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# A Citizen's Guide to Employment, Inflation, Income, and the Oregon Economy

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A Citizen's Guide to  
INFLATION, EMPLOYMENT, INCOME  
and the Oregon Economy

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## PREFACE

Considerable concern is being expressed these days about the state of the economic system. Mentioned most often have been the relatively high rate of unemployment, double-digit inflation, and the decline in economic output displayed by the U.S. economy during 1974 and 1975. In Oregon, the wood products industries have been hit hard by the depressed markets for housing and other uses of wood, farm costs have been rising much more rapidly than prices at the farm gate, and the tourist industry has suffered from both shortages and high prices for gasoline. Government officials, citizens, service groups, and the public at large are looking for solutions. At the least there is a demand for broadened understanding of the current economic situation.

Economists at Oregon State University are also interested in the problems which affect our social, political, and economic system. This document represents an initial attempt at facilitating a better understanding of some of the economic problems affecting Oregon. The materials presented here are not offering definitive solutions to current economic problems. Rather the objective is to assist citizens in understanding the problems. With this understanding, Oregon residents can better identify areas where they might make an impact toward solutions for problems.

This study has been a joint effort of many people. The section on factors affecting the U.S. capacity to produce was prepared by G. W. Sorenson and L. M. Eisgruber, who acknowledge constructive comments by Frederick Obermiller. The section on factors influencing the demand for U.S. goods and services was prepared by J. P. Farrell and R. B. Rettig. A. G. Nelson prepared the section in impacts of inflation and recession on agriculture in Oregon with acknowledgments to Manning Becker, Grant Blanch, Frank Conklin, Ludwig Eisgruber, James Fitch, Timothy Hammonds, and Stanley Miles. The section on the forest products sector was prepared by David R. Darr. I wrote the brief section on tourism, drawing on comments from Richard Johnston, Steve Reiling, and Herbert Stoevener.

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## INTRODUCTION

Gross national product (GNP) is the sum of all goods and services produced in a year. Since GNP could increase if the total quantity of goods and services stayed the same while prices rose, an additional concept of real product (or real income) is introduced which is calculated by multiplying goods and services in several years by prices in one base year.

A recession is generally considered to be a two-quarter (six-month) period during which real output declines. Measured in 1958 prices the United States GNP fell from a seasonally adjusted annual rate of 846 billion dollars in the fourth quarter of 1973 to 780 billion dollars in the first quarter of 1975. The fall in real GNP is of concern largely because of its relationship to three other phenomena. First, since population is rising, personal disposable income per capita falls during a recession, most recently from 2,952 dollars (constant 1958 dollars seasonally adjusted at an annual rate) in the fourth quarter of 1973 to 2,775 dollars in the first quarter of 1975. Second, unemployment is high, hitting 9.2 percent unemployed for all workers in May 1975 with higher rates for the young, the old, minority group members, and blue-collar workers. Third, investment expenditure decline which implies a future shortage of capital needed to insure rising employment, greater productivity, and higher earnings.

Inflation has been defined as a substantial, sustained increase in the general level of prices. While one could debate whether price increases between one and two percent during the early 1960's were substantial, there is little debate about the substance of an increase in the consumer price index from December 1973 to December 1974 of over 12 percent. There also is general consensus that substantial price increases have been going on for some time and will continue to do so, although not at the 1974 pace.

There are two widely accepted explanations of inflation. One is that if money increases more rapidly than the quantity of goods and services, prices must rise. There are two reasons for the wide acceptance of this explanation. First, there is an inexorable logic to it. Pumping more money into a system means that money is more abundant relative to land and other assets as well as currently available goods and services. Holders of money attempt to trade their money for real assets and services, driving up the prices of those real items. While the actual transmission process is a good deal more complex, the logic remains compelling. The second reason lies in historical statistics. Every major inflation in the United States has been preceded by a rapid increase in the money supply.

The second explanation is a rationalization of another empirical phenomenon. Whenever unemployment has declined, wages have tended to rise more rapidly prices also rise more rapidly. This is the trade-off view--inflation is a result of lower unemployment, hence reducing inflation would require acceptance of higher unemployment rates.

Actually both explanations are much more complex than set forth above and other explanations also exist. The first explanation is closely related to "demandpull" explanations and should include discussion of government expenditures and taxation, international trade relations, consumer confidence, and business expectations. The second explanation is tied to "cost-push" explanations and should include cost pushes from profits and "shortages." However, there is also a widely held sentiment that the recent inflation includes something else which is relatively new.

The first thread of this last argument is that the economic strength of the United States since World War II has built a good deal of inflexibility into our system. Unions refuse to work unless wage settlements include cost-of-living adjustments plus additional payments. Teachers, carpenters, and truck drivers in community A insist that their wages be the same as similar workers in community B. There is also less price flexibility in our system, particularly in a downward direction. The second thread is that prices and wages must always change relative to one another in a dynamic society. Technological advances occur more rapidly in some industries than others and tastes also change over time. The inevitable change in one price relative to another meets an unmovable force keeping those relative prices constant.

For many years, technological advances, improvement in organization and other factors drove the real price of agricultural products at the farm gate downward. When adverse weather conditions and shortages of fuel and fertilizer slowed the rate of growth of good products, food prices jumped upward. While it is not quite clear whether food will remain scarce relative to other goods and services over the next decade, a relative scarcity should imply a rise in the price of food relative to wages and other prices. Nevertheless, increases in food costs now lead to increased wage demands. Higher wages lead to higher prices as businessmen, workers, and others struggle to maintain their relative economic well-being.

The energy crisis and shortages of raw materials signal a need for significant changes in relative prices. If our system is so structured that prices and wages cannot vary relative to each other, there are really only two choices. One is a continuing high trade-off level between inflation and unemployment. The second choice is productivity change to enable greater output from the scarce resources. Rising unit labor costs during the last year (ratio of the cost of a unit of labor to price of the product produced) must either fall due to declining real wages or rising labor productivity, profits must fall, or large unemployment rates will continue.

## FACTORS AFFECTING THE U.S. CAPACITY TO PRODUCE

### The Composition of the Labor Force

While contemporary society has a complex set of characteristics, one of particular importance to a discussion of national product is the change in the economic sector from a goods-producing to a service-producing emphasis.

The percentage of the U.S. labor force involved in agriculture, forestry, and fisheries has declined almost continuously from the inception of the nation. The manufacturing, construction, and mining industries have been the major sources of employment over most of U.S. history. During the last twenty-five years, service-related industries have exchanged their minor roles as employers for very dominant ones. The trends are expected to continue (see Table 1). The distribution of employment within the service producing sector has shifted dramatically toward personal-professional services and the government. By 1980, it is estimated that 68 percent of all employment will be in the service sector.

This shift in employment by industry dramatically points up the implications of the U.S. economy through time. The U.S. economy has been able to provide for its food and other material needs with an ever decreasing percentage of the labor force. From an historical perspective, these data speak very well for the viability and productivity of the U.S. economy. From a future perspective, however, the data suggest other implications, particularly, the difficulty of continued increases in labor productivity and the impact of stationary (or declining) productivity on inflation.

Productivity<sup>1/</sup> in agriculture and manufacturing (including mining and construction) has increased until recently, allowing wages and other measures of earnings to rise substantially through time. As long as productivity increases occur in the output per man-hour index or reductions in the unit labor cost index<sup>2/</sup> occur at the same rate or at a faster rate than wages and salaries are rising, there are no necessary inflation implications. The inflationary implications occur when wages and salaries rise faster than productivity gains. In agriculture and manufacturing, productivity gains and wage gains have kept approximate pace until recently.

In the service sector other problems exist. Productivity and changes in productivity in the service sector are difficult to measure. However, productivity in the service areas usually changes only very slowly, is stagnant in some areas, and may tend to decline in others. On economic grounds, relatively static productivity in the service sector should suggest relatively low wage and salary gains. Due to the way wages and salaries are set in the American economy and due to the structure of labor markets, wages and salaries in the service sector have tended to follow the pattern set in the more productive manufacturing sector. This does have inflationary implications.

### Worker-Attitudes and Expectations

There is considerable agreement that the work ethic in the U.S. is "alive" but is not "well." Among blue and white collar workers, there are rising rates of absenteeism, high turnover rates, industrial sabotage, theft, wildcat strikes, and rejections of negotiated contracts. Workers are revealing a resentment towards supervision and are asking for a larger voice in matters affecting the work environment. Many workers are seen to reflect an attitude that "the company or society owes me."

Explanations for these worker attitudes are many; none are entirely persuasive. Observations are made about repetitive work and lack of opportunities for advancement. Also, increasing affluence and an increasing education of the work force are seen as accounting for much of the attitudinal and performance problems. The affluence has reduced or substantially eliminated the insecurity that historically has provided motivation to workers. The increase in average education produces workers who more readily question or challenge the economic and authority relationships in the system. More and more, college trained or educated workers are revealing an individualistic or existential philosophy about life and about their role and obligations in and to society.

Workers (blue- and white-collar workers alike) have come to expect an increase in money wages and/or salaries without understanding the relation-

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<sup>1/</sup> "Productivity" is one of those commonly used words which mean different things to different people. Productivity generally refers to the amount of goods and services which is produced from the quantity of labor, capital, management, land, and other natural resources. In this section, productivity will also be used as a shortened name for labor productivity--the ratio of goods and services produced to the quantity of labor.

<sup>2/</sup> Unit labor cost is the ratio of labor costs of producing a certain quantity of goods and services to that quantity of goods and services.

## Market Structure and Anti-Trust Policy

By and large, the American philosophy leans toward a free and competitive economy. That is to say, the ideal market structure is believed to be one where a large number of buyers and sellers compete in the market, where new technologies and techniques of production and marketing are quickly adopted, where there is a fairly even geographic distribution of production and demand, and where there are few barriers to entry of new firms into the industry. Economic theory also tells us that absence of collusion, price fixing, and monopolistic powers will result in the greatest material well-being and increased ability to compete in international markets. In the modern U.S. economy industrial complexes, institutions, and organizations nevertheless exist which violate these principles and philosophies.

Since output can frequently be produced at lower costs per unit of output as the size of operation is increased, large firms are established which, because of their lower costs, can outcompete and eventually eliminate the smaller firms. Once the smaller firms are eliminated, there is no longer an incentive for the large organizations to produce quantities and set prices which are in the best interest of society.

Another force which encourages large organization and market concentration is the need for large capital investments required for some production processes. These capital requirements may be so large as to make it impossible for individual proprietors and even smaller corporate firms to enter such an industry. A further force which encourages large organizations is easier access to information and technology which can be used in production or marketing. Larger organizations can conduct their own research and need not make this information available to competing firms. Easier access to publicly generated information may also be afforded to larger organizations because certain types of information and technology cannot be comprehended and applied by any one individual but require a team of specialists. Such a team may be available only in larger complexes.

Business and industry are not the only areas where instances of monopolistic power can be observed. At the present, one-third of the non-agricultural labor force is covered by labor unions, and labor unions are organizations with varying degrees of monopoly power. To be sure, pressure for wage increases from labor unions and similar pressures toward improvements in working conditions may be viewed as a force which encourages the employer to search for the technologically most advanced methods of production in order to keep total and average costs down. On the other hand, continuous pressure for wage increases in a situation of full (or modestly less

ship between worker productivity and the capacity to finance wage/salary increases. Equally important, efforts to buy increases in productivity or improvements in worker morale through higher wages and economic perquisites have been notoriously unsuccessful. The problem of developing realistic worker attitudes and expectations is not easily solved. At the very minimum it appears essential, however, the policy makers, the public, and workers in particular understand the relationship between the productivity of labor, the price of final goods and services, and ultimately the capacity to provide for a reasonably fully employed economy.

## Research and Education

Increased productivity of capital refers to the ability to produce more goods with a given amount of capital. This is made possible through investment in technically superior methods and processes. Research provides the "technically superior" plants and equipment, processes and methods; benefits to society as a result of investing in research have been large. For instance, for the average dollar invested in agricultural research, between \$1.21 and \$1.51 have been estimated to return.<sup>3/</sup>

Investment in human beings is often overlooked as a major factor in economic growth. Such investment may take various forms, such as (a) formally organized education at the elementary, secondary, and higher levels; (b) on-the-job training; (c) adult study programs, notably in agriculture; (d) migration of individuals and families to adjust to changing job opportunities; and (e) health facilities and services. The magnitude of such investments in this country is rather substantial, around 17 percent of gross national product, by one careful estimate.

The United States has recognized the economic importance of research and education and has historically invested heavily in these areas, but is now losing ground relative to other countries. There are signs that, because of a decline in the rate of growth of technological innovation, productivity of both capital and labor are declining.<sup>4/</sup>

Declining capital productivity implies that the progressively growing shortages of "investable funds" and high interest rates may, at least in part, be caused by a decrease in the rate of growth of research and development activities in the United States, a decline in capital and labor productivity, and a subsequent decline in the growth of national product. This phenomenon is perhaps intensified by new programs that have been launched recently, such as the intensified environmental pollution controls. Thus, the trends pointed out above and subsequent inflationary pressures are likely to continue.

<sup>3/</sup> T. W. Schultz, Investment in Human Capital, Free Press, New York, 1970.

<sup>4/</sup> Michael Boretzky, "Trends in U.S. Technology: A Political Economist's View," American Scientist, January-February 1975.

Table 1  
Sector Distribution of Employment by Goods and  
Services, Distribution by Percentages

	1947	1968	1980
Total	100	100	100
Goods-producing total	51	35.9	31.7
Agriculture, forestry, and fisheries	15.0	5.1	3.2
Mining	2.1	0.8	0.6
Construction	3.9	5.0	5.5
Manufacturing	30.0	24.9	22.4
Durable	16.0	14.7	13.3
Non-durable	14.0	10.2	9.1
Service-producing total	49	64.1	68.4
Transportation and utilities	8.0	5.5	5.0
Trade (wholesale and retail)	17.0	20.5	20.6
Finance, insurance, real estate	3.0	4.6	4.7
Services (personal, pro- fessional, business)	10.0	18.6	21.2
Government	11.0	14.6	16.9
Federal	3.5	3.3	3.0
State and local	7.5	11.2	13.9

SOURCE: The U.S. Economy in 1980, Bureau of Labor Statistics Bulletin 1673 (1970); conversion of figures into percentages (From Daniel Bell, The Coming of Post-Industrial Society, Basic Books, New York, 1973).

than full) employment may contribute heavily to inflation and require extensive monetary and fiscal counter measures or even wage and price controls.

Because large monopolistic organizations do not necessarily behave in such a manner as to be economically most efficient and because they have powers which would permit them to engage in "unfair" dealings, anti-trust legislation has been enacted in the United States over the past 70 years. The purpose of anti-trust policy is to achieve (a) limitation of the power of big business; (b) improve market performance; (c) "fair dealing"; and (d) protection of the competitive process by limiting market power. A number of sectors are exempt from anti-trust legislation, namely agriculture, transportation, local and communications utilities, commercial banking and insurance, natural resource industries, federal and state governments, and labor.

In the 70-odd years of interpretation and enforcement of anti-trust laws, a number of large firms are almost always central to problems in anti-trust law interpretation and enforcement. Courts have tended to concentrate on market conduct of firms and are not comfortable with interpretation and enforcement on the basis of economic issues. All in all, anti-trust legislation did not stop the trend toward largeness and concentration in certain industries. Some of the established legislation and resulting regulations may have aided in the development or maintenance of a relatively inefficient system. The transportation industry is a case in point.

#### Other Government Regulations and Institutional Arrangements

A memorandum prepared for the Economic Summit Conference in 1974 outlined two lists of laws, regulations, and institutions which restrict economic productivity in the U.S. and reduce market efficiency. The memorandum begins by describing the list as "some favorite sacred cows that need slaughtering." The conferees were asked to endorse a recommendation to Congress to legislate elimination of these market restrictions through an omnibus bill. The initial list of 22 items relate to agriculture, transportation, energy, banking, and foreign trade. A second, "B" list, relates to government operations, labor markets, coastal shipping, and ship construction. The list of conferees to whom the memorandum was sent did endorse with only minor exceptions, the two lists with the idea to recommend repeal or modification. A few of the items on the list are:

1. Repeal the interest rate ceiling on long-term government bonds and thereby permit the Treasury more flexibility in financing national debt.
2. Outlaw state prorationing of oil and gas in order to reduce opportunities for domestic cartels. This would be done in conjunction with repealing the Connolly Hot Oil Act.
3. Amend marketing order legislation to prohibit restrictions on interstate movement of specified types of agricultural products, supply controls for products, state fluid milk price and output controls, and production quotas on individual producers. This proposal would encourage competition and expanded output in the agricultural sector. A related proposal is to repeal the Meat Import Quota Act as well as import quotas on dairy and other farm products. All such quota and marketing order legislation is protective and encourages higher than competitive prices.
4. In the transportation area, the proposal is to remove all route and commodity restrictions on licensed motor carriers, automatic approval of railroad and truck rates within a zone of reasonableness, repeal the anti-trust exemption of railroads and trucking rate bureaus and reduce or eliminate entry barriers into the trucking field. All these proposals are designed to encourage flexible use of the transportation system and reduce monopoly or cartel type behavior in the transportation field.
5. In the water and air transportation fields, the proposals include abolition of rate and entry controls for inland water carriers and freight forwarders, automatic approval of all air fares including discount fares within a zone of reasonableness, authorizing licensed air carriers to extend operations into any markets while at the same time permitting them to withdraw from unprofitable markets, authorizing charter carriers to wholesale seats to travel agents, and making capacity-limiting agreements among airlines subject to anti-trust laws. All these provisions are intended to increase competition, encourage resource flexibility, and to increase the responsiveness of water and air transportation markets.
6. Eliminate Regulation Q and other regulations which prevent savings institutions from paying competitive rates for deposits. Regulation Q places a maximum limit on savings deposits and, under conditions of restrictive monetary policy or aggressive financing behavior by the Treasury, drives funds out of one sector of the financial market in an artificially imposed way.
7. Terminate the "voluntary" quotas on steel, textiles, and on an endless list of items including bicycles, metal tableware, tiles, umbrellas, etc. All of these quotas encourage higher prices in the U.S. and reduce competition.



8. Prohibit resale price maintenance. This legislation permits "fair trade" pricing and is intended to eliminate competition.

The so-called "B" list in the memorandum includes the prohibition of unreasonable restriction on union membership such as prior apprenticeship and excessive entrance fees, abolition of union hiring halls, repeal of the Davis-Bacon Act (which contains a provision on the wages required to be paid under government contracts), the repeal of any legislated further increases in the minimum wage, deregulation of the well-head price of natural gas, termination of crude oil petroleum allocation and oil price controls, repealing the Jones Act which restricts foreign carriers from moving goods between U.S. ports, abolishing subsidies for ship construction and operation, and making auto safety devices voluntary as opposed to mandatory.

Both of these lists could be extended. Recommendations could be made about seniority provisions in union and civil service contracts and regulations. Labor markets in the U.S. have become increasingly structured. There is increasing talk of internal labor markets in which hiring is done at the entry level and promotions occur from within. These markets discourage the mobility of labor and competition for workers.

#### Manpower and Employment Policy

To place U.S. employment and manpower policy in perspective, two aspects of the labor force should be considered. First, in recent years the labor force in the U.S. has been growing by over two million people per year. That is, in order to keep the number of unemployed at an approximately stable level, and given the fact that technological change and automation eliminates between 500,000 and a million jobs per year on a net basis, it has been necessary for the U.S. to have a level of economic activity which generated between 2.5 and 3 million new jobs per year.

Second, and to help place the growth of the labor force in perspective, the relative and absolute number of women in the labor force has been growing continuously. Women in the 25 to 54 age bracket have been entering the labor force in ever increasing numbers. Explanations for this are many including a change in lifestyle, change in fertility rates, pursuance of professionally satisfying and meaningful work by women, increasing boredom of pure housekeeping by women, and a relative increase in the demand for income by families. This has implications for the character of jobs available and about the jobs needed to provide for full employment.

Since 1946, the U.S. government has been committed to a "full employment" policy. The Employment Act of 1946 committed the U.S. to utilize all the fiscal and monetary tools available for the pursuance of full employment. What constituted "full employment" was not defined and the law contained numerous qualifying provisions about the need for stable purchasing power and other issues of national concern. Each administration since

1946 has attempted to facilitate full employment more or less vigorously. From time to time, efforts to control inflation have led administrations to accept relatively higher unemployment rates temporarily in an effort to reduce upward pressure on prices.

Policy makers came to realize that the character of the jobs created by traditional employment policy and by the pursuance of other broad-based policies toward defense, space exploration, highway development, and so on did not always reflect the characteristics of the labor force available for work. Unemployment rates of 4, 5, or 5 percent existed at the same time that many job openings could not be filled due to the lack of people with adequate skills. The characteristics of the labor supply did not match the characteristics of the demand for labor.

In 1962, the Manpower Development and Training Act (MDTA) was passed. The initial intention was to help retrain engineers and other technical personnel displaced by a shift in national priorities. As the space and defense programs expanded in the early 1960's, however, the problem of labor surplus with respect to engineers and technicians soon transformed into a problem of labor shortage. The emphasis of the MDTA and other related "manpower" legislation soon shifted toward serving disadvantaged, poor, and unemployed workers. This emphasis was on "target groups." In addition to the MDTA, manpower legislation has included the Equal Opportunity Act (1964), the Civil Rights Act of 1964, and the Emergency Employment Act (1971). In 1973, Congress passed the Comprehensive Employment and Training Act (CETA).

The programs authorized under these statutes have had one common, though unspecified, objective. This is to facilitate the acquisition of employment opportunities and a modicum of labor market mobility for that segment of the population which is traditionally hardest hit by economic slowdowns and which has historically been characterized by low income, low wages, low skill levels, etc. Manpower programs have ostensibly been designed to help raise the skill level and job readiness of target group clients and, thereby, raise the productivity of the labor force. To the extent that the programs are successful, and to the extent that productivity of prospective employees is raised, the employability of those clients would be raised. The wage rates that such clients could earn in labor markets would be higher, the prospects for stable employment would improve, and the economy as a whole is improved by raising the overall productivity of the labor force.

These have been the objectives of manpower programs and legislation. However, on a practical basis and as many program evaluations revealed, the manpower experience has not been notoriously successful. Clients have learned to play the game of enrolling in manpower programs to receive income allowances and stipends. Clients have been placed on jobs but little effort has been made to develop stable jobs or jobs which would permit employees to move on to other or better jobs after a while.

## Material Shortages

Several basic items have recently contributed substantially to the general increase in price levels. These are food, petroleum, and other raw materials. Demand for these items does not decline much when prices increase significantly and increased prices for these items permeate to most sectors of the economy. The impact of such price increases is felt by virtually all producers and consumers. Consequently, these items deserve particular attention.

- (1) Food: The substantial increased food prices in 1973 and 1974 are the result of the following factors:
  - (a) crop failures around the world;
  - (b) devaluation of the dollar in international markets;
  - (c) increased export demand as a result of (a) and (b); and
  - (d) increased costs of processing and marketing of food.

Other more slowly changing factors such as increased standards of living abroad and a concomitant increase in quantity and quality of food might also be cited.

Depletion of feed grain stocks began as early as 1970, when the corn blight significantly reduced corn yields in the Midwest. Since then, unfavorable weather conditions resulted in only modest increases in grain production in the U.S. (see, for example, Table 2 for wheat and corn). Although U.S. policy was one of stimulating all-out production, particularly since 1973. Wheat production has increased dramatically since 1972 (Table 2). This increased export demand is the consequence of major crop failures abroad (particularly in Russia, Africa, and India). It is also the result of a devalued dollar, which made U.S. goods relatively cheaper to foreign nations. In view of these developments, it is not surprising that some farm product prices have doubled and even tripled between 1971 and 1974 (e.g., wheat and corn, Table 2).

Most of the agricultural products are "raw materials" which become "food products" only after they have been subjected to considerable processing. Such processing requires labor, transportation, financing, storing, and packaging; the costs of all these components have risen substantially. As a result, the consumer witnessed in 1974 a record increase (of about 25 percent) in the food marketing margin, i.e., that part of the food bill which goes to processing and marketing. While the American consumer still spends less of his disposable income on food than do consumers anywhere else, the increase in food costs since 1973 was painful, particularly for those with lower incomes who have to spend a relatively higher portion of their income on food.

Not all food prices have risen steadily. Most experts on this topic believe that farm product prices could decrease on a broad front after

only one year of very good or two years of average production on a worldwide basis. However, food prices at the consumer level will not drop an equal amount, since processing costs are expected to remain high.

The United States is currently in the process of revamping its agricultural policy of the past into a food policy for the future. Past policy was concerned with providing adequate income to farmers and managing over-production. Future policy is likely to be more concerned with providing an adequate and stable supply of food at reasonable prices. Because of the growing importance of food products in the international market, the new food policy will have to take into account developments abroad. This situation is generally recognized not only by the United States but also by other countries. In line with this, an international grain reserve was suggested at an FAO conference in December of 1974. While the concept was accepted, operational aspects are far from being worked out.

(2) Oil: While some experts and scientists have for many years warned against the wasteful if not reckless use of fossil fuel, their warnings fell on deaf ears until the oil embargo in October of 1973. Although the embargo has since been lifted, oil prices have tripled. The most obvious impact of the embargo and price increase was on costs of transportation in the production and marketing of most products; consequently, petroleum price increases triggered a widely felt cost-price push. Further, petroleum forms the major basis for the production of important products, such as electricity, plastics, chemicals, and fertilizer. Increased petroleum prices also drove up prices of these products and caused shortages in some. Finally, the psychological impact on this nation from the action of the Organization of Petroleum Exporting Countries (OPEC) must not be overlooked.

While Secretary of State Kissinger stated in February of 1975 that he views oil price decreases by OPEC as a result of limits on oil imports by oil consuming countries a possibility, the likelihood of this happening will depend largely on the degree to which oil consuming nations can--or are willing--to cut back on oil consumption. The notion of severe restriction of oil imports (and shouldering of the resulting price increases) does not have strong support in the U.S. Congress. It must be expected to have even less support in other countries who are to a much larger degree dependent on oil from OPEC. The petroleum exporting states are also threatening to increase oil prices as a result of the United States' inability (or unwillingness) to reduce inflation, which weakens the dollar and thus effectively reduces the real price OPEC nations are receiving for their oil. Past experience has to lead one to believe that these threats are not idle threats. President Ford's measure to tax oil imports heavily also will result in a short- and intermediate-term price increase on oil and its derived products. Even if Congress eventually succeeds in removing the import tax, this may not result in a price decrease from current levels. Rather, it may result in rationing and artifi-

cially created spot shortages which are always associated with such schemes.

Thus it appears unlikely that oil prices will decrease in the short or intermediate term. It is much more likely that they will remain as a major force in the cost-push which fuels inflation. This force will diminish as new technology is developed and as we change our consumption patterns away from petroleum and petroleum-based products.

(3) Other Raw Materials: While less newsworthy, price increases and shortages have also occurred with other raw materials. In part, these price increases are due to a lower valued dollar in the international markets, where these raw materials must be purchased and, in part, these price increases and shortages are due to production problems (e.g., in copper production). Whatever the reasons for these price increases and shortages, they contributed to inflationary pressure. Furthermore, there is increasing concern over the dependence of the U.S. on foreign sources of supply. In 1972, the U.S. imported more than 50 percent of its requirements for 20 nonfuel minerals. Because of the uneven distribution of minerals in the earth's crust, only a handful of countries have dominating positions in several minerals. Thus, the possibility of formations of OPEC type cartels exist. Opinion is currently divided as to the imminence of such cartels. While some assess the situation to be critical, others think that no producers of key nonfuel minerals have the right combination of economic strength and political hostility to form a cartel against the United States.

Table 2  
 Production, Exports, Imports, and Prices for U.S. Wheat,  
 Corn, and Soybeans, 1969-1973

Year	Production (1000 bushels)	Exports (1000 bushels)	Imports (1000 bushels)	Average price per bushel
- Wheat -				
1969	1,442,679	581,642	2,603	1.45 <sup>b/</sup>
1970	1,351,558	693,840	267	1.58
1971	1,617,789	590,153	182	1.60
1972	1,544,936	1,162,323	81	2.26
1973 <sup>a/</sup>	1,711,400	n.a.	n.a.	4.61
1974 <sup>a/</sup>	1,792,492	n.a.	n.a.	4.04
- Corn -				
1969	4,687,057	601,511	1,245	1.16
1970	4,151,938	506,108	4,019	1.33
1971	5,641,112	900,237	1,351	1.08
1972	5,573,320	1,249,547	1,142	1.57
1973 <sup>a/</sup>	5,643,256	n.a.	n.a.	2.37
1974 <sup>a/</sup>	5,646,806	n.a.	n.a.	2.55
- Soybeans -				
1969	1,133,120	406,100	1	2.35
1970	1,127,100	424,886	1	2.85
1971	1,175,989	431,435	2	3.03
1972	1,270,630	505,413	11	4.37
1973 <sup>a/</sup>	1,566,518	n.a.	n.a.	5.65
1974 <sup>a/</sup>	1,233,425	n.a.	n.a.	6.69

<sup>a/</sup> Preliminary

<sup>b/</sup> at Kansas City

SOURCE: United States Department of Agriculture, Agricultural Statistics, 1974.

## FACTORS INFLUENCING THE DEMAND FOR U.S. GOODS AND SERVICES

In the preceding section the total product was analyzed from the supplier side. The discussion now turns to the buyer side. If there are insufficient buyers for the goods and services made available, excessive inventories will accumulate and the economy will move in a recessionary direction. If there are too many buyers, the economy will tend to move in an inflationary direction.

The composition of purchases is also quite important. Material well-being is usually associated with personal consumption. However, too much consumption and too little investment lead to reduced capacity to produce in the future. In the fourteen years 1960-1973, investment excluding residential construction averaged 15 percent of gross national product at current prices in the U.S. Over the same span of years, such investment averaged 19 percent in Canada, 29 percent in Japan, 21 percent in France, 22 percent in Germany, 16 percent in Italy, 22 percent in the Netherlands, 19 percent in Sweden and 17 percent in the United Kingdom. Tilford Gaines characterizes the low share of GNP devoted to investment in the U.S. as "eating the seed corn."

In 1974, 63 percent of all goods and services were purchased for personal consumption (e.g., stereos, food, and clothing). Fifteen percent were purchased for investment, i.e., to be used for future consumption or production (e.g., office buildings, tractors, and new houses). One percent was the excess of goods and services exported less goods and services imported. The remaining 22 percent was purchased directly by federal, state, and local governments (e.g., battleships, elementary school teachers' wages, and highway construction).

Government influences aggregate demand either directly as a purchaser of goods and services or indirectly by influencing consumption, investment, export and import decisions. In this section we shall briefly review government expenditures, then move on to taxation (which dampens consumption and investment demands) and monetary policy (which affects consumption and investment through credit availability and interest rate levels), and conclude with some observations on recent international economic relations. While the focus of this section is on the federal government, the effects of taxation, spending, and other economic activity by state and local governments are also quite important.

### Fiscal Policy

One of the most direct ways all levels of government influence total spending decisions is through their budgets. As governments increase their spending programs, greater consumption and investment expenditures are touched off, leading to lower unemployment and higher prices. On the other hand, tax receipts reduce the purchasing power in the

private sector. If taxes are cut, the increased purchasing power in the private sector can be used for consumption or investment purchases. If spending exceeds tax revenues, the government runs a deficit.

While it is true that policies of increasing government expenditures or decreasing taxes tend to lead to deficits, the existence of deficits is not necessarily an indication that governments are already spending too much or that taxes are too low. As national income falls, tax receipts fall and requirements for government expenditures on items such as unemployment insurance rise. Thus deficits are symptoms of recessions and may signal the need for expansionary policies.

Total government purchases of goods and services have varied between 20 and 23 percent of GNP since 1957. However, this masks a steadily rising share by state and local government (rising from 10 percent in 1965 to 14 percent in 1974) and a fluctuating share by the federal government which has tended to decline since 1969 (11 percent in 1967-9, 10 percent in 1970, 9 percent in 1971-2, 8 percent in 1973-4). Government expenditures have been rising much faster than government purchases of goods and services due to steadily rising transfer payments (including social securities), grants-in-aid to state and local government, and net interest. In 1974, purchases of goods and services accounted for less than 40 percent of all federal government expenditures.

From the point of view of aggregate demand, it does not really matter whether the immediate object of government expenditures is to create something "useful" or not. Money spent on wages for workers to dig and refill holes has the same general impact on spending as if workers were hired to paint subways, rebuild slums, or plant trees. Of course, given the long agenda of useful things to be done, such expenditures are important political decisions which should be considered independently of their impact on aggregate demand.

The type of government expenditure is important. The effects of government expenditures depends on (1) who receives the initial income from the expenditure and (2) how the expenditure affects expenditure plans in other sectors. A leveling of income distribution, say through increased welfare payments financed by income taxes, may increase aggregate demand with no increase in government expenditure whatsoever. But government expenditure, especially if the economy is near full employment, may dampen or even crowd out private spending entirely. Increased expenditures on public housing, for example, may reduce all or part of planned construction investment in the private sector, thereby counteracting the effects of the government expenditure. On the other hand, increased expenditure on the space program (which would never be undertaken in the private sector) may encourage additional private investment in aerospace, electronics, and related industries,

thus adding to the income-generating impact of fiscal policy.

There are a host of different taxes: personal income taxes, corporate profits taxes, social security contributions, excise taxes, tariffs, etc. The effects of tax changes on spending, inflation, and the distribution of real income is complicated and controversial. However, the following general points can be made.

1. Tax reduction represents an inducement to spend, not spending itself, so the impact of a tax cut on spending is less certain than an equivalent increase in government expenditures.
2. Increased government expenditures enlarge the role of government in the economy, while a tax cut has, or can have, the opposite effect. Thus the choice between expenditure and tax change involves a value judgment as to whether additional goods should be supplied through the private or the public sector.
3. The form of the tax reduction affects aggregate spending. For example, an across-the-board income tax cut increases the disposable incomes of the higher income groups by more than that of lower groups. If the relatively poor spend a higher share of their income on consumption (the usual assumption) an across-the-board cut is less efficient in generating spending than a tax cut directed more toward lower income groups.
4. Certain, perhaps all, tax changes affect the composition of output. Corporate tax cuts, e.g., may induce investment, productivity gains, and growth, but at the expense of current consumption.
5. Finally, there is wide agreement among economists that a permanent reduction in taxes is likely to affect total spending more than discontinuous, one-shot relief. This is so because consumers tend to gear their spending to long-run or expected income.

How the government finances a deficit is important for aggregate demand. If the government fills the gap between revenues and expenditures by borrowing from the public (by selling bonds - promises to pay annual interest of a certain amount and to repay the nominal value of the bond at some stated time in the future), the impact of total spending is much less than if the deficit is financed by printing up new money (generally effected indirectly through the banking system). Financing a deficit by monetary expansion in effect combines monetary and fiscal policy, thereby producing a greater expansionary effect than would be predicted on the basis of fiscal policy alone. One of the key issues of the large government deficits expected in 1975 and 1976 is precisely the financing arrangement. Some economists believe that government borrowing

will compete with private borrowers on capital markets, driving up interest rates, depressing housing markets and repressing needed private investment activity. Others see an excess supply of loanable funds so large that the financing of a large issue of new government bonds will simply take up slack resources which would otherwise go unused.

### Monetary Policy

Changes in the nation's money supply affect investment and consumption spending. Given the level of national income, the public is willing to hold ("demand") roughly a fixed supply. If actual exceeds desired supply, businesses and households spend their excess balances, i.e., increase aggregate demand, which in turn generates higher employment and output and/or inflation. The Federal Reserve System, a system of branch central banks, is responsible for controlling the money supply through open market operations (purchases and sales of government bonds), changes in the reserve requirements (the ratio specifying the legal minimum ratio of money to demand deposits), and the rediscount rate (the rate at which banks may borrow from the Federal Reserve). By buying bonds, for example, the money is put into the hands of commercial banks which in turn then make new investments and loans to businesses and households to a multiple of the initial bond purchase. It should be stressed that the availability of the Federal Reserve System to control the money supply is quite limited.

A common measure of the tightness or ease of monetary policy is the rate of increase in the money supply. A neutral monetary policy exists if the rate of increase in the money supply is equal to the trend rate of increase of full-employment output.

The sum of cash in circulation plus demand deposits ( $M_1$ ) increase at an annual rate between 2.1 and 4.5 percent from 1960 to 1967, not even as fast as the increase in the quantity of goods and services being exchanged. Since that time the annual rate of increase has ranged between 4.5 and 7.7 percent. Although this rate, by exceeding the rate of increase of goods and services, is enough to cause some inflation it understates the true monetary expansion because of the increasing use of other forms of money. The sum of money as already defined plus savings deposits and other time deposits ( $M_2$ ) have been growing much more rapidly than  $M_1$ . This second measure of money grew at annual rates ranging between 7.0 and 9.0 percent from 1961 to 1968 and has been increasing at rates ranging from 11.3 to 14.4 percent since 1970. Using this measure, one can easily see why a large number of economists believe that money is the fuel that fires inflation.

The Federal Reserve faces two very major problems in trying to control this inflationary expansion of the money supply. First, as was suggested in examining the two measures of money above, their control system is rather complex. If they attempt to slow growth of money in boom periods, many will turn to "money substitutes."

For example, the Federal Reserve expanded reserves of their member banks by 7.1 percent in 1971 which led to a 7.1 percent increase in  $M_1$  but a 14.4 percent increase in  $M_2$ . The next year they choked back and allowed reserves to grow by less than 1 percent, but  $M_1$  still rose by 7.7 percent and  $M_2$  rose by 11.8 percent.

To the extent that the monetary authority is able to reduce the rate of supply of loanable funds it tends to drive up interest rates. Any time that this occurs, parts of the populace such as those close to housing complain. This choking-off process which reduces economic activity at a time of high overall unemployment has become politically unacceptable.

Interest rates are poor indicators of monetary policy, since inflationary expectations have become built into nominal rates. Thus large increases in the money supply generating large increases in aggregate demand have produced higher, not lower, interest rates.

This is not to say that the high interest rates are not important. Moreover, the high rates paid on bonds and other safe investments have competed money away from savings and loan associations (which by law may not pay competitive rates). As a result, mortgage money has been inadequate as well as expensive, which accounts in part for the relative impoverishment of the building industry.

#### The International Economy

Foreign trade is no different in principle than other kinds of trade, for example, that between Oregon and California. Domestic (Oregon) goods are exchanged for foreign (Californian) goods. A rise in exports increases aggregate demand, but a rise in imports decreases aggregate demand (for less income is now spent on domestically produced goods and services).

The U.S. dollar, like other currencies, is sold in the world market to foreigners who in turn buy U.S. goods, services, and securities. A fall in the exchange rate, the price of the dollar in terms of other currencies, lowers the price of U.S. goods to foreigners and raises the price of foreign goods to Americans, thus leading to an increase in exports, reduction in imports, and an increase in aggregate demand.

The balance of payments is a record of a country's transactions with the rest of the world. Payments to foreigners for imports of goods, services, and securities less receipts from foreigners for American goods, services, and securities may be positive (a surplus in the balance on current and long-term capital account) or negative (a deficit). To make ends meet, the deficit must somehow be financed, either through short-term capital movements or payment in U.S. official reserve assets (gold, convertible currencies, special drawing rights, or the U.S. gold tranche position in the International Monetary Fund).

The United States has had a dollar outflow to support military activities, other unilateral

transactions and investment abroad since World War II. There were basically two conditions that enabled this. For many years, the world accumulated dollars which were considered the world's stablest currency. Second, from World War II until the 1970's we continuously posted surpluses in our merchandise trade balance, i.e., we exported more goods and services than we imported. This balance, excluding military transactions, went into the deficit position in 1971 then slipped still further in 1972. Early in 1973 the governments of most major countries abandoned attempts to fix exchange rates at negotiated levels. In the second quarter of 1973 the dollar depreciated against most continental European currencies, but remained in close relationship to several currencies accounting for two-thirds of U.S. trade. In the third quarter the relative value of the dollar stayed fairly constant, then rose in the fourth quarter. With our exports cheaper to foreigners and imports dearer to us, we managed to post a surplus in the merchandise account for 1973.

Late in 1973 petroleum prices began their sharp upward jump. Although the United States imported less in quantity, the total value of petroleum imports moved to \$24.6 billion in 1974, up from \$7.8 billion the year before. With this additional drain as one factor involved, the merchandise trade balance excluding military slipped \$5.8 billion into the red. The economic impact of devoting larger portions of our domestic purchasing power to declining quantities of petroleum imports, the large international reserves in the hands of OPEC nations, and the political aftermath of quantity control of petroleum by the Arab countries have combined to make limitation of United States dependence on energy resource imports one of the three key economic issues, along with recession and inflation.

SOME GENERAL IMPACTS OF  
INFLATION AND RECESSION

The first part of this paper has dealt with the causes of inflation and recession and what can be done about these economic ills. One of the arguments made was that inflation, fairly high unemployment, and sluggish economic growth may be with us, at least to some degree, for a fairly long period of time. Several public actions have been taken on the grounds that certain groups need special attention. For example, tax cuts are being structured to give greater benefits to citizens with lower income levels. In order to determine what the consequences of recession and inflation and what groups were being impacted the most adversely, several papers were initiated.

Only two impact papers have been completed, those dealing with commercial agriculture, and forest products. It is possible, however, to give a brief overview of the impact of inflation and recession upon one other large Oregon industry--tourism. In addition, some general observations can be made about the impact of recession and inflation.

Recession

Since we had both inflation and recession at work during the past two years, it is not possible to ascertain the exact position of labor welfare. It is certain, however, that those who are unemployed are worse off. Here there is a major difference from earlier periods of hard times. In the depression of the thirties, for example, far more families depended on just one wage earner than is the case today. Among the one-fifth of all families which received highest money incomes in 1972, 74 percent had two wage earners or more; 57 percent of the middle-fifth income families had two or more earners; but of families in the lowest fifth that year, only 21 percent had more than one earner.

Increases in unemployment are not spread evenly throughout an economy. Generally companies release blue-collar workers, especially those who do not have to acquire skills specific to their company, more readily in business slumps than white-collar workers. A recent study by Gramlich reaffirms the notion that whites, males, adults, and the better educated suffer less from rising unemployment. Using 1972 data, he found that, "If the unemployment rate were to increase by 1 percentage point, families headed by males with poverty-line income would suffer a loss in income of nearly 3 percent due to direct unemployment, declines in hours worked, and reduced secondary earnings, while those at five times the poverty line would experience income declines of approximately 1 percent."<sup>1/</sup>

Recessions also affect various industries differently. Delays in investments and consumer expenditures increase during recessions. Thus, the national industry hit worst due to recession tends to be the automobile industry and

its suppliers. In Oregon the forest products industry has been hit hard by consumers' postponement of remodeling and other incidental purchases and also by the combined influence of recession, tight credit, and high interest rates on new home construction.

Inflation

Whereas recession is a loss of total economic output for the entire nation with the losses of many losers clearly outstripping the gains of some gainers, inflation's main effect is to redistribute from some groups to others. However, there are some general losses from inflation.

The first pure cost of inflation considered by most economists is that the public avoids money, attempting to keep their wealth in other forms such as land, antiques, and other assets whose value will rise with inflation. The loss is simply the increased costs of exchange which make money so useful in the first place.

There is a second general cost associated with the cost of inflation. In the "real world," all prices do not rise at the same time. Consequently, when planning a trip, a vacationer does not know how much his meals, lodging, and so on will be, where he should stay, and so on. In a dynamic economy, prices are always changing, requiring new price information. However, the requirements for new information appear to be even greater in the recent inflation.

A third cost, perhaps not distinct from the two issues already mentioned, lies in uncertainty. Many current actions are taken under the assumption that prices will not change rapidly. A farmer makes certain decisions on the assumption that he knows about what future prices will be. When businessmen are uncertain of future prices and/or sales levels, many of them will become risk averters and reduce output levels and purchases of new inputs, particularly investments. This behavior is common in troughs of major business cycles and is part of the current slow recovery; for the past several months, production of new goods has been slow as firms sell much of their current inventories before making substantial new purchases.

Inflations can be classified as either anticipated or unanticipated. With anticipated inflations, prices rise as much as was expected; both business firms and individuals are able to build inflation compensations into all their contracts. Lenders receive a "real rate of interest" plus an inflation premium. For example, an individual may be willing to pass up a stereo worth \$200 today to be able to purchase a stereo next year which now carries a \$210 price tag. If prices of both stereos rise 10 percent over that year, he would have to be paid slightly over 15 percent in nominal interest in order to

<sup>1/</sup> Edward M. Gramlich, "The Distributional Effects of Higher Unemployment," Brooking Papers on Economic Activity, 1974 (2), The Brookings Institution, Washington, D.C., p. 335.



be able to buy the stereo at next year's price of \$231. Thus, nominal interest rates (approximately 15 percent in our example) are the sum of a real interest rate (10/200 or 5 percent in our example) plus expected rate of inflation (10 percent in our example). If the inflation had been unexpected, there would have been a redistribution of wealth from **creditors to debtors**. Once inflation is fully anticipated, interest rates rise to compensate for these transfers of wealth, labor contracts include cost-of-living adjustments, and so on.

In summary, the more one is in debt and the larger fraction of one's wealth is held in real assets (as contrasted to money assets such as savings accounts or government bonds), the more likely one is to benefit from an unanticipated inflation. If one examined net debtor or creditor status by major economic sector, one would see that the principal net creditor class is "households". At one time corporations were creditors, but as a group they are now definitely debtors. The government sector has long been the major debtor. Thus, inflation tends to take from "households" and gives to business, corporations, and government. In other words, taxes needed to pay off government debt are lower in real terms, but holders of government bonds (or owners of companies or funds which possess such bonds) are worse off. Within these groups, some get greater than proportional gains or suffer greater than proportional losses.

An interesting study by Bach and Stephenson looks at composition of assets by age groups, income levels, wealth levels, and occupations.<sup>2/</sup> One conclusion is that the older one tends to be, the more adversely he tends to be affected by unanticipated inflation. One reason is that young people are proportionately more in debt. Young people tend to have just bought homes on mortgages and have made many commitments. Rising price levels reduce the real cost of those debts. The data Bach and Stephenson examine also suggest that groups over 55 years of age tend to hold more of their assets in monetary form.

A second conclusion is that "inflation transfers purchasing power from...the very poor and the very rich to the middle and upper-middle income groups." This is primarily due to a larger ratio of debts to assets for middle income groups (.29 for \$10,000-\$15,000 compared to .08 for income groups below \$3,000 and .10 above \$50,000).

The current inflation is by no means a pure inflation. Some prices are moving up very rapidly, some moderately; a few have been decreased. Many price movements are misinterpreted. People "are sure that every increase in their pay envelope is a reward for merit, every increase in prices an

inflationary theft."<sup>3/</sup> Nevertheless, relative price changes are important in redistributing wealth. The combination of depreciation of the dollar relative to several foreign currencies and price increases for a number of imported items such as energy sources have made foreigners, especially oil-exporting nations, better off and U.S. consumers worse off. Farmers were better off relative to most U.S. citizens in 1973, but their position slipped in 1974 and may well decline more in 1975.

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<sup>2/</sup> G. L. Bach and James B. Stephenson, "Inflation and the Redistribution of Wealth," The Review of Economics and Statistics, Vol. LVI, No. 1 (February 1974), pp. 1-13.

<sup>3/</sup> Walter W. Heller, "What's Right with Economics," The American Economic Review, Volume LXV, No. 1, (March 1975), p. 23.

IMPACTS OF INFLATION AND RECESSION  
ON AGRICULTURE IN OREGON

Current Status of Oregon Agriculture

Sales of Oregon farm products during 1974 went over one billion dollars for the first time. This is double the farm product sales of 10 years ago. About 30 percent of the 1974 total was income from the sales of livestock and livestock products. The remaining 70 percent was gross income from crops. Increased grain production and higher prices for many of the crops combined to give this boost to Oregon farm sales.

Although crop producers had a good year in 1974, this was not the case for livestock producers. Gross farm income from livestock sales was down nearly 20 percent from the previous year. Dairy, sheep, and hog prices remained fairly stable but prices for feeder cattle and calves were down dramatically.

The impact of agriculture on Oregon's economy is larger than the value of the farm sales. Many of the products sold by farmers are processed and retailed in the state. Also, farmers as well as processors and wholesalers purchase inputs (labor, machinery, chemicals, packaging materials, etc.). With a large industry such as agriculture in the state, the effects of inflation and/or recession on agriculture can have significant repercussions through the state's economy.

Oregon farm products are transported, graded, processed, packaged, cooked, frozen, stored, and merchandized before they reach the consumer. At each step, "value is added." In 1974, the value added by the first handlers through processing of agricultural products in Oregon was estimated to be 59 percent of cash farm receipts. Of this value added, 34 percent went to payroll. The value added as a proportion of farm sales, varies considerably from commodity to commodity.

Exporting agricultural commodities (produced in Oregon and neighboring states) from Oregon ports generates considerable additional activity. This was estimated to amount to about 1 billion dollars in 1973.

There are presently 32,500 farms in Oregon comprising a total of about 19.5 million acres. The estimate for 1974 is that these farms employ an average of 34,000 family workers plus 20,000 hired workers. This work force added to 24,000 employed to process agricultural products and 4,700 employed to provide agricultural services to farmers gives a total of 82,700 workers directly employed by the agricultural sector.

Manifestations of Inflation  
and Recession

The manifestations important to the health of the agricultural sector in Oregon involve the levels of prices received, prices paid, and uncertainty facing farmers and other agri-business managers.

Prices Received by Farmers

General inflation and expansion (increased economic activity) of the national economy does not appear to have an impact on prices received by farmers in the short-run. What happens is that the increase in consumer demand for food due to increased per capita income is offset by higher marketing margins (off-farm food processing and distribution) resulting from increases in wages and other costs.<sup>1/</sup>

In fact, recent experience indicates that increases in demand may be more than offset by marketing costs. Over half the retail cost of food is added after the products leave the farm. This partially explains the situation where retail prices are continuing to rise, although farmers' prices are dropping.

While the average prices received by farmers were up dramatically in 1973, 1974, and 1975, (Figure 1), this is not a direct effect of inflation or expansion but rather is due to a significant shift in export demand for U.S. farm products owing to world crop failure and dollar devaluation (necessitated to some extent by general inflation). This was combined with less than favorable weather conditions for U.S. crop production in 1973 and 1974 which shifted the supply relationship.

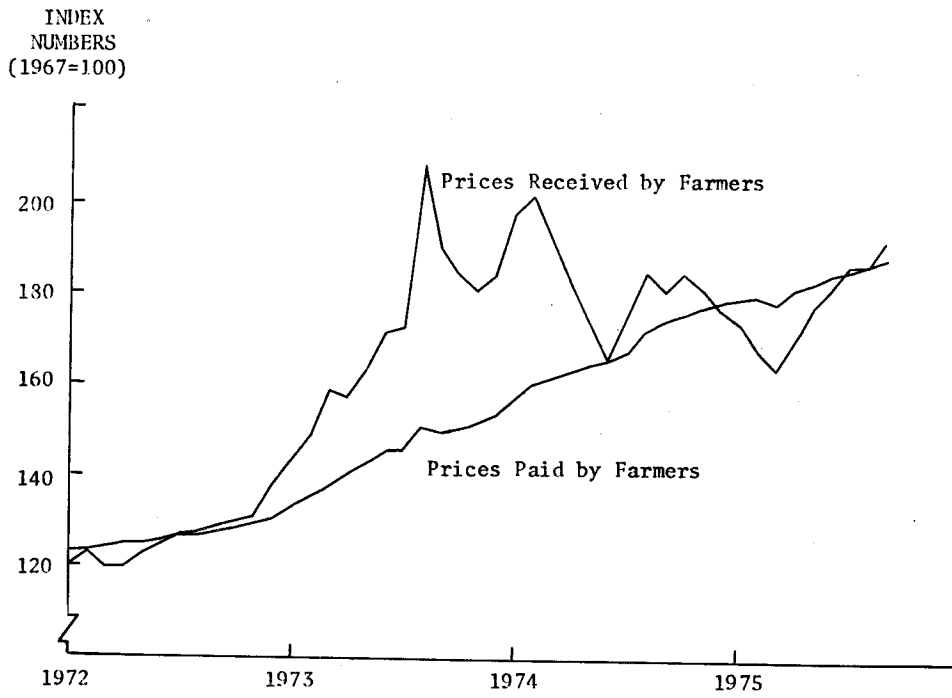
While farm product prices appear to be not directly affected by inflation, farm prices and higher marketing margins have interacted to contribute to inflation in the national economy. Many labor contracts, wages of Federal employees, Federal retirement, and Social Security payments are tied to the Consumer Price Index. Thus, when food prices increased in 1973 and 1974 for the reasons mentioned in the text, it triggered higher wages and incomes in almost all sectors further contributing to the inflationary spiral.

Over the past two years increases in food prices have accounted for one-half of the increase in the consumer price index. In 1973 much of the increase in food prices was due to higher farm prices, but in 1974 nearly all the increase was due to increased marketing margins.<sup>2/</sup>

<sup>1/</sup> Tweeten, Luther and Leroy Quance, "The Impact on Net Farm Income of National Inflation," American Journal of Agricultural Economics (December 1971), p. 914, and Tweeten and Quance, "Simulating the Impact of Input-Price Inflation on Farm Income," Southern Journal of Agricultural Economics, (December 1971), p. 51.

<sup>2/</sup> John N. Ferris, "Consumer Demand for Food in 1975," Michigan Farm Economics, December 1974, p. 1.

Figure 1  
Prices Paid and Prices Received by Farmers, U.S., 1972-1975



Recession, on the other hand, may reduce the consumer demand for some food products as a result of lower per capita incomes. With a continuing and deepening recession, consumers would attempt to cut back on food expenditures. They would tend to (1) consume more food at home rather than away from home, (2) shift to less expensive food items, (3) accept more synthesized foods and food substitutes, such as soybean meat extenders, (4) waste less food, (5) grow more vegetables at home, (6) and purchase less of the prepared, convenience foods.

While inflation and/or recession in the general economy may have some influence on the price received by farmers, the primary factors will continue to be export demand, weather, and farmers' cropping decisions.

#### Prices Paid by Farmers

Prices paid by farmers lag behind the general price level in periods of inflation and expansion, but they do catch up. Over the past two years the index of prices paid by farmers has undergone a steady increase. This increase, along with the decrease in prices received in the early part of 1974, brought prices received and paid to about the same relationship as existed in 1972.

Farmers have been particularly hard hit by the spiraling prices of fuels and petro-chemical based fertilizers and pesticides. These price increases have resulted primarily from the change in the world-wide energy situation, but the inflationary process in the national economy has also contributed. Many fertilizers cost twice what they did in 1973, and diesel fuel has risen almost as much.

Increases in the prices paid by farmers for production inputs normally expand the credit requirements to finance operations. Ironically though, when the government tightens money supply to control inflation, the credit available to the farmers to finance production is reduced and interest rates are higher.

When the nation's economy is in recession, the question is whether the prices Oregon farmers pay for purchased inputs will decrease. A review of history indicates that these prices are sticky. The most recent year in which a decrease in the index of prices paid by farmers occurred was in 1955. At that time the recession was severe enough to bring about a decrease in prices paid. However, the effect of the recessions in 1957-58, 1960-61, and 1969-70 was to only temporarily stabilize or slow the rate of increase in prices paid by farmers.

#### Land: A Special Input

Between March 1974 and March 1975 land values increased 14 percent for the 43 contiguous states and 7 percent for Oregon. Over the years, farm real estate has been an effective inflation hedge, increasing in value at a rate equal to or faster than the rate of inflation. With the souring of the stock market, people outside agri-

culture became more interested in farm land, adding more pressure to the rising land prices. More important than this aspect, however, have been (1) the impetus to consolidate land into larger farms and (2) the increase in land sale prices when net incomes are expected to be higher in the future.

The inflated land values represent somewhat of a mixed blessing to the farm owner. On the one hand, there is an increase in the dollar value of his capital. He has more collateral on which to borrow money and can make mortgage payments with depreciated dollars. On the other hand, however, higher land values increase his opportunity cost for retaining ownership and producing crops, rather than selling the land and investing the proceeds. Higher land prices also mean that the growing farmer must pay more to buy or rent additional land for expansion.

#### Uncertainty

The current situation of the general economy creates more uncertainty than usual for agribusiness managers. With erratic price movements and increased speculation in commodity markets, it becomes difficult to predict prices for planning purposes with reasonable accuracy. The managers then become apprehensive and take a "wait and see" attitude rather than making capital investments and adopting new production practices to improve efficiency. Precautions taken to meet uncertainty are output-reducing or cost-increasing, and often both. Also under uncertainty, expectations regarding prices and other economic variables are less accurate. As a result, resources may be allocated to enterprises which do not produce the most profitable results.

#### Responses of Oregon Agriculture

This section analyzes the possible responses of Oregon agriculture to inflation and recession in terms of resource use, agricultural output, and structure.

#### Resource Use

The general reaction when the price of a production input goes up is to buy or employ less of that input, assuming no change in other input prices or product prices. Inflation of farm input prices has different impacts, depending on the nature of that farm input. For inputs such as fertilizer and chemicals, the increase in price is offset somewhat by decreasing the quantity used. However, increases in other input prices such as property taxes, land rent, wages, and interest rates will directly increase farm expenses because the quantities of these inputs cannot be as easily adjusted.

How will the employment of hired farm labor be affected in a period of recession with increased unemployment? A study of the U.S. hired farm labor market indicates that an increase in

the unemployment rate increases the supply of hired farm laborers.<sup>3/</sup> When unemployment in the non-farm sectors is high, there is less tendency for employees to migrate out of the farm labor market. Also with high non-farm unemployment more labor is available for seasonal employment in low-skill farm jobs such as picking fruit. Whether the increase in supply of farm labor will be reflected in lower farm wages depends on the demand by farm employers, rate of inflation, and wages paid in non-farm sectors. In Oregon, there may have been a slowing in the rate of increase in farm labor wages, but the data are not conclusive on this point.

### Agricultural Output

Rising input prices combined with the uncertainty brought on by the state of the general economy should have the effect of reducing the quantities of inputs used and hence, output in the short-run. This conclusion is based on the prospects for no increase and possibly some decrease in farm product prices. Of course, weather conditions will play a large role in determining the level of output achieved. Not only would producers be affected by input price inflation, but consumers would pay higher prices and less food would be available for consumption in the event of agricultural production cutback.

Over the past two decades, livestock and crop production in Oregon increased by over one-third, but this trend may not be sustained in the long run. U.S. farm statistics indicate a decline in the growth rate of productivity of the combined factors used in farm production. In other words, the amount of farm output per unit of total input is not increasing as rapidly now as it was ten years ago. New production technology (e.g., better plant varieties, animal husbandry), shifts to more intensive production (e.g., irrigation), substitution of non-farm inputs for land and labor, and education which added to the quality of labor and management in agriculture have been sources of past productivity improvements. More recently these improvements have been offset to some extent by concern for environmental pollution and changing tastes and preferences of consumers. There is little unused farm technology that farmers have not already adopted, and fewer significant research breakthroughs are expected in the years ahead. Whether the current plateauing in productivity will continue over the long-run is not clear. However, the answer has important implications for long-term farm product prices, agricultural production in Oregon, and food availability for U. S. and foreign consumers.

### Structure of Agricultural Sector

There has been a steady trend toward larger and fewer farm operations over the past few

years. In 1974 there were approximately 32,500 farms in Oregon. This is 25 percent fewer farms than 10 years ago. The rate of decrease appears to be slowing, however, as about three-quarters of that decrease came in the first five years of the decade.

The slowing of the decrease in farm numbers has implications for the non-farm sectors of the economy. The substitution of mechanization for labor enabled agriculture to transfer large quantities of labor to the non-farm sector. This has been an important source of growth for the economy which will likely be much smaller in the future.

There are wide differences among farms not only in their size and production, but also in their managerial organization and how they are affected by inflation and/or recession.

Commercial farms are defined here as those having annual sales above \$20,000 per farm. These farms comprise about one-fifth the number of farms in Oregon. They account for a much larger percentage of the total value of farm products marketed. The number of farms in this class appears to have been increasing over the past five years. Of course, part of the reason for this increase in commercial farms has been inflation in farm product prices which boosts farm sales with no change in farm sizes.

Inflation tends to favor the commercial owner-operator type of farm that is debt financed.<sup>4/</sup> The positive relationship between inflation and land values favors landowners over tenants. Not only does the owner's wealth increase, but his debt payment decreases in terms of the purchasing power of the money involved. However, to the extent that large farms in this category use more hired labor, purchased inputs, and rented land, their advantage will be lessened with inflation in the prices of these items.

In the period of recession, the commercial farmers are in better position to take advantage of cost savings from larger size and new technology. Thus, the commercial operator generally has more latitude to make adjustments and control his costs.

Small farms have cash receipts ranging from \$2,500 to \$20,000 per farm. These farms comprise just under 40 percent of the total number of farms in Oregon. Farmers in this category are basically of three types: (1) beginning farmers who are attempting to increase the size of their operation and become commercial farmers; (2) those that have a non-farm job and have built a farming operation around it; and (3) those who are hanging on but expect to drop out of farming and seek other employment. As one would expect from this description, the number of farms in this category is decreasing.

<sup>3/</sup> Hammonds, T. M., R. Yadav, and C. Vathana, The Hired Farm Labor Market: Some Recent Evidence from Oregon, Technical Bulletin 127, Agricultural Experiment Station, Oregon State University, August 1973.

<sup>4/</sup> Brandow, G. E., "The Distribution Among Agricultural Producers, Commodities, and Resources of Gains and Losses from Inflation in the Nation's Economy," American Journal of Agricultural Economics, (December 1971), p. 913.

## Summary and Conclusions

U. S. and Oregon agriculture is interrelated with the state of the national economy. Food prices have been a major component of inflation during the past two years. On the other hand, non-food inflation has increased the cost of agricultural production. Oregon farmers, heavily dependent on purchased inputs to produce food commodities, have seen input prices increase substantially. Rising land prices have increased costs to tenant farmers and those farmers seeking land for expansion.

Oregon agriculture as a whole was shielded during the recent inflation surge by more than compensatory increases in the prices of many commodities. Farm input prices have been steadily increasing, but there was sufficient lag to give Oregon farmers healthy net farm incomes in 1973 and 1974. Prices paid by farmers have now caught up with prices received. Furthermore, production cost increases tend to be more permanent and irreversible than farm product price changes. Thus, the prospect for 1975 and beyond is for an erosion of net farm income.

The current growth of agricultural productivity has slowed compared to ten years ago. Increased costs, resource shortages, and product price uncertainty have dampened farmer enthusiasm for improving efficiency and expanding production. Whether this slow-down in productivity growth continues will have important implications for future food prices.

Over time, these smaller farmers have found themselves under pressure to adjust by expanding, seeking off-farm employment to supplement their incomes, or discontinuing farming. This pressure was relaxed somewhat in the last two years because input prices did not increase as fast as the prices received for farm products sold (Figure 1). However, with recession and a convergence of prices paid and received, smaller farmers again find themselves under pressure to adjust. With the recession, however, there is a decrease in their opportunities. Off-farm employment is restricted by the higher level of unemployment and it becomes more difficult to find sources of supplemental income.

Rural residences are farms with less than \$2,500 sales per year; most of the income of these farm operators comes from off-farm sources. Part-time farmers and retired farmers would appear in this category. The number of Oregon farms in this category is estimated at over 40 percent of the total. Compared to the small-farm category, this category is relatively stable because of the large proportion of these farmers' income which comes from off-farm sources.

Regardless of the state of the national economy, some people will continue to prefer to live in a rural area, engage in farming, and also work off the farm. This is particularly true in metropolitan-industrial areas such as the Willamette Valley. Also many rural residents are semi-retired and use the farm to keep busy. There are many examples of this in central and southern Oregon.

The stability of the non-farm income of these operators is the most important factor influencing how they will be affected by the economy. In Oregon, many of these rural residents are employed in the wood products industry. Thus, their well-being will depend on the effects of inflation and/or recession on that sector of Oregon's economy. Another important component of these rural residents consists of retired people.

To sum up, the trend in the structure of Oregon's agricultural sector is towards fewer farms with most of the decrease coming in the small farm category. The number of commercial farmers will decrease very little. While there will continue to be a large number of rural residents involved in farming, their contribution to the total value of farm products produced will become less. Thus, there is a continuing movement of farming units into the commercial and rural residence categories.

The effect of a period of inflation, in which farm product prices are increasing faster than input prices paid, is to slow down this trend by reducing the economic pressure for adjustment. The effect of a recession with stabilization of prices received and no decrease in prices paid is to increase the pressure for adjustment. Paradoxically, farmers seeking to adjust to more off-farm employment find it difficult due to the increased unemployment.

## IMPACTS OF INFLATION AND RECESSION ON THE OREGON FOREST PRODUCTS INDUSTRIES

The 1974-1975 recession was associated with higher unemployment rates in Oregon than the rest of the country. One reason was that the simultaneous **occurrence of inflation and recession** hit particularly hard at Oregon's number one industry--forest products. While non-agricultural employment rose by 6,640 from October 1973 to October 1974 for the State of Oregon, state employment in the lumber and wood products sector fell by 9,650.

The adverse state of the economy struck particularly hard in those parts of Oregon which were most dependent upon forest products. Employment districts whose number one basic industry is lumber and wood products had October 1974 unemployment rates between 7.8 percent and 10.2 percent (seasonally adjusted) and districts relying on other basic industries had unemployment rates ranging from 5.7 percent to 7.4 percent. As unemployment rose in 1975, this pattern continued to hold. In May 1975 seasonally adjusted unemployment rates in lumber and wood products oriented districts ranged from 11.3 percent to 14.8 percent while other districts had unemployment rates between 7.2 percent and 10.6 percent.

The depressed employment and sales levels in Oregon's lumber and wood products industries are associated in part with recession, in part with inflation, but also with other forces of long-range consequences. In this section some of the reasons for pressure on the supply side of the industry through rising costs and on the demand side through slower housing construction and other sales slumps will be viewed.

### Problems of Costs and Supply

Half of the forest products industries in Washington and Oregon are dependent on public lands and half on private lands. One very significant cost factor for firms using timber from public lands is their bid price for the timber itself.

Timber sales on all of these lands generally operate in the same way. Purchasers have under contract at any one point in time two or more years backlog of timber in 3- to 5-year contracts. This uncut volume under contract is considered necessary for scheduling men, equipment, and other needed production items.

The uncut volume under contract is the short-run timber supply from public lands. Current timber sales programs have an impact on short-run timber harvest only indirectly in the sense that this adds to a purchaser's backlog and is a consideration of the purchaser in deciding how much timber to cut.

The timber purchaser in deciding how much to bid for an advertised timber sale has to try to use a crystal ball. Timber he buys now may not be harvested for 3 years. Forest Service sales contracts in western Washington and western Oregon no longer have escalation clauses which

tie prices paid for stumpage to end product markets. The price bid for stumpage is the price paid. In more normal times, a purchaser would have under contract at any one point in time several timber sales at different prices. The purchaser would then average low priced and high priced timber volume together to continue operations in the face of ups and downs in end product markets. Or as a second option, the purchaser could harvest low priced sales in down markets and high priced sales in good markets. This flexibility to harvest differently priced sales helped to prevent mills from being squeezed between increasing timber costs and declining end product prices. With this background in mind, the high stumpage prices over the last 3 years provide a strong reason why mills dependent on public timber felt the pinch of higher stumpage prices in a time of declining lumber and plywood prices.

Forest Service stumpage prices began to take off in the middle of 1972 when the price for all timber species averaged \$42 per thousand board feet. They have increased steadily since then and averaged \$150 in the second quarter of 1974. The average price for west-side Douglas-fir, the highest priced species, went from \$50 in 1972 to about \$250 in the second quarter of 1974. Housing starts in 1972 reached a record 2.4 million, but began declining in the last half of 1973. Timber purchasers did not lower their bids to correspond with an apparent decrease in demand. Instead, the housing business cycle is being recognized and bidders are counting on an upturn in the cycle over the next 3 years to justify \$250 stumpage. Most of the 1972 sales have been cut out and mills are having to go into sales with stumpage prices of \$100 and more. The average cost of timber will tend to keep increasing as purchasers get into the late 1973 and 1974 sales. This is the source of the squeeze. Mills which have shut down or had layoffs are generally those which have the least timber under contract. Recent sales prices have indicated a decrease in the pressure on stumpage prices, but we're still talking over \$150 for Douglas-fir.

Harvest of the timber supply on private lands in Washington and Oregon has been relatively stable at about 3 billion board feet per year since 1968. About one-half of private harvest is used by mills who own the land. This portion of the harvest does not figure directly in the Douglas-fir region's log and stumpage prices, but is an indirect factor in that mills can go into the market to supplement timber needs as well as sell surplus timber. The price of the remaining 25 percent of the harvest can be expected to vary as end product markets vary. Less of this timber is sold in multi-year contracts than is the case for the Forest Service and should therefore reflect more the current market conditions. Mills which are fortunate enough to own timber to satisfy most of their needs are in a more flexible position to respond to cycles in end product markets than is the case for mills dependent on public timber.

The direct cost of this timber does not fluctuate according to end product market conditions.

There is a connection between land ownerships in the northwest in terms of timber harvest on each ownership. This is especially true in the case of Forest Service timber purchasers who also harvest timber from their own lands. Depending on the price of their Forest Service timber under contract, these purchasers can vary Forest Service cut according to end product markets and the price of Forest Service timber under contract.

Timber supply has contributed to the current squeeze not so much in terms of a shortage of timber but in terms of price. There seems to be plenty of timber around, but mills can't process it at a profit. This has happened mainly on public lands. Bidders on public timber sales have based their bids not on current market conditions but on what they think the market will be like over the next 2 to 3 years. In other words, they are gambling that the market will someday justify \$250 stumpage.

#### Problems of Demand Adjustments

Roller coaster rides on lumber and plywood prices are not new to the forest products industries. In 1969 stumpage prices reached the then high \$100 level only to come down as fast as they went up. The difference between then and now is that stumpage prices went up and down in response to lumber and plywood prices.

We tend to associate business cycles in the lumber and plywood industries with the housing industry. However, when we look at the northwest, we have to remember that new construction accounts for less than one-half of the domestic consumption of lumber and plywood produced in the area. Materials used in existing housing and industrial uses account for the remaining consumption.

These other uses provide a floor for the northwest forest products industry when the housing industry is up in the air. The housing industry causes a "topping off" of lumber and plywood prices and eventually timber prices in the northwest. Other uses for lumber and plywood tend to be tied to broad aggregate measures of economic activity such as GNP. In recessionary periods such as 1970, the market for timber in nonresidential construction declines. Currently, the lumber and plywood industries are facing a decline in these other uses as well as in new housing.

The demand for housing tends to be tied to three factors: the age distribution of the population, personal income, and the cost and availability of mortgage money. The much talked about WW II baby boom is now 25 to 30 years old, about the right age to start thinking about a house. These new families will find somewhere to live; if not in a single family house, then in a mobile home or apartment. Personal income and availability of mortgage money determine the ability of families to buy a home. These two factors, therefore, ultimately determine the

ability of families who need a house to be able to afford one. As the 2.4 million housing starts in 1972 will testify, people are willing to spend their income for a house. But a lot has happened to personal income since then. Food, clothing, just about everything we buy has gone up 20 percent or more since 1972; gasoline prices doubled overnight.

It's not clear what inflation has done to the ability of people to buy a house because mortgage money became unavailable at the same time that inflation took off. Mortgage money is not available at any price mainly because of something called disintermediation. Savings and loans pay up to 7 percent for savings certificates. In more normal times, this rate of interest would be competitive with other investment routes open to the saver. But high rated bonds and Treasury notes pay more than 7 percent. Disintermediation happens when the saver takes his money out of the savings and loan and puts it somewhere else.

For many reasons, the demand for credit relative to available supplies drove interest rates very high in the midst of the recent recession. The prime rate charged by banks went to about 12 percent in the summer of 1974. Although interest rates declined substantially from 1974 to 1975, interest rates have begun to move up again.

Summarizing to this point, on the timber supply side, timber price is above the break-even point for most mills to make a profit. On the domestic side, lumber and plywood prices are down both because housing starts are down to a rate equal to 1/2 of the 1972 high of 2.4 million units and because the current recession is cutting back on nonhousing uses for wood. Housing starts are down because of inflation and disintermediation.

There are also important roles played by the pulp market and foreign demand for wood products industries. The pulp and paper market turned up at just about the same time that the lumber and plywood markets turned down. Two things happened to bring this about. For most of the late 1960's into 1972, there was overcapacity in the pulp and paper markets. Profits were low and there was really not much incentive for expansion. Pulp and paper prices were caught at this low point by the Phase I-IV price controls. During the period of price controls, worldwide demand grew rapidly, but mills claimed that expansion at the low, frozen price levels was not feasible. Most price controls were off by the end of 1973. Pulp and paper prices jumped up and production increased. In contrast to past expansion periods, pulp and paper expansion this time is taking place mostly at existing sites. This expansion pattern has been dictated by lack of good sites and environmental controls.

The northwest during the 1960's had a surplus of mill residues which pulp mills came to depend on. This available volume attracted the Japanese who needed wood fiber for their expanding pulp industry. Chip exports from the northwest began in 1965 and now amount to about



3 million tons or roughly one-third as much as total wood consumed in the northwest pulp and paper industry.

When the northwest pulp industry began expansion in 1973, the mill residue volume was just not there to support expansion. Chip prices doubled in less than a year from \$25 to \$50 a ton. Fifty dollars a ton is about what it takes to make it pay to bring in roundwood such as utility logs. Most of the increased pulp production in the northwest has been based on roundwood rather than mill residues. Lumber and plywood mill shutdowns have caused even more reliance on roundwood because less mill residue is being produced. An up pulp market and a down lumber and plywood market caused a strange situation where timber purchasers could sell all of the utility and cull logs from a timber sale, but they could not sell sawlogs and peelers or process them.

A growing log export market added a controversial demand on the northwest timber supply. Log exports from the northwest, mostly to Japan, grew from about 300 million board feet in the early 1960's to 2.6 billion board feet in 1973. This market grew to the point where it amounted to about 15 percent of the total northwest timber harvest.

Most log exports come from private and State of Washington lands in western Washington. Log exports from Federal lands are now prohibited after several years of a 350 million board feet limit under the Morse Amendment.

Pressure from log exports has been one factor in log and stumpage prices creeping up in the northwest. After increasing steadily through the 1960's, prices in the log export market in 1973 more than doubled. For example, the price for No. 1 sawmill logs in the export market went from about \$125 in 1972 to \$285 in 1973. In contrast, prices of logs destined for the domestic market increased by about 60 percent, going from \$90 to \$140 per thousand board feet.

On a regional basis, these foreign markets increased the pressure on stumpage and log prices, and in local areas caused log supply problems for mills at prices consistent with the domestic market. But export markets are a peripheral issue in the current economic state of affairs in the northwest forest products industries; a squeeze would still be on even if there were no exports.

## IMPACTS OF INFLATION AND RECESSION ON OREGON TOURISM

Economic activity in those Oregon business sectors referred to collectively as "tourism" has been subjected to rather complex forces recently, some of which could be (and have been) referred to as inflation and recession. In particular "inflation" has been used by some to depict rising gasoline prices, rising food prices, and other price increases when the issue is not really inflation but the energy crisis and other new relative prices.

Many forms of recreation have risen significantly with rising incomes in recent decades. Consequently, one could expect expenditures on recreation to decline during a period of declining per capita incomes. Actually, the response to declining incomes is rather different from the response to rising incomes. People enter contracts requiring money payments regularly over time. For example, buying a house generates commitments to house payments, charges for utilities, maintenance and taxes. People also develop habits and tastes, many of which are hard to break such as buying clothes of a particular quality, piano lessons for our children, and visiting doctors when ill. As people adjust to a particular income level, a large percentage of their incomes become committed to these nondiscretionary purposes. The remaining, discretionary portion of income tends to be saved or spent on nonrecurring goods and services. For many people, one of the first items to be trimmed in discretionary budgets is recreation.

The effect of recession on recreation is not quite that simple for at least two reasons. Increased unemployment is accompanied by greater leisure time. Second, many people feel a need to recreate, perhaps even more in bad economic times. The result is a substitution of cheaper for more expensive recreation activities.

A second force leading to expansion in some recreational activities and decline in others is the changing relative prices of various recreational activities. For example, Seattle "at home" food prices increased almost twice as fast as "away from home" food prices between January, 1972, and November, 1974. While the data are incomplete, it would appear that consumption of food away from home increased more rapidly than food at home during that same time period. Thus while restaurant prices are going up less rapidly than their unit costs, the business for many outlets does appear to be up. Whether firm profits are up or down will depend upon the tradeoff between smaller margins and larger volume of business.

In the summer of 1973, several areas reported occasional or continuing shortages of gasoline. During the fall and winter of 1973-1974, the shortages became quite severe and the price of gasoline in service stations began to climb. By the late spring and summer of 1974, supplies were fairly abundant but prices had climbed steeply. Both the increase in relative

cost of becoming a tourist and uncertainty of gasoline supplies tend to reduce tourism activities. These two forces should also tend to shift recreational trips closer to the home of the tourist. These two effects can counteract each other at some sites. For example, a recreational site near Portland loses business to the extent that all potential visitors are less willing to visit but it gains business from Portland citizens who choose to recreate there rather than going to a more remote site.

Some evidence indicates that the gasoline shortage was most effective in reducing tourism distant from population centers. A 13 percent decline in Oregon state park attendance from 1972-73 to 1973-74 is the sum of a 10 percent decline in attendance in the northern Cascades area and 12 percent decline on the northern Oregon coast (both close to Portland) and declines of 13, 16, and 15 percent on the southern Oregon coast, southern mountainous areas, and eastern Oregon. However, the combination of recession and higher gasoline prices is more evenly distributed as seen in a large decline in the 1974 summer state park attendance in the northern Cascades, little change on the northern Oregon coast, a slump on the southern Oregon coast, and significant recoveries in the southern mountainous areas and eastern Oregon. Care should be used in interpreting this information since some of these changes are probably substitutes between state park attendance and other recreational activity.