money per unit of output, the greater the rate of inflation . . ." (Friedman and Friedman, p. 254).

The monetarist explanation of inflation may be (loosely) summarized by the following relationship:

Inflation Rate = the Growth Rate of Money
minus the Growth Rate of Output

This relationship and the reasoning behind it are explained as follows. Growth in the production of goods and services (called "real growth" by economists) is due to growth in the quantity and quality of an economy's labor force, machinery, and raw materials as well as to improvements in technology. According to monetarists, the decision of a government to introduce more or less money into circulation cannot have a sustained effect on real growth. Real growth does, however, create an increased demand for money because it implies growth in commerce. Increased commerce means an increased use of money in order to exchange greater amounts of goods and services, and this increase gives rise to a demand for a larger quantity of money.

According to monetarists, if growth in output (real growth) averages 3 percent per year, then the money stock can also grow at the rate of 3 percent per year without creating inflation. But when the money stock grows more rapidly than output, inflation results. For example, if the government (more precisely in the United States, the Federal Reserve) permits the money stock to grow at 13 percent per year when real growth is 3 percent, monetarists would predict that an inflation of 10 percent per year would result. Why? The essence of the answer is that if the money supply grows at 13 percent annually, then income, on average, will also grow at this rate. Because, on average, the members of society will have 13 percent more income each year than they had the year before, they will desire to increase their spending 13 percent per year. Since real growth is but 3 percent, this higher money demand for goods and services cannot be met at prevailing prices and prices rise as a result.

Governments have at least two important motives for permitting the money stock to grow so rapidly that inflation occurs. First, as discussed in section 3, money growth and inflation are sources of revenue for governments. Since at least the days of ancient Rome, sovereigns have shaved gold or silver from the coins they received in payment of taxes. The king or noble would then coin the gold thus obtained and spend the additional coins on goods and services. This process both increases the supply of coins and lowers their intrinsic value because each clipped coin contains less gold. King Philip VI of France (reigned 1328–50) made frequent use of this practice during the Hundred Years War in order to support his army. The fluted edges that appear on U.S. dimes, quarters, and half-dollars were originally intended to discourage private citizens from engaging in this "sport of kings."

The modern counterpart of coin shaving occurs when the government in effect "prints" new paper money to buy goods and services. The process is more complicated than simply printing new currency, but it amounts to the same thing. When the federal government spends in excess of the revenue it receives, it authorizes the U.S. Treasury to issue new bonds, notes, or bills in order to raise additional funds. These debt securities are government IOUs promising that the principal will be returned and interest paid at stated times in the future for the loan of funds now. The new debt securities are sold, by and large, either

Money—What Is It?

Money in the United States is measured in dollars. But dollars in what form? Bills and coins? Certainly. Checking account balances? Yes. Anything else? A great many things, as it turns out, and the definition(s) of money used by economists and the Federal Reserve—which officially defines money and collects monetary data—has been changing. Why? Because as uses, regulations, and definitions alter, so do the number and kinds of things that are classified as money. The main difference among the various classifications is that the more kinds of "money" that are included, the further away we get from what could popularly be called "ready cash."

As of early 1983, the Federal Reserve was issuing four different measures of the money supply (or money stock). They were called M-1, M-2, M-3, and L. (Fair warning—definitions of money may keep changing after this volume has gone to press.)

In general:

- M-1 basically consisted of what ordinary people think of as money—currency in circulation, various kinds of checking account balances, and travelers' checks.
- M-2 consisted of M-1 plus personal savings accounts, money market funds, and certain holdings of banks and others that are not usually held by the public at large.
- M-3 consisted of M-2 plus large denomination time deposits (largely corporate accounts), and certain additional holdings of financial institutions.
- L consisted of M-3 plus Treasury bills, other liquid Treasury securities, U.S. savings bonds, banker's acceptances, commercial paper, and "Eurodollars" held by U.S. residents other than banks.

Here were the official definitions of the above categories as of early 1983.

M-1: Averages of daily figures for (1) currency outside the Treasury, Federal Reserve banks, and the vaults of commercial banks; (2) travelers' checks of nonbank issuers; (3) demand deposits at all commercial banks other than those due to domestic banks, the U.S. government, and foreign banks and official institutions less cash items in the process of collection and Federal Reserve float; and (4) negotiable order of withdrawal (NOW) and automatic transfer service (ATS) accounts at banks and thrift institutions, credit union share draft (CUSD) accounts, and demand deposits at mutual savings banks.

M-2: M-1 plus savings and small-denomination time deposits at all depository institutions, overnight repurchase agreements at commercial banks, overnight Eurodollars held by U.S. residents other than banks at Caribbean branches of member banks and balances of money market mutual funds (general purpose and broker/dealer).

M-3: M-2 plus large-denomination time deposits at all depository institutions; term RPs [repurchase agreements] at commercial banks and savings and loan associations, and balances of institution-only money market mutual funds.

L: M-3 plus other liquid assets such as term Eurodollars held by U.S. residents other than banks, bankers acceptances, commercial paper, Treasury bills and other liquid Treasury securities, and U.S. savings bonds.

to private lenders (citizens, financial institutions, and foreigners) or to the Federal Reserve.

The Federal Reserve (the Fed), the central bank of the United States, is also a purchaser of government debt securities. When the Fed buys government debt the money supply increases as surely as if new currency had been printed. To buy, for example, a government bond, the Fed writes a check on itself payable to the bond seller. When that check is deposited in the bond seller's bank and the bank presents the check to the Fed for redemption, the bank gains additional funds—called reserves. With more reserves, the bank can create new checking account balances and loan these funds to corporations and other borrowers. When the process is completed, the amount of money in circulation has increased.

During the late 1960s, the Johnson administration financed its New Society programs and the Vietnam War largely by "printing" new money. Whereas the federal government ran an average annual deficit of $3.7 billion in 1961 and 1962, during the 1964–68 period the average annual deficit rose to $10.2 billion. A substantial part of that increased deficit evidently was financed by new money. While the U.S. money supply rose at an annual rate of only 2.6 percent between 1960 and 1962, between 1964 and 1968, the

money supply grew about twice as fast—5.3 percent per year. (The definition of money used in these computations is M-1; see the box entitled "Money—What Is It?" for a description of the term.)

It is interesting to ask whether U.S. conduct in both the international and domestic spheres would have been the same if the Johnson administration had levied higher or new taxes to pay for both the New Society programs and the Vietnam War. Would public support for the Vietnam War have declined more quickly if the minds of the public had linked that war with a tax increase large enough to pay the war's costs? Would support for the New Society programs have diminished? On the other hand, could it be that the public understood even in 1964 that the costs of the war and these programs would include the inflation that was to come in the late 1960s and early 1970s?

Governments also allow the money supply to grow faster than the rate warranted by real growth to try to mitigate the effects of recessions. During recessions, total production declines, labor unemployment rises, and investment in new plant and equipment falls. The Fed may try to offset these effects by increasing the money supply, thereby making credit cheaper and more widely available. The idea is that easier credit will stimulate investment and the purchase of "big ticket" items such as automobiles. This stimulus will in turn lead to increased production and employment. Counter-recessionary policy of this sort is often referred to as "leaning against the wind" because the Fed attempts to use the stimulus of monetary policy to offset the "ill winds of recession."

Monetarists think that leaning against the wind is bad economic policy. They believe that at best such a policy can postpone but not eliminate excess unemployment, and that the cost of holding off unemployment through monetary policy is higher and more erratic inflation. In his 1968 presidential address to the American Economic Association, Milton Friedman recommended that the Federal Reserve avoid attempts to lean against the wind and instead "plot a steady course for the U.S. money supply." He said:

> By setting itself a steady course and keeping to it, the monetary authority could make a major contribution to pro-

Are We All Monetarists Now?

A major change in the conduct of Federal Reserve monetary policy took place on October 6, 1979. Prior to that date the Fed was, by and large, an "interest rate watcher." When interest rates rose above levels appropriate to its current policy, the Fed would buy government securities, which raised the amount of credit available in the banking system. If interest rates fell below the appropriate levels, the Fed would sell government securities, which lowered the amount of credit available to the banking system. Monetarists criticized this procedure because they believed it produced higher and more erratic growth in the money supply than was necessary, which in turn led to higher and more erratic inflation. On October 6, 1979, Federal Reserve Board Chairman Paul A. Volcker announced a change in the Fed's operating procedure. He said that thereafter the Fed would place greater emphasis on controlling the growth in the money supply, and less emphasis on controlling the level of interest rates.

Critics have mixed views both on whether the Fed has been faithful to its new strategy and on whether that strategy has been successful. Some of the criticisms are:

1. Interest rates have been very volatile since late 1979, which has added a great deal of uncertainty to financial markets.
2. Money growth became more volatile than it should have been. The money supply followed a roller coaster pattern during 1980, falling too rapidly between February and May, growing again between May and October, and the falling once more between November and year's end.
3. The Fed's policy was too harsh during the onset of the recession in 1981. By allowing interest rates to rise to well above 15 percent, the Fed assured that durable goods industries such as autos and construction, which are very sensitive to the level of interest rates, would suffer substantially.

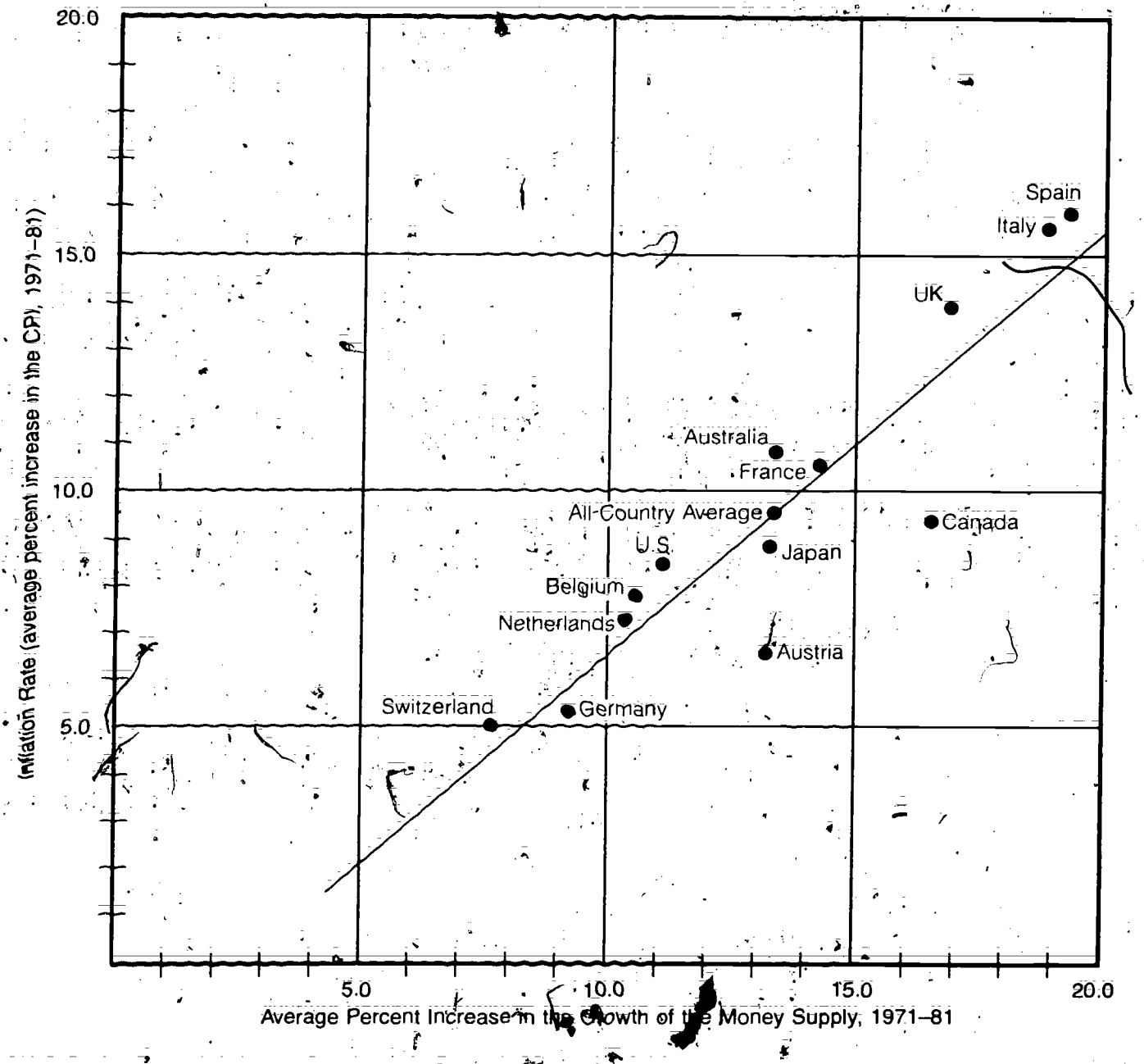
The Fed might respond that its policy had substantially lowered inflation. It might also point out that the actions of banks, businesspeople, and workers—and not just the Fed's decisions—affect how much the quantity of money in circulation changes.

Has the Fed become completely monetarist? Probably not. For example, during 1982, the money supply grew more rapidly than indicated by the Fed's own targets. Chairman Volcker explained that the money supply was permitted to grow owing to innovations in financial practices and in regulations that led to unusually high public demand for cash balances. This kind of discretionary behavior by the Fed is not the sort usually recommended by strict monetarists.

moting economic stability. By making the course one of steady but moderate growth in the quantity of money, it would make a major contribution to avoidance of either inflation or deflation of prices. Other forces would still affect the economy, require change and adjustment, and disturb the even tenor of our ways. But steady monetary growth would provide a monetary climate favorable to the effective operation of those basic forces of enterprise, ingenuity, invention, hard work, and thrift that are the true springs of economic growth. That is the most that we can ask from monetary policy at our present stage of knowledge. But that much—and it is a great deal—is clearly within our reach (Friedman, p. 17).

Are the monetarists right or wrong in their views about money, inflation, and economic policy? There is substantial evidence that economies with higher rates of money growth eventually experience higher rates of inflation. One kind of evidence is presented in Figure 1. This figure charts the average annual rates of

Figure 1: Money Growth and Inflation, Selected Countries. 1971–81



SOURCE: *Main Economic Indicators*, Organization for Economic Co-operation and Development (OECD), monthly.

money growth and inflation for thirteen industrialized countries between 1971 and 1981. It shows that in this period average money growth ranged between a low of 7.7 percent for Switzerland to a high of 19.3 percent for Spain. Over the same period, the average inflation rate ranged between 5.0 percent for Switzerland to 15.9 percent for Spain. All intermediate cases, including the United States, lie on or close to the diagonal line, which depicts the average relationship between monetary growth and inflation for all the countries shown. The line indicates the strong positive relationship between money growth and inflation that monetarists predict.

Some words of caution about Figure 1 are in order here. It does not tell us why or how quickly higher money growth leads to higher inflation. Nor does it rule out the possibility that, during this period, both inflation and money growth were responding in similar ways to other or underlying economic forces that are not shown in the figure.

4.2 Do Government Budget Deficits Cause Inflation?

Many placed the blame for inflation during the 1970s and early 1980s on deficit spending by government. It is certainly true that federal government deficits were large during this period. Between the first quarter of 1975 and the fourth quarter of 1980, these deficits caused federal government debt to increase at a rate of 13 percent per year, more than double the rate of any previous six-year period since World War II. By the end of 1980, thirty state legislatures had approved resolutions petitioning for a constitutional convention that would consider an amendment requiring the federal government to balance its budget each year. For example, 1979 Missouri State Senate Resolution Number 13 declares: ". . . it is widely held that fiscal irresponsibility at the federal level, and the resulting inflation, is the greatest threat which faces our nation today."

What is a government deficit? Like each of us, the government must pay for the goods and services it buys. By far the most important source of government income is tax revenue. (The government also derives revenue from, e.g., government-owned enterprises such as the national parks system and tarriffs on imports.) In 1980, the federal government disbursed $602 billion; it had receipts of $541 billion, of which approximately 90 percent came from taxes. The government deficit is simply the difference between government disbursements and receipts. Thus, in 1980 the federal government incurred a deficit of $61 billion. The federal government must finance its deficits in one of two ways. It either borrows from private citizens by selling them government debt securities or it "prints" new money by selling government securities to the Federal Reserve. During 1980, approximately 10 percent of the deficit was financed by sales of government securities to the Fed and 90 percent by sales to the U.S. and foreign private sectors.

Some people oppose government deficits because they believe that deficit spending promotes the growth of government. During his 1980 presidential campaign, President Reagan often claimed that government, and particularly the federal government, had grown too large. He argued that government today performs many economic tasks and provides many economic services that would be more efficiently undertaken by the private sector. Those who share this view generally oppose deficit spending by government because they believe that governments would adopt fewer programs if they were required to levy taxes for each program undertaken. They reason that voters would support fewer new programs if they clearly understood that they must pay for them in the form of higher taxes.

The foregoing views are interesting, but we need to explore another point: at a given level of government spending, does it matter if the government pays for that spending through taxation, through sales of its debt securities to the Fed, or through sales of its securities to others? Based on the available evidence, a reasonable answer appears to be that deficit spending does not always and everywhere cause inflation; but rather, the contribution of deficit spending to inflation depends on the state of the economy.

Government budget deficits need not imply inflation if they occur when the economy is operating with substantial excess capacity, as would be the case in severe economic downturns. During the decade of the Great Depression, the average annual budget deficit was $2.04 billion. This amount may seem small but at the time it amounted to 2.7 percent of the average annual gross national product of $76.5 billion. By comparison, the 1980 deficit of $61 billion was 2.3 percent of the 1980 gross national product of $2.6 trillion. Between 1930 and 1940, however, the average annual rate of price change was *minus* 1.3 percent—deflation, not inflation! That is, during the Great Depression, prices fell persistently even though the federal government persistently incurred quite large deficits compared to the levels of national output.

In calendar 1982 the inflation rate fell from its double-digit levels of the preceding three years to 6.1 percent, although the federal government was climbing to the largest deficit in its history, $110.7 billion. Some economists considered the 1982 experience to be additional evidence that deficits do not cause inflation. Others disagreed, pointing out that during 1982 the United States experienced its worst recession since before World War II. These economists attributed the

low inflation rates of 1982 to the recession and expected that the large deficits being estimated for future years would lead to a resumption of double-digit inflation once the recession ended.

If the economy is not in a severe recession, large budget deficits tend to contribute at least indirectly to inflation through the monetary process. Large deficits put pressure on the Fed to increase the money supply, and increases that exceed the pace of increases in real output tend to produce inflation, as was explained in some detail in section 4.1.

Economists Thomas Sargent and Neil Wallace of the University of Minnesota have argued that the connection between deficit spending and inflation is more direct than monetarists believe. They argue that all deficits, not only those financed by "printing" money, are inflationary. Basic to their view is that the ultimate source of funds to finance current deficits is future tax receipts. Whether the Treasury borrows from the Fed or from the private sector today cannot alter the fact that eventually taxes must be raised to pay those deficits. Thus, they argue that deficits cause inflation because they create a future tax burden. Sargent argues that the hyperinflations following World War I ended only when the respective governments made credible commitments to stop deficit spending.

4.3 Is Inflation Demand Pull, Cost Push, Neither, or Both?

For a long time, economists divided inflations into two types: demand pull and cost push. Demand-pull inflation was thought to result from so rapid a growth in desired spending for goods and services that demand outstripped supply. Such growth could arise from the private or public sectors of the economy—or from both. Inflation in this case results until demand is restrained or supply catches up.

Cost push inflation was thought to occur when increases in the costs of production were passed on to consumers in the form of higher prices. Wage increases were thought to be an important source of cost-push inflation. New wage contracts in the larger industries were studied for signs of trends that might increase or moderate inflation from this source.

A more current view is that although inflation may begin on either the demand side or the cost side, every episode of inflation affects and is affected by both demand and supply forces. As an example, consider again the inflation of the late 1960s. That inflation began on the demand side: the Johnson administration increased government spending without cooling private demand through a tax increase or higher interest rates. But the supply side of the economy was soon involved. Workers quickly realized that rising prices were cutting the spending power of their paychecks. Therefore, at contract time they began to bargain for wage increases that would compensate them both for the spending power already lost and for the future inflation they expected during the life of their contract. If we had looked only at the few "frames of film" that showed the wage negotiations and their effect on prices, we would be tempted to conclude that the workers' demands for higher wages caused inflation.

Do Unions Cause Inflation?

Scapegoats are handy, especially when facing a problem as serious as inflation. It is not unusual to hear charges that unions cause inflation. But economics offers no foundation for this charge. Inflation is persistent growth in prices—month after month, quarter after quarter, even year after year. It is true that, at a point in time, the existence of labor unions will give rise to wage demands that will lead to larger price rises than would take place if the unions did not exist. But only growth in unionization and not the existence of unions itself can explain persistent growth in prices.

In fact, the proportion of the U.S. labor force that is unionized has been decreasing during the past twenty years. In 1964, 30 percent of the civilian labor force was unionized. By 1970, that fraction had fallen to 28 percent, by 1978 to 23.6 percent, and the 1982 figure was probably lower. Nor is there evidence that existing unions grew more militant during this period. This is indicated by the decline in the average number of days a year lost during labor disputes per member of the labor force. The statistics also show that union militancy *decreased* during the years in which the inflation rate was high as measured by the Consumer Price Index (CPI).

Period	Days Lost	Annual Inflation Rate
1960–64	.26	+1.3%
1965–69	.47	+3.4
1970–74	.50	+6.1
1975–79	.37	+8.0
1980	.29	+13.5
1981	.22	+10.4

SOURCE: Calculated from annual data in the *Statistical Abstract of the United States*, 103rd ed. (1982): Tables 624, 684, and 745.

It seems more accurate to describe higher wages as one part of a complex inflation mechanism. Workers responded both to the inflation they had experienced and the inflation they expected. These responses, in turn, gave additional momentum to the rise of prices.

Supply shocks—shocks occurring to the production sector of the economy—were clearly an important cause of inflation during the 1970s. The most important of these were a series of oil price shocks. Between 1973 and 1974, the Organization of Petroleum Exporting Countries (OPEC) raised the prices of crude oil fourfold from approximately $2.50 to approximately $10.00 per barrel. Further price increases followed so that the price of crude rose to $31.00 by the end of 1980. These price increases quickly contributed to a rise in the prices of goods and services in the United States. During the years preceding the 1973 oil price shock, the United States was developing an increasing dependency on foreign oil—a dependency that proved difficult to reverse. In 1972, the United States imported 29 percent of its total petroleum supply from foreign producers. By 1977 that figure had increased to 46 percent! As more expensive oil worked its way through the system, U.S. consumers paid for the higher cost not only at the gas pump, but also in the form of higher utility bills, higher food prices, and higher prices for most manufactured goods.

Gradually, however, economic forces began to reverse the trend to increased dependency on foreign oil. Production techniques and consumption habits were altered to economize on energy use. People installed more insulation in homes and replaced large autos with smaller ones; some even began moving from the suburbs back into the cities. The 1980 decision by the Reagan administration to remove the last of the price-ceiling regulations on petroleum produced in the United States worked to encourage the search for domestic oil deposits and for their development. By the second quarter of 1981, petroleum imports fell to about 36 percent of total petroleum supplies in the United States.[4]

How much of the inflation of the 1970s was due to increasing oil prices? Economists appear to agree that petroleum price increases explain some, but not all, of that inflation. Professor Michael Darby of UCLA points out that other inflationary forces were at work during the period of the first OPEC shock. He argues that, even without the OPEC price increase of 1973–74, prices would have increased as the Nixon wage and price controls were dismantled between 1973 and 1975. The average annual U.S. inflation rate in the 1973–75 period was 9.2 percent. Darby estimates that only 4 percent was due to the oil price shocks. (Darby, p. 748). Professor Robert Gordon of Northwestern has argued that much of the inflation of the 1970s resulted from monetary stimuli provided by the Fed in an attempt to offset the recessionary effects of the oil price rises. John Tatom, an economist at the Federal Reserve Bank of St. Louis, has estimated that energy price increases raised the U.S. inflation rate by 2 percent during 1974 and 1975, by 3 percent during 1979 and 1980, and by only small amounts at other times during the decade (Tatom, p. 11).

4.4 The Cures for Inflation

By now it will be clear that "the cure" for inflation depends upon one's view of the causes of inflation. The monetarist recommendation is straightforward: the Federal Reserve should provide the economy with steady growth in the money supply of between 3 and 5 percent per year. The Fed should not alter money growth in response to either high interest rates or signs of a recession. Monetarists believe there is solid evidence that inflation is substantially, if not exclusively, a monetary phenomenon. The more that money growth exceeds the 3 to 5 percent range, the higher the inflation. The more erratic the "excess" money growth is the more erratic is the resulting inflation. The monetarist program is not universally endorsed. Many economists continue to believe that the Fed can effectively offset recessions by "leaning against the wind." They regard the resulting inflation as not too high a price to pay in exchange for lowering unemployment.

Those who believe that government deficits cause inflation also make a clear recommendation: the federal government should balance its budget. There are at least two schools of thought among the "budget balancers." The first would by law require the federal government to balance its budget each year. The second takes a less severe stance. It believes that the federal government should be permitted to run a budget deficit during recessions in order to provide assistance to people who are severely affected by the recession. During recessions, tax revenues are lower than normal because fewer people are working and earning incomes, at the same time transfer payments are higher than normal because more people qualify for unemployment insurance, food stamps, and other public assistance programs. This second group would require the government to *average* a balanced budget on a five- to ten-year basis.

As stated earlier, it is clear that budget deficits contribute to inflation at least indirectly. Nevertheless, the Congress is likely to perceive any attempt to require an annually balanced budget as a serious threat to congressional spending discretion.

Two other suggested policies that merit discussion

4. The petroleum data are from various issues of the OECD publications *Quarterly Oil Statistics* and *Crude Oil Import Prices*.

The Gold Standard: A Cure for Inflation?

HILTON HEAD, S.C. -- Gold bugs are boning up on beryllium, and it's probably just as well. The U.S. presidential Gold Commission, having already voted against restoration of the gold standard, is winding up its affairs and soon will issue its final report. And as if to drive one last nail in[to] the gold standard's coffin, some 50 economists gathered here the other day for a post-mortem-like conference called A Retrospective on the Classical Gold Standard.

The consensus, more or less: Even at the height of inflation two years ago, the restoration of the gold standard was an idea whose time had not and probably never would come.

--"Gold Standard Doesn't Appeal To Economists," by Lindley H. Clark Jr., *Wall Street Journal*, March 26, 1982

During the past several years, there has been a resurgence of interest in the gold standard as a strategy for controlling inflation. The news item above refers to the presidential commission that was appointed in 1981 to study the advisability of reintroducing the gold standard in the United States. The commission submitted its report in 1982 and overwhelmingly declined to endorse any version of the standard.

First things first. There are many versions of the gold standard, and a wide variety of plans have been put forward. What they have in common is the proposal that the Federal Reserve be required to hold a certain amount of gold for each dollar that it issues whether in the form of currency or of bank reserves. As a result of these proposals, the Fed would only be able to increase the money supply by increasing the amount of gold it holds. Proponents of the gold standard believe that such a gold reserve requirement would make it very difficult for the Fed to sustain the sort of rapid money growth that contributed to the inflation of the 1970s and early 1980s.

Other gold standard proposals go beyond the necessity of holding a gold reserve. A pure gold standard would require that the nation's currency be convertible into gold. Still other plans call for an agreement among the central banks of the world's major economies to fix—"peg"—the price of gold in terms of each of their currencies. Under this proposal, the Fed would be required to hold the dollar price of gold within a narrow band about the peg, that is, to buy dollars with gold when the dollar price of gold rose above the peg and to buy gold with dollars when the dollar price of gold fell below the peg. The effect of such a pegging agreement would be to re-establish a system of fixed exchange rates among the world's major currencies such as existed between 1945 and 1973.

According to proponents of the gold standard, its chief advantage would be to guarantee monetary stability. The Fed would not be able to print money to finance the Treasury's deficit or to offset the effects of a recession. The gold standard would, it is argued, lock the Fed into a conservative monetary policy.

Those opposed to the gold standard include a majority of the members of the commission and of the economists mentioned in the news item. While a complete discussion of their views is beyond the scope of this discussion, at least two points deserve mention. First, the world's supply of gold is subject to random supply shocks associated with the discovery of new gold mines, the technology of mining, and the vicissitudes of world politics. Consequently, it is a mistake to assume that the supply of gold available to the Western world will grow smoothly as time goes on. The opponents of the gold standard fear that instability in the gold market would be translated into general economic instability through the workings of the gold standard. Second, in the past, nations have abandoned the gold standard when it was in their interest to do so. Hence, the opponents point out that the gold standard is not a foolproof substitute for a general commitment to stable growth in the money supply.

Whatever one's assessment of its relative advantages and disadvantages, the re-establishment of the gold standard does not seem to be imminent.

are: (1) wage and price controls, (2) indexation. Economists frequently disagree about policy. But they speak with near unanimity on the subject of wage and price controls. Put bluntly, most economists believe that wage and price controls are a bad idea. There are several reasons why. First, controls seriously hamper the economy's signaling system. Wages and prices must be free to adjust so that economic signals in the form of relative price changes can be passed from consumers to producers and back again.[5] Second, wage and price controls do not eliminate the causes of inflation. If too much money continues to "chase" the

5. If relative prices are not allowed to change—or do not change quickly enough—insufficient production of some goods and services may result. This condition usually leads to absolute shortages of some products, long lines or "black markets" in retail outlets, the concentration of production in higher-priced

amount of goods and services available, controls cannot alter this imbalance. When the controls are lifted, as they eventually must be, inflation resumes. And third, it has proved difficult to apply controls so as to affect everyone in the economy in a sensible and equitable way. In particular, when controls are under consideration, there is a great deal of activity on the part of special-interest groups as each attempts to secure a type of control—or a loophole—that serves its own interests.

The last policy for inflation we shall consider is indexation. Under indexation, wages, interest rates, transfer payments (social security benefits, unemployment insurance payments, food stamps, public assistance benefits), and tax schedules all rise automatically to reflect increases in the general level of prices. Many labor contracts in the United States are already indexed. Over 9 million workers have wage contracts that include so-called cost-of-living adjustment (COLA) clauses that are tied to the Consumer Price Index. And, as discussed in Section 1, social security benefits have been rising automatically along with increases in the CPI. Beginning in 1985, the United States federal income tax tables are scheduled to be indexed to eliminate the phenomenon of "bracket creep" discussed in Section 3.

What would be the effects of legislation that required wages, interest rates, transfer payments, and taxes to be tied to a measure of prices? Economists have only begun to study this question and any answer must be regarded as tentative. Indexation appears to have both advantages and disadvantages. The main advantage is that for many people indexation would remove the uncertainty brought on by inflation. Under indexation, lenders would be assured that the buying power of the interest they receive would rise along with inflation. Workers would be assured that the purchasing power of the wages they receive would not decline. A second advantage is that indexation would remove much of the economic incentive for government to generate inflation. Under indexation, inflation would no longer produce automatic tax increases and cheaper borrowing costs for government.

There are several possibly serious disadvantages to indexation. First, indexation would tend to raise unemployment in some situations. Supply shocks such as the OPEC oil price increases provide an illustration of how this might occur. Sharp rises in oil prices adversely affect industries heavily dependent on oil. Output in those industries falls, and the demand for labor in those industries falls as well. In such a case either wage rates must fall or employers will cut back on the quantity of labor employed. If wage indexation prevented wages from falling, it would contribute to unemployment in those industries.

Second, no consumer price index perfectly reflects the cost of living of any household. We have already seen that the widely used CPI tends to overstate the cost of living. Other indexes have been developed that avoid the problems of the CPI, but none is perfect.

Third, indexation treats the "symptoms" of inflation but does not actually provide a cure. Some economists argue that government budget deficits would actually cause more inflation with indexation than without it. A deficit would bring on even larger deficits because indexation increases government transfer payments. These increased payments enlarge deficits, which in turn require government borrowing to rise. The larger borrowing tends to raise interest rates, which increases the deficit further. These still larger deficits would cause still higher inflation, borrowing, and interest rates—and so on and so on.

4.5 The Costs of Ending Inflation

In concluding this discussion, it is important to point out that, once firmly established, inflation is costly to end. Two types of cost are: (a) the cost of upset plans and (b) the cost of higher than normal unemployment during the transition to lower inflation. Moreover, the costs of ending inflation are not shared equally by all the members of society. The rest of this section explains why.

Inflation is costly to end because the terms under which many people will have entered into contracts and made other economic plans will be based on the assumption that inflation will continue at previously prevailing rates. For example, if the inflation rate falls, people who borrowed funds on a long-term basis at an interest rate of, say, 15 percent will later find the true cost of borrowing to be higher than they expected. Employers may have agreed to a labor contract with wage increases of, say, 12 percent in the expectation that the prices of the products they produce would increase at that rate or more. When inflation slows, the agreed upon wage increase will prove to be more expensive than it appeared at contract time and some employers will probably lay off workers as a result. Similarly, people who took on large mortgage payments for a house expecting that their wages would grow quickly will find the payments to be more burdensome—and to be burdensome for a longer time—than they expected.

The most important cost of ending inflation and the reason that the burdens of ending inflation are not borne equally by all members of society is that a period of high unemployment is likely to accompany the transition from high inflation to low inflation. Such a pe-

goods or services, inferior quality of goods and services, distortions in international trade, and the like.

riod of high unemployment was observed in the United States in 1981 and 1982. (Unemployment rates were still high by historical standards as this manuscript went to press in 1983.) The underlying reason, as explained earlier, is that as the Fed cuts the rate of growth in the money supply, interest rates rise. And higher interest rates put a recessionary pressure on the economy in addition to that contributed by the labor contract effect just described. Not all industries nor all workers are equally affected, however. Higher interest rates have greater adverse effects in industries that produce goods for which buying is relatively easily postponed. Consumers say: "Let's wait until interest rates are lower to replace the family auto." Business people say: "With interest rates so high, this is not a good time to add new machinery or to replace old machinery in the factory."

What are the prospects for ending inflation in the United States? We have already mentioned that in 1982 the inflation rate fell more rapidly—from double digit levels to 6.1 percent—than many thought possible. But unemployment rose as well, to nearly 11 percent in the closing months of the year, the highest unemployment rate in the United States since the Great Depression. The Gallup Opinion Poll regularly asks a representative sample of U.S. residents: "What do you think is the most important problem facing this country today?" Every year between 1973 and 1980 more people gave "inflation" or "the high cost of living" than any other answer. But the April 1982 poll revealed a significant change in public opinion: only 24 percent answered "inflation" while 44 percent answered "unemployment." When asked specifically: "Which do you think the federal government should give greater attention to—trying to curb inflation or trying to reduce unemployment?" 49 percent responded "reduce unemployment" while 44 percent responded "curb inflation." As this was being written, the question is to what extent that change in opinion will bring on a change in national priorities, and how fast opinion and policy would shift again if unemployment were reduced significantly.

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INSTRUCTIONAL ACTIVITIES

SARAH LEAK

Rationale and Objectives

No one in our country is immune from the effects of inflation. All of us, including secondary students, have been affected in one way or another by rising prices, uncertain interest rates for borrowers and lenders, and other consequences of inflation. If you surveyed your classes you would probably find that most students were unable adequately to define inflation. It is a term heard and read about so often one would assume everyone knows what the definition is; in fact, many people do not.

The problem of inflation is complex. As with most complex problems, it is not easily solved. The instructional activities on the following pages are designed to help students examine various aspects of inflation—what it is, its causes, how it is measured, and how it affects individuals and groups. The complexity of the problem will become apparent to students as they attempt to analyze actions proposed for controlling or reducing inflation and the trade-offs these actions involve.

INSTRUCTIONAL OBJECTIVES	RELATED INSTRUCTIONAL ACTIVITIES
Students will:	
1. Assess their own knowledge of the causes and consequences of inflation and recognize any misconceptions they might have.	1
2. Define inflation.	1, 2, 3, 5
3. Calculate changes in the Consumer Price Index and explain the function of price indexes generally.	2, 3
4. Compute the rate of inflation.	2, 3
5. Interpret Consumer Price Index tables published by the Bureau of Labor Statistics.	2, 3
6. Compare the inflation rate in the United States to that of other countries.	3
7. Describe the effects of inflation on individuals and groups in a society and on the economy as a whole.	3, 4, 5, 6
8. Distinguish between high inflation rates and hyperinflation.	4
9. Explain the different points of view on the causes of inflation.	4, 6
10. Describe actions of the federal government that can contribute to inflation.	4, 6
11. Analyze federal-government actions for controlling or reducing inflation and state the trade-offs involved.	6

All handouts and visuals for the instructional activities are on perforated sheets at the back of this publication.

Instructional Activity 1

INFLATION QUIZ

RECOMMENDED USE:	To introduce the study of inflation.
TIME REQUIRED:	One class period.
MATERIALS REQUIRED:	Handout 1-1.
RATIONALE:	The use of a pretest for introducing the study of inflation serves two purposes. First, students become aware of their knowledge (or the limitations of their knowledge) about the causes and consequences of inflation and how it is measured. Second, teachers obtain information enabling them to select from among the various materials and instructional activities on the topic those best suited to the needs of their students.
CONCEPT:	Inflation
INSTRUCTIONAL OBJECTIVES:	Students will: 1. Define inflation; 2. Discover some of the misconceptions that they hold about the causes and consequences of inflation.

Teaching Strategy

1. Introduce the topic as follows:

   Inflation is something that we read and hear about all the time. In every year between 1973 and 1980, the Gallup Poll revealed that most Americans regarded inflation as the nation's number-one problem. What is inflation?

   Write student responses on the board without comment. After writing out a definition ask: Does everyone agree with this definition? Does anyone have a definition different from any of those on the board?

   NOTE: At this point in the lesson it is not essential that students' definitions be accurate. The objective is to elicit responses from as many students as possible in order to determine how well the students understand the term inflation as it is defined by economists.

2. Say to the class:

   In order to determine what you know about inflation and the factors that contribute to it, you are going to take a quiz. The quiz is solely for your information. You will correct your own papers, and no one needs to see your score.

Pupil Activities

Individual students will attempt to define inflation by doing the following:

a. Stating a definition in their own words;

b. Adding to definitions stated by others in the class;

c. Pointing out inaccuracies in previously stated definitions.

Distribute Handout 1-1 and allow about 15 minutes for students to complete the quiz.

3. Remind students that the purpose of the quiz is to help them ascertain what they know about inflation.

   Ask for volunteers to tell how they answered the first question. Once the correct answer has been identified, have students compare this with the definitions written on the board at the beginning of the class period.

   Discuss the remaining items with the class, making sure that students note the correct answers on their quiz papers.

   (Note questions students found particularly troublesome and use the information as a basis for selecting instructional activities for subsequent class study of inflation.)

4. Explain that inflation is a complicated subject and that several class periods will be devoted to studying it.

Complete quiz on inflation.

Discuss and ask for clarification of answers to individual questions; make corrections, as needed, on their own papers.

ANSWERS:

1(c)	6(c)	11(a)
2(b)	7(d)	12(d)
3(b)	8(c)	13(c)
4(c)	9(b)	14(b)
5(c)	10(d)	15(c)

Instructional Activity 2

PRICE INDEXES—OUT OF MANY, ONE

RECOMMENDED USE: In any subject or course to which price indexes and/or inflation are pertinent, e.g., economics, government, business, mathematics.

TIME REQUIRED: Two or three class periods, depending on whether the optional activities are used.

MATERIALS REQUIRED: Classroom sets of Handouts 2-1 and 2-2.

RATIONALE: Price changes are inherent in our economic system. In the past the nation has experienced times when the general level of all prices has been downward; we designate such times as periods of **deflation.** There have also been times when the trend of prices was essentially level; we designate those times as periods of **stability.** In the 1970s and extending into the 1980s, there was a rise in the general level of prices; we designate that time as a period of **inflation.**

Many individuals as well as public and private groups require information on price trends. Consequently, the U.S. government compiles and publishes a considerable variety of price data. Three major measures of price change are of particular interest to the public: the Consumer Price Index (CPI), the implicit price deflator for the Gross National Product (GNPD), and the Producer Price Index (PPI). This lesson takes up all three measures with the aim of increasing students' understanding of price changes—especially those which constitute inflation—and of how price indexes are calculated and what they mean.

(NOTE: Instructional activities 2 and 3 are closely related. If you use both activities, have the students keep their copies of Handout 2-1 for use in Activity 3, or you should set aside a correctly completed copy of the handout and use it as a transparency in the later lesson.)

CONCEPTS: Inflation; deflation; index numbers

INSTRUCTIONAL OBJECTIVES: Students will:

1. Define inflation, deflation, price stability, price, price index;
2. Calculate changes in the CPI;
3. Describe the function of the CPI;
4. Interpret data in a CPI table;
5. *Optional:* Explain the differences between the CPI, the PPI, and the GNPD, and the function of each

Teaching Strategy	Pupil Activity
1. Begin the lesson by telling the students that they will be discussing trends in prices and how indexes are used to determine such trends. Ask students to define price. If they are unsuccessful after several attempts to define the term, write the following definition on the chalkboard. *Price is the amount of money that must be given up to obtain (buy) one customary unit of a good or service, e.g., one movie ticket, one pair of shoes, one dozen eggs.*	Attempt to define price.
2. Write the terms "inflation" and "deflation" on the board. Explain that **inflation** decribes periods during which the majority of prices are going up; conversely, **deflation** describes periods during which most prices are falling.	
3. To illustrate the current trend of prices, ask students to name some of the goods and services they or their parents have recently bought. List the items on the chalkboard. Try to get as long and varied a list as possible. (You might add hand-held electronic calculators if students do not suggest them, since the prices of these devices have been falling ever since their introduction in the early 1970s. Another product whose prices have been falling is the personal computer, first introduced in the mid-1970s. We want to show that not *all* prices rise during inflation, but that the overall average of prices rises. The opposite would be true in deflation.)	Name goods or services they or their parents have recently bought. Examples of items students might mention include food, clothing, medicines, bicycles, cars, TV sets, records, audiocassettes, washing machines, stereos, books, sporting goods, videotape players, video game players, personal computers, video tapes, video games, hand-held electronic calculators. Services might include shoe repairs, car repairs, medical or dental care, haircuts, rock concert and movie admissions.
4. Point to each item in turn on the list and ask students whether its price has risen, declined, or remained the same since they or their parents last bought it (or during the past two years, if it is an item that is infrequently bought, such as a refrigerator). Put a plus (+) sign next to items students say rose in price, a minus (−) sign for a decline, and a zero (0) beside those items that have not changed in price.	Students state whether the price of each item went up, down, or remained the same since they or their families last bought it.
5. Ask: a. What do we call a situation in which most prices are rising over a sustained period of time?	Respond to questions: Inflation
b. What do we call a situation in which most prices are falling over a sustained period of time?	Deflation
c. What inferences can you make about price trends from the list on the board?	Infer from the relative frequency of plusses, minuses, and zeros that the economy is experiencing price inflation, deflation, or stability. For example, if there are more plusses than minuses or zeros, students will probably infer that the economy is in a state of infla-

d. Does the list provide sufficient data to determine price trends?

tion; if none of the symbols is dominant, there is likely to be disagreement about the current state of prices, but the actual situation may on the whole be one of price stability.

Probably not. Because of the manner in which the list was compiled, it may be unrepresentative of what consumers buy or of the relative importance of their purchases and thus not reflect the true trend of prices in the economy. The list may reflect unique local conditions rather than national trends.

6. Summarize the discussion, emphasizing the following points:

   —The terms inflation, deflation, and stability describe the average or general tendency of prices during a particular period.

   —During *inflation*, some individual prices may fall; furthermore, among the prices that are rising, some will be moving up more rapidly than others.

   —Prices of some items may change owing to an alteration in their specific market conditions: changes in the amount of the product supplied or demanded or changes in the production process that reduce costs. (Examples: the price of oranges may go up relative to the change in the prices of other fruits if there is a severe freeze during the growing season for oranges; the price of hand-held electronic calculators fell considerably with the introduction of new technology that reduced production costs.)

7. Ask students to suggest other examples of relative rises or falls in prices due to an alteration in the market conditions for a specific product or changes in technology or the cost of production. Emphasize that changes in prices under these conditions act as signals to bring supply and demand into conformity with each other.

Sample answers: Coffee prices rise because of a freeze during the growing season; prices for grapes fall because there is a bumper crop; on the Maine Coast, motel room rates in winter are half or a third the rates for the same accommodations in July; prices of consumer electronic goods such as video game players, home computers, and personal stereos have come down partly because their components have become cheaper to make.

8. Write the words "Consumer Price Index" on the chalkboard. Ask if anyone knows what this means. Most students will probably not be able to give an adequate explanation of the phrase. However, at this point in the lesson, do not offer an explanation. Rather, after students have made several attempts to define the expression tell them that the next part of this lesson will be devoted to looking at the Consumer Price Index (CPI), after which the students should be able to explain what it is, its purpose, and how it is computed.

Attempt to define Consumer Price Index.

9. Distribute Handout 2-1. Ask the students to read Part A of the handout. Allow time for reading, then begin the discussion by asking students if they can now define "Consumer Price Index." Discuss with them the purposes of the CPI and how it is computed. Ask students to define key terms such as "base year," "market basket," "weighting"; clarify terms, if necessary.

Read Part A of Handout 2-1. On the basis of the reading:

—Define CPI: a statistical measure of changes in the average prices of a "market basket" of goods and services urban households use for daily living compared to prices of the market basket in the base or reference year.

—State the purposes of the CPI.

—Explain how the CPI is computed.

—Explain or ask for clarification of the key terms.

10. Ask the class to read and answer the questions in Part B of the handout. Allow time for reading, then go over the answers to the questions with the students. To make sure that the class understands the instructions given for computing the CPI, you may wish to ask several students to illustrate on the chalkboard how they arrived at their answers for questions b, c, and d.

Read Part B and discuss the answers to the questions.

ANSWERS TO QUESTIONS IN PART B

a. What happened to the total dollar amount of weighted food expenditures in Period Two compared with Period One?	The amount rose.
b. What was the amount of the increase?	$12.50 (= $59.50 − $47.00)
c. What was the percent increase in prices from Period One to Period Two?	26.6% [= (12.50 / 47.00) × 100.0]
d. What is the index number for Period Two?	126.6 (= 26.6 + 100.0)
e. How much would it cost in Period Two to buy what $1.00 could buy in Period One?	$1.26
f. What effect would this have if your money income is fixed, and, therefore, you still have only the same amount to spend in Period Two as you had in Period One?	You will not be able to buy everything you could before.

11. Have students complete Part C of the handout.

Read and answer the questions in Part C.

ANSWERS TO QUESTIONS IN PART C

Period Three (Same month, third year)

	(1) Average Price per Unit	(2) Quantities Bought	(3) Weighted Expenditures (= col. 1 × col. 2)
Milk (quart)	$0.65	20 quarts	$ 13.00
Bread (loaf)	0.60	30 loaves	18.00
Hamburger (pound)	1.50	25 pounds	37.50
		Total food	$ 68.50

g. What is the price index for Period Three?

$145.7 \left[= \left(\frac{68.50 - 47.00}{47.00} \times 100.0 \right) + 100.0 \right]$

h. Did the price index rise faster in Period Two or in Period Three? Give figures to prove your contention:

Period Two

(1) Percent rise in Period Two compared with Period One

$26.6\% \left(= \frac{126.6 - 100.0}{100.0} \times 100.0 \right)$

(2) Percent rise in Period Three compared with Period Two

$15.1\% \left(= \frac{145.7 - 126.6}{126.6} \times 100.0 \right)$

i. What is the total percent rise from Period One to Period Three?

$45.7\% \left(= \frac{145.7 - 100.0}{100.0} \times 100.0 \right)$

(NOTE: The percents can be calculated as well from the corresponding dollar amounts of total expenditures instead of the index numbers. However, published sources of price indexes do not usually provide dollar data.)

12. Provide students with copies of the most recently published CPI. Among the sources containing current CPI data are the newspaper, the *Monthly Labor Review* (Bureau of Labor Statistics of the U.S. Department of Commerce), and the *Statistical Abstract of the United States* (Bureau of the Census of the U.S. Department of Commerce, annual). If more recent data are not available, use the table that appears at the end of this lesson.

Below are sample questions for helping students apply what they learned in steps 8-11. (NOTE: The questions and answers relate specifically to the table provided with this lesson. However, they are easy to adapt for use with more current CPI tables.)

SAMPLE QUESTIONS AND ANSWERS

a. To what group or groups of people does the table apply?

Urban wage earners and clerical workers.

b. What does the table show?

Annual averages and percent changes in the total Consumer Price Index and its broad component categories in the period 1967–81.

c. What is the base year?

1967

d. What are the categories of items for which data were collected?

Food and beverages, housing, apparel and upkeep, transportation, medical care, entertainment, other goods and services.

e. What was the price index for all items in 1981?

272.3

f. What was the total percent change from 1967 to 1981?

172.3 percent.

g. How much did it cost in 1981 to buy what $1.00 could buy in 1967?

$2.72

h. What was the annual percent change for all items in 1981 compared with 1980?

10.2 percent.

i. How was this number derived?

$$\frac{272.3 - 247.0}{247.0} = \frac{25.3}{247.0} = 0.102$$

$0.102 \times 100 = 10.2$

j. In what year did the price index show the most rapid rise in prices for all items? Explain your answer.

1980; prices rose by 13.5 percent; this is the highest percent change shown for any single year.

k. Was there any year for which the price index showed a fall in the average prices for all items? Explain your answer.

No; if the CPI had declined in any year, the percent change would be a negative number (i.e., it would be preceded by a minus sign).

l. Which category of items showed the greatest rise in average prices in 1981 compared with 1967? Which category rose the least?

Medical care; apparel and upkeep.

m. Which category of items showed the most rapid rise in prices in the three-year period from 1979 to 1981?

Transportation.

n. What was the percent change in prices for transportation during this period? Explain how you derived your answer.

$$\frac{281.3 - 212.8}{212.8} = \frac{68.5}{212.8} = 0.322$$

$0.322 \times 100 = 32.2$

o. During what two-year period did average prices for food and beverages rise more rapidly than average prices for any other category?

1973 and 1974; the increases for these two years were 13.2 percent and 13.8 percent, respectively.

17. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–81

[1967 = 100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0		100.0		100.0		100.0		100.0		100.0		100.0		100.0	
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2
1980	247.0	13.5	248.7	8.7	263.2	15.7	177.4	6.6	250.5	17.7	267.2	11.3	203.7	8.5	213.6	8.8
1981	272.3	10.2	267.8	7.7	293.2	11.4	186.6	5.2	281.3	12.3	295.1	10.4	219.0	7.5	233.3	9.2

SOURCE: *Monthly Labor Review* (U.S. Bureau of Labor Statistics), December 1982, p. 71.

13. OPTIONAL. Introduce this portion of the lesson by explaining briefly that the CPI is only one of many price indexes the federal government compiles to assist economists and others in monitoring economic trends. Two other important series are the Producer Price Index (PPI) and the Gross National Product Implicit Price Deflator (GNPD). Write the names of these two indexes on the board.

Distribute Handout 2-2. Tell students to read it and answer the questions.

When students have completed the reading and answered the first three questions, go over the answers.

a. Why are the price series presented in the form of indexes rather than dollar amounts?

b. Which of the three price series is the most comprehensive? Why?

c. If there are substantial increases or decreases in the PPI, where might they eventually show up? Why?

14. *Evaluation:* Assess students' participation in class and their answers to the questions contained in the handouts.

Students read the handout and answer the first three questions.

Answers should incorporate the following points: Indexes make it possible (1) to combine items priced in different ways into a single total (for example, meat by the pound, eggs by the dozen, shoes by the pair, refrigerators as a unit); (2) to express the total as a percent of the total at some starting point or base period; and (3) as a result to compare price changes from one period to any other.

The GNPD is the most comprehensive because it includes not only all final goods produced in the United States, but all services as well.

They will eventually show up in the CPI because the prices of the goods in the PPI represent costs of production of the goods sold to consumers.

Instructional Activity 3

WHAT IS INFLATION?

RECOMMENDED USE:	In courses in economics, problems of democracy, history; requires that students have some understanding of the purposes of price indexes and how they are computed.
TIME REQUIRED:	One or two class periods.
MATERIALS REQUIRED:	Handout 3-1.
RATIONALE:	This lesson shows how to calculate the rate of inflation from a price index and how to interpret such rates.
CONCEPTS:	Inflation; inflation rates.
INSTRUCTIONAL OBJECTIVES:	Students will: 1. Define inflation; 2. Compute inflation rates; 3. Interpret table showing inflation rates in industrialized countries; 4. Compare U.S. inflation rates with those in other industrialized countries.

Teaching Strategy

1. Ask students to define inflation.

2. Ask: How can we measure changes in the general level of prices?

3. Point out that the index frequently used to measure changes in the general price level is the Consumer Price Index.

4. OPTIONAL. If you did not use Instructional Activity 2 ("Price Indexes—Out of Many, One"), conduct a brief review of the CPI as follows:

   a. Copy the table shown below on the chalkboard:

Year	CPI (1967 = 100)
1980	247.0
1981	272.3

   b. Explain to the class that using 1967 as the base year (i.e., 1967 = 100), the total Consumer Price Index stood at 247.0 in 1980 and at 272.3 in 1981.

Pupil Activity

Inflation is a persistent growth in the general level of prices.

Price indexes that include a representative variety of products are used to measure changes in the general level of prices.

c. Ask students to:

(1) Compute the annual inflation rate between 1980 and 1981;[1]

$$\frac{272.3 - 247.0}{247.0} \times 100.0 = 10.2 \text{ percent}$$

(2) Compute the average annual rate of inflation from 1967 to 1981.

$$172.3\% \div 14 = 12.3 \text{ percent}$$

NOTE: If students are unable to do the computations, review with them the mathematical formula given in Handout 2-1, Part B.

5. Distribute Handout 3-1. Tell the class that the data on the handout will help them compare the inflation rates in the United States with those in other industrialized countries. Go over the directions with the students, then have them work individually or in pairs to answer the questions.

Study the table and then write their answers to the questions on Handout 3-1.

6. Have the class discuss the answers to the questions on Handout 3-1.

a. In which year or years was the U.S. inflation rate relatively low compared to the rates in the other countries included in the table? In which years was it relatively high? Did any country have consistently low or consistently high rates?

Low: 1961–70; 1971–77 (or students may answer: 1961–77).

High: 1979, 1980.

Switzerland had low rates from 1961–77 to 1980. Italy's rate was high from 1971–77 to 1981.

b. In the 1970s, how did the U.S. rate compare to the rates in Switzerland and Germany?

Rates in all three countries were about the same until near the end of the decade, when U.S. rates became higher.

c. What was the trend of rates in most of the countries from 1960 to 1980?

Upward.

d. In the mid-1970s, the rate of inflation accelerated in the industrialized countries. What specific event of the time might help explain the speedup?

OPEC, the Organization of Petroleum Exporting Countries, greatly increased its prices. Petroleum is a major item in the production of goods and services in industrialized countries.

1. A quicker way:
(a) 272.3 / 247.0 = 1.102
(b) (1.102 − 1.0) × 100 = 10.2 percent.
Students should obtain the result in (b) by mentally subtracting 1.0 algebraically from the result in (a) and multiplying by 100.0. The algebraic equivalence between this calculation and the one given in the text is very easy to show.

Instructional Activity 4

THE ??WHATZIT?? GAME

RECOMMENDED USE: Senior high school courses in economics or problems of democracy or any other course in which the causes of inflation are discussed.

TIME REQUIRED: Two class periods.

MATERIALS REQUIRED: Handouts 4-1, 4-2, 4-3, 4-4, 4-5 (see Teachers Instructions on pages 47–48 for directions concerning preparation of Handouts 4-2 and 4-3).

RATIONALE: In order to limit or stop inflation, an understanding of its causes is necessary. Students first play the ??WHATZIT?? game to help them understand that an increase in the supply of money does not create commensurately more goods and services. The reading in Handout 4-4 shows the detrimental effect on an economy of runaway inflation. Finally, the reading in Handout 4-5 and follow-up questions provide a handy summary of the main points of view regarding the causes of inflation.

CONCEPTS: Cost push, demand pull, supply shock, real growth, rate of inflation, printing money, recession, deficits, money supply, hyperinflation.

INSTRUCTIONAL OBJECTIVES: Students will:

1. Explain what happens when the money supply grows much faster than the economy's output of goods and services;
2. Explain how federal government borrowing can increase the money supply;
3. Define hyperinflation and describe what its effects can be;
4. Give examples of these other types of inflation: demand-pull, cost-push, supply shock.

Teaching Strategy

1. Conduct the ??WHATZIT?? game. (See Teacher's Instructions on pages 47–48. Note materials you must prepare ahead of time.)

2. After the last round of the game, have the class discuss the following questions:

   a. What changes occurred in the prices paid for WHATZITs in each round?

Pupil Activity

Average prices increased with each successive round.

b. Why did prices increase? What changes occurred during the game that contributed to the rise in prices?

The rate of increase in the money supply (one-dollar coupons) was considerably higher than the rate of increase in WHATZITs. From Round 1 to Round 3 the number of $1 coupons given buyers increased by 300 percent while the number of WHATZITs given sellers increased by only 100 percent. If a fourth round was played, by the end of the game the money supply had increased by 400 percent as opposed to a 100 percent increase in WHATZITs.

c. What is the term commonly used to describe a rise in the general price level of goods and services? Does this term apply to what happened in the game?

Inflation; yes.

d. In what way did the value of the one-dollar coupons change from Round 1 to Round 3?

Their value decreased.

e. What might have happened to prices if the number of WHATZITs had been increased at the same rate as dollars?

The average prices would probably have remained the same for each round.

f. What might have happened to prices if the number of one-dollar coupons given to buyers had been cut by half at the beginning of Round 2 compared to Round 1?

Prices would probably have fallen.

g. What might have happened to prices if the number of one-dollar coupons given to buyers had been quadrupled at the beginning of each round (i.e., increased from 30 to 120 in Round 2 and from 120 to 480 in Round 3)?

The increase in average prices for each round would probably have been significantly higher.

3. Distribute Handout 4-4. Allow time for reading; then ask:

Read handout.

a. What was the inflation rate in Israel in 1980?

131.5 percent.

b. What would be the practical effects of such a high rate of inflation?

Prices more than doubled between 1979 and 1980. A person would have to spend more than twice as much money in 1980 to get the same quantity of goods and services as in 1979. Families with fixed incomes would suffer a fall in their level of living; they would have to make do with fewer goods and services in 1980 than in 1979.

c. Was Israel considered to be experiencing hyperinflation in 1980?

No.

d. How would you define hyperinflation?

It is inflation that is running out of control.

e. What happened to the German economy when the German Central Bank began printing paper money to pay the government's bills?

Too much money began chasing too few goods—demand went up but the supply of goods and services remained unchanged. People had to spend more and more money to pay for even the simplest goods.

f. Why might people living in Germany during the period of hyperinflation resort to barter?

Money had become worthless. Only goods and services kept their value.

g. What happened to peoples' savings?

The savings were wiped out.

4. Distribute Handout 4-5. Allow time for students to read the material and answer the questions. Then review the answers with the class as a whole. (A completed copy of the question form in the handout appears at the end of this instructional activity.)

5. OPTIONAL: Discussion questions on Handout 4-5.
   a. Why might the federal government be unable to deal with deficits by cutting spending?
   b. Is government borrowing through the Fed *necessarily* inflationary?

Answers to Questions in Handout 4-5

a. Name three possible causes of inflation. (*Cost push, demand pull, supply shock, excessively rapid growth in money supply compared with growth in real output.*)

b. What will monetarists predict about the general level of prices if real output is growing at 2 percent per year and the money supply is growing at 10 percent per year? (*Prices would grow at 8 percent per year.*)

c. What agency or organization formulates the official definition of the money supply and collects data about it? (*The Federal Reserve.*)

d. From time to time, there have been revisions in the official definition of the money supply. What is the reason for such revisions? (*Changes are constantly taking place in the uses of money, in the regulations affecting it, and in the practices of banks and other financial institutions.*)

e. What is a "government deficit"? (*The government has a deficit whenever its receipts during some fixed period of time are less than the amount it spends in the same period.*)

f. How does the federal government deal with deficits? (*By reducing spending; by raising taxes so as to increase income; by borrowing money.*)

g. What is the principal source of the federal government's income? (*Tax receipts.*)

h. Why might the federal government need to borrow money even when its annual expenditures are not greater than its annual income? (*Over short periods of time, receipts may be less than expenditures.*)

i. What effect can government borrowing have on the money supply and/or price inflation? (*Government borrowing can cause the money supply to rise. If the money supply rises, prices may go up, that is, inflation may result.*)

j. An important cause of the inflation of the 1970s was (*the oil supply shock*).

k. The inflation of the 1960s was a result of both (*demand pull*) and (*cost push*). OPTIONAL: Explain your answer.

Teacher's Instructions

??WHATZIT??
An Inflation Game

1. Prior to the day you plan to conduct the lesson, prepare the following:
   a. One copy of Handout 4-1 per student.
   b. For half of the number of students in the class, 4 sheets each of WHATZIT coupons (Handout 4-2).
   c. For the other half, 5 sheets each of $1 coupons (Handout 4-3). (E.g., for a class of 30 students you will need 75 sheets of $1 coupons and 60 sheets of WHATZIT coupons.)
2. Before class begins copy the following table on the chalkboard. (The columns for the various rounds of play should be wide enough so that tally marks (////) can be made for counting the number of transactions. Round 4 is optional; leave room to add it if needed.)

Price per WHATZIT	Round 1	Round 2	Round 3	Round 4
$15.00				
14.00				
13.00				
12.00				
11.00				
10.00				
9.00				
8.00				
7.00				
6.00				
5.00				
4.00				
3.00				
2.00				
1.00				

3. Introduce the lesson by telling the class that today they will be playing the WHATZIT Game. In the course of the game they will buy and sell WHATZITs. They should make a mental note of any conditions that changed during the game and try to determine the effect those changes had on the behavior of buyers and sellers.
4. Select two students to serve as "market assistants." Explain that their responsibilities during the game will be to (a) record on the board the transactions between buyers and sellers and (b) help distribute and collect coupons at the beginning and end of each round, respectively.
5. Give a copy of Handout 4-1 to each member of the class. Then designate half of the class as sellers and half as buyers. Allow time for students to read the handout.
6. Go over the instructions with the students. Explain that the game will be played in rounds. Sellers should try to sell their WHATZITs for the highest price they can get. Buyers should try to purchase WHATZITs for the lowest possible price. The winners of each round will be the buyer who has the highest number of WHATZIT coupons and the seller who has the highest number of $1 coupons. (NOTE: To generate more enthusiastic play you may wish to provide token prizes—a piece of fruit, a candy bar, or some privilege such as exemption from homework—for winners of each round.)
7. Conduct **Round 1.** Distribute 30 $1 coupons to the buyers and 10 WHATZIT coupons to the sellers. Allow about five minutes for market transactions. If students are slow in getting into the spirit of the game, however, you may extend the round for several minutes longer.
8. When time is up, declare that Round 1 is over.
   a. Have students return to their seats and record on their individual score sheets the number of WHATZIT and $1 coupons they have.

Adapted from "Money and Inflation: A Lesson Plan," by Lawrence Abrams, *Con-ec-tions* (Joint Council on Economic Education), October 1980.

b. Declare winners (the seller with the highest number of $1 coupons and the buyer with the highest number of WHATZIT coupons).

c. Collect all dollar and WHATZIT coupons.

9. **Round 2:**

a. Distribute 60 $1 coupons to buyers and 15 WHATZIT coupons to sellers.

b. Allow five minutes for marketplace transactions.

c. Stop game play; then repeat the procedures in step 8 above.

10. **Round 3:**

a. Distribute 120 $1 coupons to buyers and 20 WHATZIT coupons to sellers.

b. Allow five minutes for marketplace transactions.

c. Stop game play; then repeat the procedures in step 8 above.

11. **Round 4** (Optional): Conduct this round if prices have not increased significantly by the end of Round 3. Distribute 150 $1 coupons to buyers and 20 WHATZIT coupons (the same as in Round 3) to sellers.

12. After the last round, continue with Teaching Strategy 2.

Instructional Activity 5

THE ECONOMIC EFFECTS OF INFLATION

RECOMMENDED USE:	Senior high school economics or problems of democracy courses or any other subject in which the effects of inflation are studied.
TIME REQUIRED:	One or two class periods.
MATERIALS REQUIRED:	Visual 5-1 and Handout 5-1.
RATIONALE:	In this lesson students increase their understanding of the effects of inflation, particularly on different groups in society.
CONCEPTS:	Anticipated inflation, unanticipated inflation, inflation premium, risk premium.
INSTRUCTIONAL OBJECTIVES:	Students will: 1. State which groups gain and which groups lose from inflation; 2. Describe the effects of anticipated inflation; 3. Describe the effects of unanticipated inflation; 4. Define inflation premium; 5. Define risk premium; 6. Interpret and draw a cartoon dealing with the effects of inflation.

Teaching Strategy

1. Introduce the lesson by telling the students that the class period will be devoted to an examination of the effects of inflation. Ask: Do you think inflation reduces the well being of society? Ask students to explain their answers. Allow about five minutes for discussion.

2. Project Visual 5-1. Form class into small groups to prepare written answers to each question. After 10 minutes, reconvene class, and go over each question; allow time for discussion and clarification.

   a. What if inflation settled and remained at 10 percent a year and everyone came to regard that rate as a normal part of life?

Pupil Activity

Most students will answer yes. More detailed answer: Inflation makes goods and services more expensive and, unless income rises sufficiently for everyone; lowers the level of living for at least some of the population.

Groups should try to reach a consensus on each question.

Inflation would be predictable and members of society, knowing what to expect, would adjust all their financial arrangements in order to adapt to a steady 10 percent increase in prices.

b. What could employers and employees do if they knew that the inflation rate would be a steady 10 percent?

Wage contracts could contain guarantees that wages would increase at least 10 percent per year in order to keep up with the inflation rate.

c. What if borrowers and lenders knew that a dollar paid back a year hence would have 10 percent less purchasing power?

Both parties would understand that interest rates would have to be set at a minimum of 10 percent in order to compensate for the decline in the value of the dollar caused by inflation.

d. When inflation is steady and predictable at 10 percent and the *basic* interest rate is 3 percent, what should the total interest rate be? (NOTE: Explain that the 10 percent added to cover inflation's inroads on the value of money is called the inflation premium.)

The total should be 13 percent.

e. What if the inflation rate were totally unpredictable?

NOTE: Point out that the additional amount of interest charged in periods of unpredictable inflation is called the "risk premium." (For a more detailed explanation of the inflation premium and the risk premium, see the Overview.)

With no one knowing exactly what to expect, people would be uncertain how to set contracts for future payments of wages and interest rates as well as for prices of goods and services. Moreover, if the inflation rate is unpredictable, lending will be riskier. Lenders may require an interest rate higher than the sum of the basic rate and the inflation premium because of the unknown risk.

3. To further clarify and extend student understanding of the effects of inflation, ask questions such as the following.

a. What happens to the buying power or value of money during inflation?

It falls. Money buys fewer goods and services than it used to.

b. What effect does inflation have on borrowers?

They gain. They can pay off the stated amount of their debts more easily. The money they return is less valuable in terms of buying power than when they borrowed it.

c. On lenders?

They lose. The money paid back to them buys less than when they lent it out.

d. On people with fixed incomes, such as those living on pensions that do not increase along with inflation?

They have a harder time making ends meet because the fixed amount of their pensions buys less so long as inflation continues.

e. On government tax receipts? (NOTE: "Indexation" is scheduled to begin in 1985 for federal income tax payments. Tax indexation adjusts tax rates so that taxpayers do not move into higher tax brackets unless their incomes increase faster than the rate of inflation.)

They increase because as the incomes of people with jobs or other forms of nonpension income rise, they move into higher tax brackets.

4. The Inflation Pig

a. Distribute Handout 5-1 and tell students to choose a partner and complete the exercise.

Students work in pairs. They read and carry out the instructions.

b. After about ten minutes call on several pairs of students to show their cartoons and read their explanations. Allow time for discussion.

5. *Evaluation:* Have each student draw a cartoon to illustrate one or more of the effects of inflation, and then write, on a separate sheet of paper, a sentence or two describing the intended message. After cartoons have been completed, ask students to exchange cartoons with a classmate, and write a brief description of what they think is the message of the classmate's cartoon. Begin class discussion by asking questions such as: Did you and your classmate interpret each other's cartoons correctly? If not, what was the intended message? How was the cartoon interpreted? How might the cartoon be changed to convey the intended message more clearly?

Draw a cartoon and write a brief description of the message the cartoon is intended to convey; interpret a cartoon drawn by a classmate; participate in class discussion of students' cartoons and, where appropriate, suggest improvements in the cartoons.

Instructional Activity 6

SOME CURES FOR INFLATION

RECOMMENDED USE: Courses in economics, economic history, problems of democracy.

TIME REQUIRED: One or two class periods.

MATERIALS REQUIRED: Handouts 6-1 and 6-2.

RATIONALE: There is even less agreement about how to end inflation than about its causes. Tax indexation and cutting the federal budget are but two of a long list of proposals; examination of the aforementioned two is intended to illustrate some of the difficulties of ending inflation.

CONCEPTS: Indexation, bracket creep, government deficit, real income, trade-off.

INSTRUCTIONAL OBJECTIVES: Students will:

1. State the effects of inflation on people in various economic situations;
2. List some of the negative and positive effects of inflation on individuals and on the market system as a whole;
3. Define indexation and state its advantages and disadvantages as a solution to the problem of inflation;
4. Analyze the trade-offs in cutting federal spending on specific programs in order to reduce the budget deficit.

Teaching Strategy

1. Copy the list at the right on the chalkboard. Tell students to select a role and write a brief description of the effect of continuing inflation on such a person's level of living or business operation. Students may assume other roles than those listed. After 10 minutes have some students read their descriptions aloud. Conduct brief class discussion of the accuracy of each description. (Tell students to save their written descriptions for use later in the lesson.)

2. Conduct a short summary discussion of good and bad effects of inflation on people of various income

Pupil Activity

Students choose a role and write a description of it:

- Worker in a unionized factory that produces men's or women's leisure clothes
- Homeowner with low-interest mortgage
- Recently retired schoolteacher
- Manufacturer planning to buy new machinery
- Newly married couple seeking to buy a condominium apartment
- Consumer installment loan officer in a bank
- Worker in a nonunion factory that produces computers

levels and occupations and on the economy as a whole. Ask: Who benefits from inflation? Whom may inflation harm?

3. Distribute Handout 6-1.

Students read and carry out the instructions on the handout.

4. After the students complete the exercise (about 15 minutes) again have some students (not the same ones as in Step 1) read their answers. Follow each reading with brief class discussion and clarification.

5. Ask: What is the basic premise of indexation?

Inflation is too difficult or too costly to cure and therefore the best the government can do is try to soften the hardships.

6. Have the class briefly discuss the following questions about the federal deficit:

   a. When does the government have a deficit?

When government spending exceeds government revenues.

   b. How might a government deficit contribute to inflation?

If the government chooses to deal with a deficit by borrowing, the effect may be to increase the money supply and thus to cause the demand for goods and services to exceed their supply.

   c. How can the federal government reduce deficit financing?

By spending less; by raising taxes.

   (NOTE: If students are unable to answer the questions satisfactorily, go on to the next step and incorporate the questions in the class discussion of the exercise in the handout.)

7. Distribute Handout 6-2. Allow about ten minutes for students to complete the exercise. Then ask someone who ranked proposal A (cut food stamp program) first and someone who ranked it last to explain their points of view. Repeat this procedure for the other proposals.

Handout 1-1

QUIZ ON INFLATION

Directions: Circle the letter of the phrase that *best* completes the sentence or answers the question.

1. Inflation can be best described as
   a. A rise in the level of employment that causes increased spending.
   b. A decrease in the money supply accompanied by an increase in savings.
   c. A general rise in the level of prices.
   d. A growth in government taxation to reduce deficit spending.

2. The best single measure of the total economic output in the United States is the
   a. Consumer price index.
   b. Gross national product.
   c. Total amount of take-home pay.
   d. Index of industrial production.

3. When comparing gross national product over several years, it is usually necessary to adjust for
   a. Changes in technology.
   b. Changes in the price level.
   c. Improvements in product quality.
   d. New products that enhance our living standards.

4. The Federal Reserve Board generally tries to increase the money supply when it wants to
   a. Hold down the government debt.
   b. Increase the government debt.
   c. Fight unemployment.
   d. Fight inflation.

5. If your annual money income rises 50 percent while prices of the things you buy rise by 100 percent, then your
   a. Real income is unaffected.
   b. Money income has fallen.
   c. Real income has fallen.
   d. Real income has risen.

6. Gross National Product is a measure of
   a. The price level of goods and services sold.
   b. That part of production which is used by the government.
   c. The market value of a nation's output of final goods and services.
   d. The quantity of goods and services produced by private business.

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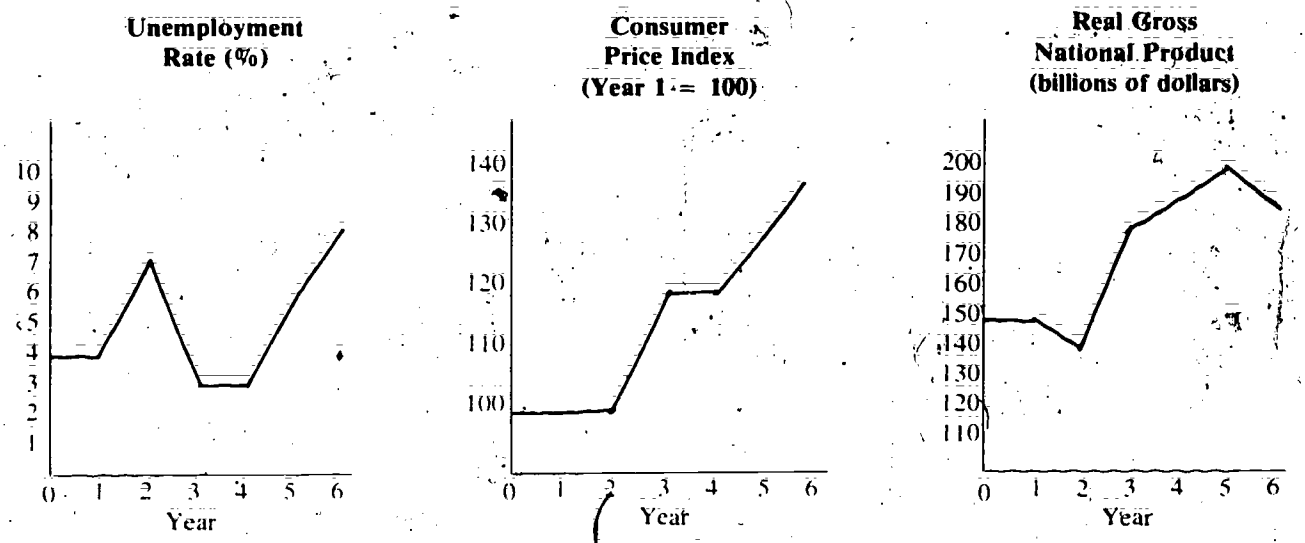
QUIZ ON INFLATION

Questions 7, 8, and 9 are based on the following graphs.

PARKLAND GRAPHS



7. During which period did Parkland have *both* rising unemployment and a high rate of inflation?
   a. Years 1–2.
   b. Years 2–3.
   c. Years 3–4.
   d. Years 4–5.

8. During which period did Parkland have an increase in output and a relatively low inflation rate?
   a. Years 1–2.
   b. Years 2–3.
   c. Years 3–4.
   d. Years 4–5.

9. What was the economic situation and what would be the most appropriate monetary and fiscal policies during years 1–2?
   a. Unemployment was falling; a budget deficit and/or an easy money policy was needed.
   b. The economy was in a recession; a budget deficit and/or an easy money policy was needed.
   c. Inflation continued and accelerated; a budget surplus and/or a tight money policy was needed.
   d. Unemployment was rising while inflation accelerated; a budget surplus and/or an easy money policy was needed.

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QUIZ ON INFLATION

10. In general, if there is full employment and the federal government increases its spending without increasing its tax revenues,
    a. An increase in unemployment will occur.
    b. A serious depression will occur.
    c. The national debt will decrease.
    d. Inflation will occur.

11. Increasing the federal budget surplus is more desirable in a period of
    a. Inflation.
    b. Depression.
    c. Falling prices.
    d. Mass unemployment.

12. Unexpected inflation is most likely to benefit
    a. Persons living on fixed pensions.
    b. Life insurance policyholders.
    c. Savings bank depositors.
    d. People who owe money.

13. Which of the following groups is typically hurt the most by unexpected inflation?
    a. Farmers.
    b. Debtors.
    c. Lenders.
    d. Manufacturers.

14. If we wanted to find out whether an increase in wages over a period of time represented an actual increase in living standards, we should look at what happened to
    a. Gross national product.
    b. Consumer prices.
    c. The stock market.
    d. Government spending.

15. Which one of the following is most likely to increase unemployment?
    a. A decrease in taxes.
    b. An increase in consumer spending.
    c. A decrease in business spending.
    d. An increase in government spending.

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Handout 2-1

THE CONSUMER PRICE INDEX

PART A

The U.S. Bureau of Labor Statistics (BLS), a division of the U.S. Department of Labor, issues the Consumer Price Index (CPI) every month. The CPI is the most widely used measure of trends in the prices of individual goods and services consumers buy as well as in the combined total of all these prices (total consumer prices). News reports about trends and percent changes in the inflation rate tend to cite the CPI numbers.

Consumer prices are presented in the form of an **index** because that allows us to measure the **percent change** in consumer prices from some starting point—a point usually called the **base.** The base for the Consumer Price Index consists of average prices of a fixed basket of goods and services for a year or a group of years. The base for any index is always set at 100.0, and the index shows the changes from that base. If prices go up after the base year, the Consumer Price Index will then be more than 100.0. For example, if prices rise 10 percent, the index will be 110.0. If prices had fallen 5 percent instead, the index would have been 95.0.

Presenting consumer prices in index form is useful for a second reason. Consumers buy many different items that are priced in many different ways. For example, meat is priced by the pound, light bulbs by their power, refrigerators by—among other things—their size. By setting these various kinds of prices at 100.0 in the base year and computing the percent changes from the base, it becomes possible to compare price changes among them.

Construction of the CPI

In order to construct the CPI, the BLS regularly collects unit prices for about 400 different goods and services. These items fall into eight main categories that together make up the "market basket" for the index:

Food and beverages	Medical care
Housing	Entertainment
Apparel and upkeep	Personal care
Transportation	Other

The BLS obtains its information about the kinds and quantities of goods and services to include in the market basket through periodic surveys of actual spending by urban consumers. At this writing, in early 1983, the index was based on a survey conducted in 1972–73, which covered about 40,000 families. Prices for most goods in the market basket are collected at about 24,000 different retail outlets every month; the outlets are typical of those urban consumers would shop in. Information is obtained elsewhere on the costs of housing and a few other items.

In order to compute the total CPI or indexes for any subgroups, the BLS must "weight" the price of every item in the market basket. The weights are measures of the importance of the items in the market basket of the average urban (city) consumer in the base year. The same survey that provides the BLS with its information on the composition of the market basket also yields data on the importance of each item in the total basket. Weighting is an important procedure in index number construction. In the next part, you will have an opportunity to use weighting to calculate a simple price index.

PART B

In the following exercise, you will calculate a simplified Consumer Price Index and be able to see how weighting is done. The exercise simplifies the CPI calculation in two ways: (1) it covers only a single part of the entire CPI, the food category. (2) The food category in the exercise contains only three items while the actual food category in the CPI covers 75 foods plus the costs of eating out.

The exercise shows the construction of the index for the same month in three successive years. The calculations for the first two periods have been done for you and are explained. After you read the explanation, examine the calculations for the first two periods and answer the questions. Then, calculate the index for the third period.

Look over the examples for the first two months that appear in the table and read the explanation that follows. Column 1 shows the prices a family paid for milk, bread, and hamburger if purchased in each of two months. Column 2 tells how much the family purchased of each

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Handout 2-1 (continued)

Name _____ **Class** _____

item during the month. The figures in column 3 are the result of multiplying column 1 by column 2. For milk, the family paid 50 cents per quart in Period One and bought 20 quarts. Therefore, it spent $10.00 on milk during the month. Similar calculations yield the totals for bread and hamburger.

The $47.00 shown in the last column for Period One is the sum of the family's expenditures on the three foods during the month. Since that is the base month for the index we are constructing, expenditures for that month—Period One—are set at 100.0. Now look at Period Two and answer the following questions:

Item	(1) Average Price per Unit	(2) Quantities Bought	(3) Weighted Expenditures (= col. 1 × col. 2)
	Period One (Base month, first year)		
Milk (quart)	$0.50	20 quarts	$10.00
Bread (loaf)	0.40	30 loaves	12.00
Hamburger (pound)	1.00	25 pounds	25.00
			Total food = $47.00
	Period Two (same month, second year)		
Milk (quart)	$0.60	20 quarts	$12.00
Bread (loaf)	0.50	30 loaves	15.00
Hamburger (pound)	1.30	25 pounds	32.50
			Total food = $59.50

a. What happened to the total dollar amount of weighted food expenditures in Period Two compared with Period One?

b. What was the amount of the increase? _____

The answer to question (b) gives us the absolute amount of change. However, we want to find the amount of that change in terms of an index number, i.e., the *relative* amount of the change. To do that, we divide the dollar amount of the difference in total weighted expenditures between Periods One and Two by the Period One total ($47.00). To express that ratio as a percentage, we multiply it by 100.0:

$$\frac{\text{\$ total in Period Two minus \$ total in Period One (base period)}}{\text{\$ total in Period One (base period)}} = \text{\% increase in Period Two}$$

Now read and answer the following questions:

c. What was the percent increase in prices from Period One to Period Two? _____

d. To arrive at the index for Period Two, add the above answer to the index base value of 100.0. The result is the index for Period Two: _____

There are more questions! Go on to the next page.

Name _____ Class _____

e. How much would it cost in Period Two to buy what $1.00 could buy in Period One? _____

f. What if your money income is fixed, and, therefore, you still have only the same amount to spend in Period Two as you had in Period One? _____

PART C

Now it is your turn to do a similar calculation for a later period. First complete column 3. Then read and answer the questions that follow the table, using the total of the items in column 3 to compute the price index for Period Three.

Period Three (Same month, third year)

Item	(1) Average Price per Unit	(2) Quantities Bought	(3) Weighted Expenditures (= col. 1 × col. 2)
Milk (quart)	$0.65	20 quarts	$
Bread (loaf)	0.60	30 loaves	
Hamburger (pound)	1.50	25 pounds	
		Total food	$

g. What is the price index for Period Three? _____

h. Did the price index rise faster in Period Two or in Period Three? _____
Give the figures to prove your contention:

(1) Percent rise in Period Two compared with Period One _____

(2) Percent rise in Period Three compared with Period Two _____

i. What is the total percent rise from Period One to Period Three? _____

Handout 2-2

THE PRODUCER PRICE INDEX AND THE GNP DEFLATOR

Handout 2-1 took up the Consumer Price Index (CPI). The CPI measures changes in a fixed market basket of goods and services bought by urban consumers. Another important monitor of price changes is the Producer Price Index (PPI), formerly called the Wholesale Price Index. The PPI measures average changes in the prices of commodities or finished goods as they pass through various stages of production and distribution before they reach final users.

To prepare the PPI, The Bureau of Labor Statistics collects monthly data on about 2800 items including raw commodities such as iron ore and livestock; intermediate goods (steel ingots, flour, cloths, etc.—a long list); and finished goods such as machinery, clothing, newspapers,—another long list. So far as possible, the prices are collected directly from the sellers. The weight for each product is based on its relative importance in the total volume of commodity sales in 1972.

Purchasing agents, business loan officers, manufacturers, farmers, and others who buy and sell goods all along the production chain watch the PPI closely for signals of price changes or trends in their own industries. Eventually, changes in producer prices will be reflected in the behavior of consumer prices—in the CPI. The reason is that the prices of products in the PPI are costs of production of the goods sold to consumers, and changes in costs, particularly increases, are likely to be passed on.

The BLS compiles and publishes an all-commodities index as well as numerous breakdowns, e.g., for industrial commodities only, for farm products alone and with processed foods and feeds, by durability (durables are items that last more than a year, such as hand tools and household appliances), by industry, and by stage of processing. The stage-of-processing index for finished goods is the part of the PPI that gets the most public attention.

A third measure of price changes is the Gross National Product Implicit Price Deflator (GNPD). It is issued by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce as part of the BEA's quarterly computations of the Gross National Product (GNP). The GNP measures the nation's total production of final goods and services. The GNP Implicit Price Deflator is a product of the BEA's attempt to remove the effects of price changes from its measure of GNP. The BEA does so in order to calculate the amount of "real" production, a measure that is unaffected by changes in prices. Unlike the other price indexes discussed, the GNPD is not a fixed-weight index; its composition changes from one period to another depending on how the composition of production and buying changes.

The GNPD is the most comprehensive price index available because it applies to the nation's total production. The PPI is limited to goods only—although it covers them at all stages of production. The CPI includes goods *and* services, but its coverage is limited to what urban consumers buy; it does not cover what businesses or rural consumers buy.

Please go on to the next page of this handout.

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Handout 2-2 (continued)

Name _____ Class _____

PUTTING IT ALL TOGETHER

- The **Consumer Price Index** measures trends in prices for a market basket of goods and services purchased by residents of urban areas.
- The **Producer Price Index** measures average changes in the prices of commodities or finished goods as they pass through various steps of production before they reach final users.
- The **GNP Deflator** measures the changes in prices of the whole economy's finished goods and services.

Now answer the following questions. Reread the first few paragraphs of Handout 2-1 if you are uncertain about how to answer question (a).

a. Why are the price series presented in the form of indexes instead of dollar amounts? _____

b. Which of the three price indexes is the most comprehensive? _____

Why? _____

c. If there are substantial increases or decreases in the PPI, where might they eventually show up? _____

Why? _____

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Handout 3-1

Name _____ Class _____

Directions: Study the table. For each period or year, pick out the country or countries with the highest rate(s), and the one(s) with the lowest rate(s). Then answer the following questions.

Inflation Rates in Several Industrialized Countries, 1961-81

(percent change in consumer price indexes)

	Average		Yearly			
Country	**1961–70**	**1971–77**	**1978**	**1979**	**1980**	**1981**
United States	2.8%	6.6%	7.7%	11.3%	13.5%	10.2%
Japan	5.8	10.7	3.8	3.6	8.0	4.9
Germany	2.7	5.6	2.7	4.1	5.5	5.9
France	4.0	9.0	9.1	10.8	13.6	13.4
U.K.	4.1	13.9	8.3	13.4	18.0	11.9
Italy	3.9	13.1	12.1	14.8	21.2	19.3
Canada	2.7	7.5	9.0	9.1	10.1	12.4
Switzerland	3.5	5.8	1.1	3.7	4.0	6.5

SOURCE: Organization for Economic Co-operation and Development (OECD).

a. In which year or years was the U.S. inflation rate relatively low compared to the rates in the other countries included in the table? In which years was it relatively high? Did any country have consistently low or consistently high rates? _____

b. In the 1970s, how did the U.S. rate compare to the rates in Switzerland and Germany? _____

c. What was the trend of rates in most countries from 1960 to 1980? _____

d. In the mid-1970s, the rate of inflation accelerated in the industrialized countries. What specific event of the time might help explain the speedup? _____

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Handout 4-1

THE ??WHATZIT?? GAME
Instructions for Buyers and Sellers

Name _____ **Class** _____

GENERAL INFORMATION

??WHATZIT?? is a game played in rounds. A WHATZIT is a highly desirable economic good. Your objective in each round is to buy or sell as many WHATZITs as you can. At the beginning of each round, buyers will receive $1 coupons; sellers will receive coupons representing one WHATZIT each.

MARKET TRANSACTIONS

To buy or sell WHATZITs, individual buyers and sellers meet in the marketplace and bargain until they reach an agreed upon price for a WHATZIT. If you are a buyer, your objective will be to purchase WHATZITs for the lowest possible price. The lower the price, the more WHATZITs your dollars will buy. If you are a seller, you will try to get the highest price you can for every WHATZIT you have for sale. The more WHATZITs you are able to sell at a high price, the more dollars you will have at the end of the round.

WHATZITs can be bought and sold only in multiples of one dollar (e.g., $1, $2, $3, etc.).

RECORDING TRANSACTIONS

When a buyer and a seller have agreed upon a price for a WHATZIT, they should:

a. Exchange the appropriate number of WHATZITs and $1 coupons;

b. Go to one of the market assistants and report the number of WHATZITs involved in the transaction and the purchase price of each. For example, a transaction involving the exchange of 2 WHATZITs for $6 would be reported as 2 WHATZITs at $3 each.

c. After the market assistant has recorded the transaction, you should return to the marketplace and continue to bargain with other buyers or sellers.

d. *Tallying your score:* On the score sheet below, indicate whether you are a buyer or a seller by circling the appropriate word. At the end of each round, record the number of WHATZITs and $1 coupons you have; then wait for instructions from your teacher.

Personal Score Sheet for the ??WHATZIT?? Game

Circle One: Buyer Seller

	Round 1	Round 2	Round 3	Round 4
No. of WHATZITs				
No. of dollars				

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Handout 4-2

5 WHATZIT COUPONS

(Tear coupons along dotted line as needed for market transactions)

One WHATZIT

One WHATZIT

One WHATZIT

One WHATZIT

One WHATZIT

Handout 4-3

THIRTY $1 COUPONS

(Tear coupons along dotted line as needed for market transactions)

$1	$1	$1	$1	$1
$1	$1	$1	$1	$1
$1	$1	$1	$1	$1
$1	$1	$1	$1	$1
$1	$1	$1	$1	$1
$1	$1	$1	$1	$1

Handout 4-4

A READING ON HYPERINFLATION

The prefix *hyper* means "excessive." Hyperactive is thus defined as excessively active. To a physician it means so active as to constitute an illness. In the same way, hyperinflation means an excessively high rate of inflation. But how much inflation is simply "high" and how much is excessively high?

Some modern economies such as Israel's and Turkey's have high rates of inflation. In 1980, Israel's inflation rate was 131.5 percent and Turkey's was 117.7 percent. The average consumer in those two countries had to spend more than twice as much money in 1980 to buy the same quantities of goods and services as in 1979. Nevertheless, economists do not regard that condition as hyperinflation.

The German Hyperinflation after World War I

Hyperinflation is inflation that is totally out of control. The classic example is Germany from 1920 to 1923. There are many theories about what caused the hyperinflation. One concerns reparations. Germany lost World War I and was made to pay for the costs of the war, that is, to pay reparations to the winning countries: France, Great Britain, etc. The head of the German Central Bank contended that the payments were beyond Germany's ability to pay. The bank proceeded to print ever greater quantities of paper money in order to pay for the goods and services the government used, to make required government payments for pensions due old persons, etc., and, toward the end of the period, to provide money to workers engaged in a general strike to protest the reparations policy.

It is often said that "inflation is too much money chasing too few goods." In Germany, the quantity of money chasing goods reached overwhelming proportions. Between July 1920 and June 1923, the average rate of inflation equaled 933 percent per year! The worst was yet to come. In November 1923, the annual rate of inflation soared to more than 200,000 percent. Workers wanted to be paid twice a day so that they could quickly exchange money for goods before it lost most of its value. A postage stamp cost 90 billion marks. A newspaper cost 200 billion marks. The Central Bank was increasing the money supply by 1300 percent per month. Thirty paper mills worked overtime just to provide the bank with paper for printing money. Old banknotes were recalled so that zeros could be added to increase the number of marks represented. Eventually it took a trillion marks (1,000,000,000,000) to equal a single dollar.

Hyperinflation in Personal Terms

One economist has offered a very good explanation of what such an exchange rate means in practical terms:

Suppose you had lived in Germany in the years before and after World I and had a million marks in your savings account. Had you tried to change that money into dollars before the inflation, say in 1913, you would have received 237,936 U.S. dollars. Had you done so at the peak of the postwar inflation in that bleak November of 1923, you would have discovered to your sorrow that your 1 million marks would not command even a single U.S. cent!

Undoubtedly, the hyperinflation wrecked the German monetary system and reduced the German people to bartering for goods and services in order to survive from day to day. Many historians and economists also believe that this hyperinflation ruined the middle class in Germany and led to the rise of Hitler—and, eventually, to World War II.

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Handout 4-5

THE CAUSES OF INFLATION

Economists differ about the most important causes of inflation. Brief statements about the most important explanations follow.

1. INFLATION AND EXCESSIVELY RAPID GROWTH IN THE SUPPLY OF MONEY

Most economists agree that there is a connection between the growth of an economy's money supply and the rate of inflation the economy experiences. But those who are called monetarists believe that the connection between money growth and inflation is an especially close and strong one.

MONEY—WHAT IS IT?

Money in the United States is measured in dollars. But dollars in what form? Bills and coins? Certainly. Checking account balances? Yes. Anything else? Many things, as it turns out, and the definition(s) of the money supply used by economists and the Federal Reserve—which officially defines money and collects monetary data—has been changing. Why? Because as financial practices, regulations, and definitions alter, so do the number and kinds of things that can be classified as money. The main difference between the various classifications is that the more kinds of "money" included, the further away we get from what could popularly be called "ready cash."

According to monetarists, if the money supply (or stock) is growing at the same rate as the production of goods and services (real output), inflation will not result. However, inflation will result if the money supply grows more rapidly than output. For example, if the government (more precisely in the United States, the Federal Reserve) permits the money supply to grow at 13 percent per year when the growth of real output is 3 percent, monetarists would predict that an inflation of 10 percent per year would result. They reason that if the money supply grows at 13 percent annually then, on average, income will also grow at 13 percent. But there will be only 3 percent more goods and services to spend the additional income on. Since the difference between the growth in income and the growth in production is 10 percent, the extra income will drive the average of all prices up by 10 percent, thus establishing a 10 percent rate of inflation.

2. GOVERNMENT BUDGET DEFICITS AND INFLATION

Many placed the blame for inflation during the 1970s and early 1980s on deficit spending by government.* It is certainly true that federal government deficits were large during this period.

What is a government deficit? Like each of us, the government must pay for the goods and services it buys. By far the most important source of government income is tax revenue. In 1980, the federal government spent $602 billion; it had receipts of $541 billion, of which approximately 90 percent came from taxes. The government has a deficit whenever its receipts during some fixed period of time are less than what it spends in the same period. The amount of the deficit is simply the difference between government spending and receipts. Hence, in 1980 the federal government's deficit came to $61 billion.

The federal government can deal with a deficit in one or more of the following ways: (a) it can reduce its spending; (b) it can raise its revenues by increasing the taxes it levies; (c) it can borrow money from others by selling them its debt securities (bonds, notes, or bills).

When the federal government chooses to borrow money, it authorizes the U.S. Treasury to issue appropriate debt securities. These are IOUs—promises that the government will repay the principal to the lenders and will pay interest to them at stated times in the future for the use of the funds. The Treasury tries to sell as many of the new debt securities as possible to banks, private citizens, and state and local governments, etc. However, in order to sell readily all it needs when it has a deficit to meet, the Treasury most always must sell some of its securities to the Federal Reserve (the Fed).

The Fed's purchases are special in character. When

* Even when the federal government is running a surplus for the whole of a given year, it may run short of money at various times during the year and may borrow for short periods. However, this reading is concerned with deficits that persist for a year or more.

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the Fed buys government debt securities it writes checks on itself payable to the bond seller, and these checks eventually are deposited at commercial banks. When the banks present these checks to the Fed for redemption, the banks gain additional funds, called *reserves*. The effect is to increase the amounts banks can lend to corporations, individuals, and other borrowers. As additional loans are made, more money goes into circulation, and the U.S. money supply rises as surely as if the government had actually printed new currency to finance its deficit.

The process just described may take place at a time when the economy is in a slack period, i.e., when it can produce many more goods and services than it has been doing. In such a period, the financing of the deficit with the help of the Fed is *not* likely to bring about inflation. If the economy is already producing as much as it can, then financing the deficit with the help of the Fed is likely to bring on inflation.

3. DEMAND PULL, COST PUSH, AND SUPPLY SHOCK

Every episode of inflation affects and is affected by both demand and supply forces. The demand-pull inflation of the late 1960s was caused by the demand pressure that resulted from President Lyndon B. Johnson's decision to increase government spending without offsetting it by a tax increase to cool private spending.

Cost push also came into play. Workers and entrepreneurs quickly realized that the rising prices resulting from the Johnson policy mix were cutting the spending power of their paychecks and profits. Therefore, at contract time workers began to bargain for wage increases that would compensate them both for the spending power already lost and for the additional inflation they expected during the life of their contracts. For a similar reason, entrepreneurs who had market power increased their prices in order to raise their profits. These responses added up to a cost push because both wages and profits gave additional momentum to the rise of prices.

On the other hand, supply shocks—price increases arising because of shortages of supply—were clearly an important cause of inflation during the 1970s. The "oil shock" was the most dramatic. Between 1973 and 1974, cutbacks in supply helped the Organization of Petroleum Exporting Countries (OPEC) raise the price of crude oil fourfold: from about $2.50 to about $10.00 per barrel. By the end of 1980, the price of crude had reached $31.00. These price increases quickly contributed to increases in the prices of gasoline and of other goods and services in the United States.

Please go on to the next page of this handout and answer the questions that appear there.

Handout 4-5 (continued)

Name _____ **Class** _____

Questions:

a. Name three possible causes of inflation. _____

b. What will monetarists predict about the general level of prices if real output is growing at 2 percent per year and the money supply is growing at 10 percent per year? _____

c. What agency or organization formulates the official definition of the money supply and collects data about it? _____

d. From time to time, there have been revisions in the official definition of the money supply. What is the reason for such revisions? _____

e. What is a "government deficit"? _____

f. How does the federal government deal with deficits? _____

g. What is the principal source of the federal government's income? _____

h. Why might the federal government need to borrow money even when its annual expenditures are not greater than its annual income? _____

i. What effect can government borrowing have on the money supply and on price inflation? _____

j. An important cause of the inflation of the 1970s was _____.

k. The inflation of the 1960s was a result of both _____ and _____.

OPTIONAL: Explain your answer. _____

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Visual 5-1

THE WHAT IF GAME

a. What if inflation settled and remained at 10 percent a year and everyone came to regard that rate as a normal part of life?

b. What could employers and employees do if they knew that the inflation rate would be a steady 10 percent?

c. What if borrowers and lenders knew that a dollar paid back a year from now would have 10 percent less purchasing power?

d. When inflation is steady and predictable at 10 percent and the *basic* interest rate is 3 percent, what should the total interest rate be?

e. What if the inflation rate were totally unpredictable?

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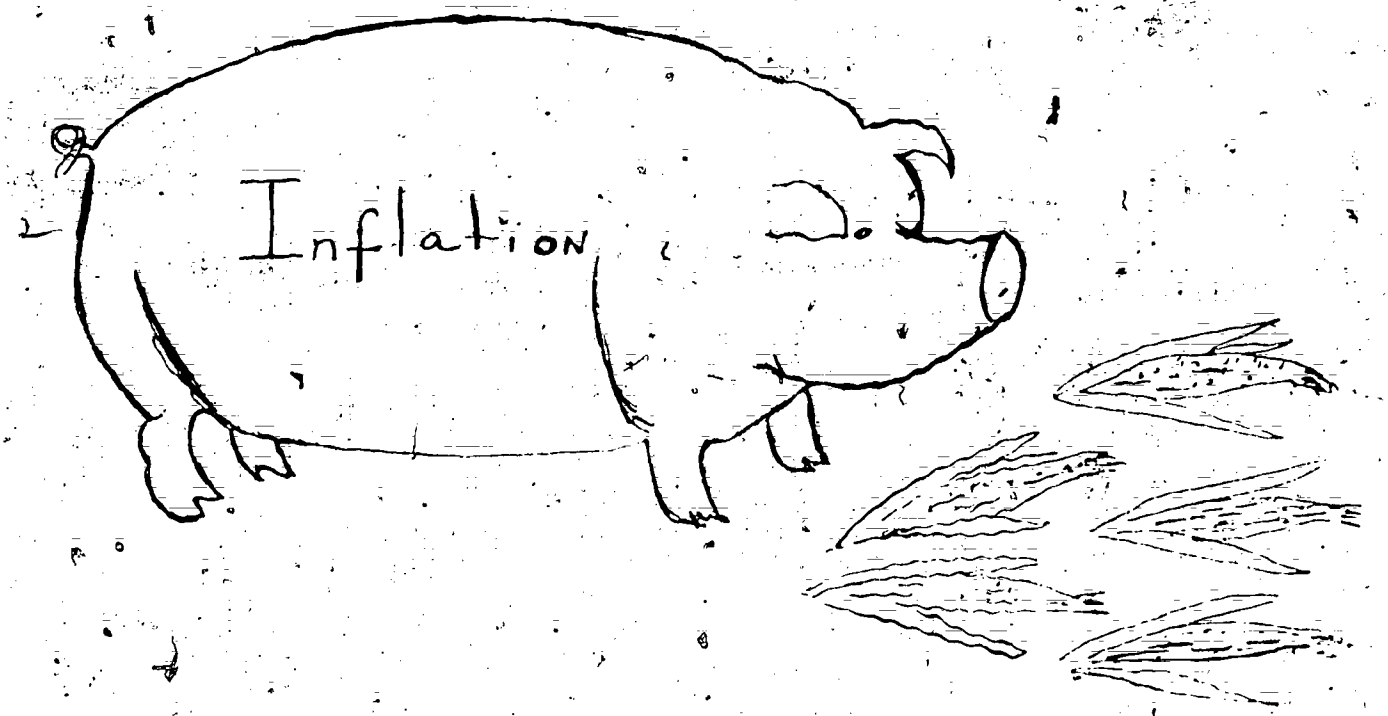
Handout 5-1

THE INFLATION PIG

Name _____ **Class** _____

An editorial cartoon is a powerful way to express an opinion about a current issue. The Inflation Pig is feeding on "corn," which needs a label. After labeling the "corn," use your knowledge about inflation to write an imaginative caption. Write a sentence or two describing what the message of the cartoon is and the probable point of view of the artist.



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Handout 6-1

INDEXATION

Instructions:

a. Read the handout.

b. On the sheet on which you have written a description of the effect of inflation on the individual whose role you are playing, explain briefly how indexation would work for you. Would you favor indexation? Why or why not?

Recently, some economists have testified in favor of "indexation": tying all wages and economic contracts to the cost of living. The proponents of indexation either claim that the cures for inflation are worse than its effects or that it can't be cured. They also state that indexation can relieve the inequities and uncertainty caused by inflation. The opponents say indexation would make inflation harder to cure and could even increase it.

THE CASE FOR INDEXATION

If people knew in advance what the rate of inflation would be, then they could take it into account in making their economic arrangements and thus keep the purchasing power of their receipts and payments relatively stable. Indexation tries to achieve the same result by tying all contractual payments and tax rate brackets to changes in the cost of living. Thus, if the cost of living rose say, 5 percent, everything else—wages, interest payments, tax payments, etc.—would rise 5 percent, too. The accounts of businesses would also be restated each year in indexed terms, thus giving a "truer" picture of the profit position of the businesses and how much they own as well as how much they owe.

With inflation, people's money incomes rise, pushing taxpayers into ever higher income tax brackets, although real income remains the same or even falls. This process is commonly called "bracket creep." Bracket creep helps government because tax revenues go up, but it leaves taxpayers with an ever rising tax liability per extra dollar of income even though that extra income is due to inflation, not to a rise in "real" income. Since income gains that reflect inflation are taxed at increasing rates, taxpayers lose ground after taxes in terms of real income.

All government and private debts—bonds, bills, notes, installment credit, mortgages—would be issued on a constant-purchasing-power basis. Thus, when a bond matures, for example, the holder would receive an amount that would have the same purchasing power as did the face amount in the year the bond was issued.

Of course, indexation is presumably reversible: If the cost of living fell, every payment that was being indexed would be reduced.

THE CASE AGAINST INDEXATION

One objection is that indexation would destroy the motivation for fighting inflation. A second objection is that since no perfect cost-of-living index exists, the relief provided by indexation would be variable—leading to disgruntlement, disappointment, and jockeying for position. A corollary objection is that even if there were a perfect index, there is no practical way of indexing everything.

A third objection is that indexation would raise the government deficit. The current-dollar amounts of the deficit would grow because indexation of tax rate brackets would reduce receipts at the very time when the expenses of government would be rising.

Yet another objection is that indexation would not protect the value of savings or of pensions calculated on the basis of past savings. Indexation of pension payments would necessitate borrowing to make up the differences between amounts previously accumulated to fund the payouts and the eroding purchasing power of money.

Finally, say the opponents of indexation, wages and other costs would never fall, even in the face of reduced demand. Employers would therefore be likely to respond to declines in sales by cutting the work force because they would be unable to cut any costs.

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Handout 6-2

WHERE WILL YOU CUT THE BUDGET?

Name _____ **Class** _____

Introduction:

The federal government has a deficit whenever its spending exceeds its revenues. One way for the government to deal with deficits is to reduce them by raising taxes or by cutting spending back closer to the level of existing revenues. If, instead, the government chooses to deal with deficits by borrowing, the deficits can contribute to inflation. The reason is that government's borrowing acts to increase the money supply and thus to cause the demand for goods and services to exceed the supply.

Inflation in itself adds to deficits—the government must pay more each year for the goods, services, and credit it seeks. Furthermore, rising deficits encourage expectations of continuing and perhaps of an increase in inflation.

Directions:

Assume you are a member of Congress and must cut domestic spending programs to reduce the budget deficit. What in the budget would you cut?

A. Food stamps for low-income people.

B. Programs to protect the environment.

C. Assistance for mass transit in urban areas.

D. Grants to state and local governments for crime prevention and control.

E. Programs providing jobs for the poor.

F. Research and development for new sources of energy.

G. Subsidies to shore up the low prices of agricultural products that are causing some farmers to go out of business.

H. Grants to states for highway construction and repair.

I. Programs to provide medical care for the poor.

J. Construction of a new missile defense system.

Rank the above items according to your priorities. Which program would you cut first? Which program would you cut last? (Designate the programs by letter.)

	Rank	Program
Cut first	1	_____
	2	_____
	3	_____
	4	_____
	5	_____
	6	_____
	7	_____
	8	_____
	9	_____
Cut last	10	_____

When you cut a program, what is the trade-off? Who is hurt? Who is helped? Write your answers.

SOURCE: This exercise is adapted from "Focus on Discussion" by S. Stowell Symmes, Director of School Services Division, Joint Council on Economic Education, New York.

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