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The redistributive effects of inflation, an empirical study

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The redistributive effects of inflation:

An empirical study

by

Harvey Theodore Dill

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of

The Requirements for the Degree of

DOCTOR OF PHILOSOPHY

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CHAPTER I. INTRODUCTION

During the early 1970's a common complaint seemed to emanate from various economic groups and sectors as to how badly various economic participants were being affected by inflation. This sentiment then served as the basis of motivation for the research topic of this study.

The purpose of this research is to determine if there have been any redistributive effects that may have occurred during the inflationary experience of recent years as opposed to any redistributive effects that may have occurred during periods of relative price stability. Through an objective observation then, this study will hopefully seek to more precisely identify particular groups who may have gained or lost during the recent inflation.

The theoretically expected effects of inflation upon income and wealth are taken up in Chapter II. The discussion in this chapter of the received body of economic theory in respect to the effects of inflation thus provides an analytical framework with which to guide this research.

Chapter III will focus upon a review of pertinent literature dealing with the economic effects of inflation. Chapter IV provides an overall look at the 1957-72 interval of both relative price stability and inflation.

The attempt, in this study, for a more disaggregated view of the redistributive effects of inflation begins in Chapter V with an examination of the wage and salary behavior of various occupational groups.

Chapter VI is directed toward an investigation of changes occurring in the distribution of selected sources of income over periods of both relative price stability and inflation. Chapter VII is directed to an examination of the effects of inflation upon wealth. Finally, Chapter VIII contains a summary of the major findings of this study.

CHAPTER II. ECONOMIC THEORY ON THE REDISTRIBUTIVE EFFECTS OF INFLATION

To provide an analytical framework to guide this research, a discussion of the theoretical redistribution effects of inflation upon income and wealth is required.

Before moving to this discussion, however, it is necessary to clarify the distinctions between real and monetary gains or losses and unanticipated and anticipated inflation.

Real and Monetary Gains

The ability to acquire goods and services or real output is a function of the quantity of nominal resources expressed in terms of some monetary unit that individuals have at their disposal. These nominal resources consist of the flow of money payments over time (income) and the money value of the stock of assets minus liabilities (wealth). Any change in the amount of these money balances that an individual can command is defined as a change in monetary or nominal terms. The real value of an amount of money refers to the quantity of goods and services that may be purchased with that amount of money. A change in the per unit real value of money balances occurs when there is a change in the quantity of goods and services that may be purchased with a given amount of money. An increase in the general level of prices may then result in an individual experiencing both real and monetary gains or losses. A distinction must be made between these two types of gains or losses because an individual, over a period of time, may experience a gain or loss in nominal or money terms but yet experience no gain or loss in

real terms. For example, a rise in money balances of p per cent (a p per cent nominal gain) coupled with a p per cent rise in prices of goods and services results in no gain at all in real terms. It is in real terms that the gains or losses, through the redistributive effects of inflation, should be measured.

Anticipated and Unanticipated Inflation

Inflations may be classified, following Alchian and Kessel (1), as being either unanticipated or anticipated. This classification is necessary because economic theory would suggest different effects, as a result of inflation, depending upon the classification of the inflation. Unanticipated inflation is the result of a rate of price rise greater than that which had been anticipated. An anticipated inflation is one such that individuals correctly foresee the inflation and accordingly attempt to adapt their economic plans. If an inflation is fully anticipated in so far as all individuals being able to correctly predict the extent of inflation; and, if these individuals were able to modify their economic behavior to adjust accordingly, then inflation would not have any redistributive effects. However, to the extent that people are not perfectly omniscient and may not have the ability to adjust their economic behavior, differential impacts will occur. To the extent that the inflation is unanticipated, the theoretical distributive effects will occur. To the degree that individuals anticipate the inflation, these persons may be able to mitigate their losses.

Effects of Inflation on Income Distribution

In discussing the redistributive effects of inflation on the functional income components of wages, profits, interest, and rents, it is most expedient to jointly discuss wages and profits. Many economists have held that, during inflation, wages lag prices such that the real wage falls and thus extraordinary profits accrue to the business community. A distinction must be made here between real and monetary forces as a decline in real wages during inflation may not be exclusively due to the monetary phenomena of inflation. Wages can be affected in real terms by such things as: improvements in the skills of the labor force, a per capita change in the stock of capital that labor has to work with, improvements in technology, and changes in society's demands for goods and services. Only that portion of any observed wage lag that cannot be accounted for by a change in these real variables could then be attributed to inflation. Wage lag proponents utilize that part of the change in real wages that is not accounted for by real variables as the basis for their hypotheses. One hypothesized wage lag is predicated upon imperfections or flaws in the labor market such that this market does not function properly. Wages are believed to be "stickier" than other prices and thus the wage rate falls below the marginal product of the worker during inflation. This "stickiness" of wages is observed by Hamilton (14) and is cited as the "natural" inertia of wages and thus the primary factor in wages not keeping pace with rising prices during the second half of the Eighteenth Century.

Mitchell (17) maintained that a flaw exists in the labor market due to the laborer's imperfect knowledge in terms of employment opportunities in this market. Also, due to custom in terms of a concept of a "fair" or "just" wage, the bargaining power of the employer is increased in negotiation. In summary, the position of some economists, who cite imperfections in labor markets, is that wages lag prices in inflation because of lack of foresight, custom, and weak bargaining power.

Others, however, maintain that real wages may decline during inflation in the absence of such flaws or imperfections. One such hypothesis is actually a special case of a debtor-creditor wealth redistribution. This is the Bresciani-Turroni (8) explanation of a fall in real wages due to inflation. The decline in real wages occurs because wages are paid sometime after they are earned. Although the wage rate may be equal to the marginal product of the worker at the time the wage was earned, a rise in the price level in the interim would allow employers to meet the wage bill with a depreciated currency. This would constitute a transfer of wealth to employers from employees. Although the magnitude of such a transfer would seem modest, the fact that this potential transfer had been detected by workers is evidenced in cases of hyperinflations where workers have received wage payments as often as two times each day.

Another hypothesis that postulates a fall in real wages during inflation and yet is consistent with a properly functioning labor market is that of Fisher (11). He viewed the employee-employer relationship as contractual. At the time of contract negotiations and agreement

wages could be equal to the marginal product of labor. However, rising prices would then reduce real wages and workers would suffer a loss between contract negotiation periods. Perhaps the more important implications to remember, in terms of this hypothesis, are that differential wage movements may exist between contract and non-contract employment and that the length of the contract period may serve to increase the differentials. But, if inflation is accurately predicted or anticipated, the labor contract might reflect this anticipation.

The conclusion of these various theories is that wages tend to lag behind prices and thus real wages fall while real profits rise during inflation. This conclusion has been challenged on numerous grounds. Alchian and Kessel (1) show that the 30 per cent decline in real wages in Spain during the inflation of 1520-1600 can actually be turned into a real gain of 4 per cent merely by changing the choice of end years to 1522-1602. They also argue that the wage lag proponents fail to take into account the real forces acting upon the wage rates. For example, they cite Hamilton's findings of a decline in real wages in urban areas in Eighteenth Century Spain and the fact that he failed to realize that in this interval the population doubled accompanied by a considerable migration to urban areas. Hence, the downward pressure on wage rates due to this increased labor supply can not be ignored. Essentially, Kessel and Alchian criticize the wage lag findings such as those of Hamilton (14) and Mitchell (17) on the grounds that these theorists fail to acknowledge the real forces that underlie and account for the perceived lag of wages.

To test the wage lag hypothesis in a more recent period, Alchian and Kessel (1) compared the wage-to-equity ratio of 113 firms with the percentage change in the market value of the stock of these firms. If the wage lag hypothesis were valid, one would expect that those firms with the higher wage bills would realize an increase in profits relative to those firms with smaller wage bills. The results of the test over the 1940-52 period revealed a negative correlation thus further damaging the wage lag doctrine.

The purpose of this research, however, is not to make an additional test of the wage lag phenomena. And, the preceding discussion of the wage lag controversy is not intended to deny the existence of the distributional impact of inflation. It would seem more interesting to attempt to move from such an aggregative analysis in effort to discover gains or losses by selected groups within this functional income component.

The national income shares of interest and rents should be expected to decline during inflation. These shares are expected to lag both wages and profits because the rate of these payments are often contractually fixed for long periods of time. A rise in the level of prices reduces the real value of these income streams and thus transfers real purchasing power from creditors and landlords to debtors and renters. If the inflation were correctly anticipated then the redistributive effects would be mitigated due to adjustment by renegotiation. Nevertheless, there would still be a burden on those who hold contracts that have not yet expired.

In the case of interest, a creditor must receive a money rate of interest sufficiently high so as to not suffer a loss in terms of the real value of this income flow. Fisher (12) specified a money rate of interest that may be expressed as:

$$R = (1+r)(1+p)-1, \text{ where}$$

R = money rate of interest

r = real rate of interest

p = annual percentage rate of change in price.

If prices rose at rate p per year, it would be necessary for a creditor making a one year loan to receive a money rate of interest equal to $p + r + pr$ in order to get back r rate of return in purchasing power. If lenders could correctly anticipate the inflation and thus adjust contract terms on the basis of a desired real rate of return instead of money value a redistribution would not occur. Fisher (11), however, felt that interest rates were slow to change during inflation due to law and custom and any adjustment that might be forthcoming was biased downward due to lack of knowledge of future prices.

Rental incomes, fixed in money terms, should also be expected to change slowly due to law, custom, and lack of foresight. Their adjustment is retarded to the extent of rent controls and long-term leases in effect and the tendency of landlords to postpone rent increases until tenants turnover. It must be remembered that the discussion here is in respect to changes in the real value of the flow of interest and rent receipts. The distribution effects arising from changes in the real value of the principal upon which these income receipts are generated will be treated in the section on wealth.

A source of income not included in the functional shares previously discussed is that of transfer payments. Transfer payments represent income receipts of a period that are not currently earned in that period. Examples of transfer payments include such things as retirement funds through Social Security, unemployment compensation, and various public assistance programs. Many of these types of transfers are fixed in that they are periodic payments in specified dollar amounts. Recipients of these transfers should then be expected to lose, on income account, during inflation to the extent that legislative action, changing the amount of payment, has failed to provide sufficiently higher real benefits.

Effects of Inflation on the Distribution of Wealth

The effect of inflation on wealth is a redistribution of net worth defined as: $\text{Net Worth} = \text{Assets} - \text{Liabilities}$. Broadly classified, an individual's assets and liabilities are represented by claims in both real and money terms.

To an individual wealthowner, monetary or financial assets may be held basically in two forms. A portion may be held as money balances (cash) that yield no nominal or money rate of return. These money balances are composed of demand deposits in commercial banks and currency on hand.

The remaining portion of monetary assets held are those that yield or are expected to yield a nominal rate of return. Assets such as these may be of three different types. Certain financial assets are fixed in that they represent a claim for a fixed sum of money payable on demand

(or nearly so). Examples of such assets are savings deposits at financial institutions.

A second set of financial assets represent a claim for a fixed amount of money only at a maturity date specified in the future. These assets are typified by obligations such as bonded debt, insurance policies, and certain private retirement plans.

The third type of financial asset is that represented by ownership of corporate stock. This asset is unique in that it itself represents a claim to both real and monetary assets. This asset may yield a nominal rate of return and is flexible in price with no maturity date.

An individual's monetary liabilities are obligations to repay fixed amounts of debt with money balances.

The existence of these fixed priced assets and liabilities allows a redistribution of wealth to occur during a period of rising prices.

To the holder of non-interest bearing money balances, the loss in real purchasing power is equal to $\frac{p}{1+p}$ where p is the percentage rate of change in the level of prices over a particular time period. It is in this fashion that inflation is viewed as a tax on holding money as the real rate of return on holding money as wealth would be $\frac{-p}{1+p}$ as a result of an increase in the level of prices over that particular time period.

The fixed price financial claims that bear a nominal rate of return are subject to redistributive effects in terms of both income flow and net worth. The real value of the income flow from such assets would be reduced by $\frac{p}{1+p}$. In addition, the real value of the principal is

reduced in the amount $P(\frac{p}{1+p})$, where P is the fixed dollar value of the claim.

Thus, inflation results in a transfer of real purchasing power from creditors to debtors who gain because the real value of the debtors' obligations decline.

If the inflation were correctly anticipated, new debt contracts could carry a money rate of interest sufficiently high to compensate for the increase in the level of prices. Nevertheless, the debtor-creditor redistribution, as a result of holding financial claims, would still occur in respect to holdings of money balances and old contracts still in existence.

Individual wealth can also be held in the form of real assets which are claims to physical goods such as consumer durables, houses, other real estate, inventories, and plant and equipment. Corporate stocks are included in this category to the extent that they represent claims to physical goods.

These assets are not claims to fixed amounts of money and thus the prices may move with the general level of prices. The ownership of real assets should then tend to reduce the impact of inflation on net worth. Holders of these price sensitive real assets could gain from inflation in money terms if the price of these real assets increased more than the level of prices in general and, if these price sensitive assets rose by the same amount as the general level of prices, there would be no loss in value in real terms.

If the assumption is made that price sensitive real assets rise in nominal value in proportion to the general price level, the change in the real value of an individual's net worth depends on the individual's net monetary debtor or creditor status. As an example of this change in the real value of net worth, assume that an individual has the following balance sheet before inflation.

Assets		Liabilities and Net Worth	
Cash	\$ 1,000	Mortgage on home	\$20,000
Home	<u>20,000</u>	Net worth	<u>1,000</u>
	\$21,000		\$21,000

This individual is a net monetary debtor in the amount of: monetary assets (\$1,000) - monetary liabilities (\$20,000) = net monetary debt (\$19,000).

If the level of prices rises by 50 per cent and the value of the home rises proportionately, the balance sheet after inflation would appear as follows:

Assets		Liabilities and Net Worth	
Cash	\$ 1,000	Mortgage on home	\$20,000
Home	<u>\$30,000</u>	Net worth	<u>11,000</u>
	\$31,000		\$31,000

The individual has a nominal gain in net worth of \$11,000 - \$1,000 = \$10,000. The real value of this change in net worth is equal to approximately \$6,333 in terms of the price level before the rise in the price level.

This example serves to illustrate that the gain in real net worth does not arise merely because this individual held real assets. The gain occurred because in addition to holding real assets, this individual was a net monetary debtor. Had this same wealth been held entirely in the form of monetary assets instead, a real loss would have occurred because the individual would have been a net monetary creditor. Thus, ownership of real assets, whose prices rise proportionately with the general price level, serves to provide leverage in the individual's favor.

When prices of real claims do not rise in proportion to the general level of prices a change in wealth distribution may also occur. If the price of a particular real asset rises more than commodity prices in general, the holder of the asset has experienced a gain in excess of that occurring as a result of being a net monetary debtor. As the prices of all real assets are not equally sensitive, different holders of different combinations of these assets will experience gains and losses accordingly.

The redistributive effects of inflation on wealth then occur in two major ways. The first is the debtor-creditor redistribution due to holding fixed price monetary claims. The second is due to the ownership of variable price real claims. Because the prices of these real claims are not equally flexible, purchasing power is redistributed to those whose real assets rise more rapidly in price.

CHAPTER III. SURVEY OF PREVIOUS EMPIRICAL INVESTIGATIONS

In surveying previous empirical research, three studies seem to fairly represent any extensive treatment of the redistributive effects of inflation. These are the works of Ando and Bach (6), Hollister and Palmer (15) and Budd and Seiders (9).

The Bach and Ando study focused on the period of 1939-52. With respect to income redistribution, they examined aggregate data in terms of both personal and national income. The trend of the functional income components was analyzed by comparing the changes in percentage shares of these income components. This approach was used to examine the entire period and also a three period breakdown into the intervals 1939-46, 1946-49, and 1949-52 in which bursts of inflation occurred.

For the overall period they failed to find any of the inflationary effects that would be expected on income account e.g., rising profits and lagging wages, rents, and interest.

The interval breakdown analysis, however, did show mixed results depending upon the levels of output and employment in the different periods. The 1939-46 period was one of rising levels of output and employment. This period was also characterized by government wage and price controls. During this time, labor's share was somewhat stable, profit's share (farm and non-farm) had risen higher with rents and interest lagging slightly.

During the two post-war inflations the economy was characterized by relatively full employment with an absence of government wage and

price controls. Here, changes in factor shares revealed the labor and interest shares gaining with rents and unincorporated business income (farm and non-farm) on the decline. Although the share of corporate profits rose, Bach and Ando noted that the figures here were subject to overstatement in that depreciation charges, used in calculating net income, are based on historical cost and not replacement cost. Most expenses and the revenues they are charged against in calculating net income are expressed in terms of nominal or current dollars. Thus, revenues and most expenses reflect the changes in the value of a dollar over a period in which the general level of prices has risen. Depreciation charges on a depreciable asset are charged against the revenues of the accounting periods over which the depreciable asset aids in the production of these revenues. However, because the amount of depreciation charged to each accounting period is based upon the historical cost of the depreciable asset, these charges are not expressed in nominal terms and thus are not affected by changes in the value of the dollar. It must be recognized that, due to this phenomena, profits will be consistently overstated in the national income accounts for periods over which the general level of prices is rising.

This study concluded that on income account little evidence exists to support the commonly held views on the redistributational effects of inflation, that either the pressures of inflation on income distribution are weak or, if they were strong, that they were sufficiently anticipated such that distributional effects are mitigated.

To analyze the impact of inflation on the wealth of households, Ando and Bach (6) relied on the data provided by Goldsmith (13). Using comparisons of net monetary positions (monetary assets - monetary liabilities), it was found that households were consistent net creditors in the 1939-49 interval. The government sector was a consistent net debtor over this same period.

Bach and Ando estimated that the value of creditors claims eroded by inflation between 1939-52 was about \$500 billion in 1952 prices. This estimate was provided by applying the Consumer Price Index to the value of monetary assets as of 1939 and additional monetary assets accumulated in following years. This transfer of purchasing power was primarily from households to the government sector.

Although households lose purchasing power to the government sector, a consistent debtor, households as taxpayers are also indirectly debtors. Taxpayers then give up less real purchasing power in meeting interest and principal payments on the government debt. Bach and Ando concluded that it would be the upper income groups who gain most heavily here as these groups, as of 1954, absorbed the greatest percentage of the total tax burden.

For a more detailed investigation of debtor status, Bach and Ando examined debts as a percentage of total assets (fixed and variable priced) by households as of early 1950. The debtor status was analyzed in terms of income level, net worth level, occupation and age of head of household.

It was found that households were net creditors at all income levels. The highest income group (\$7,500 and above) was the heaviest net creditor with debts approximating 5 per cent of total assets. All other income groups up to \$7,500 were about equal with debts averaging 13 per cent of total assets. This information would suggest that the highest income group is the greatest potential loser on net worth account.

Classified according to net worth levels, the lowest net worth groups (from negative net worth up to \$9,999) were net debtors. All net worth groups from \$10,000 upward were substantial net creditors. This data suggests that the wealthier groups are more susceptible to inflation on net worth account.

Net worth classified by occupation revealed retired persons as being by far the most substantial net creditors with a large position in monetary assets thus making them extremely vulnerable to inflation on net worth account. The fact that the retired were the greatest potential losers was further supported by the fact that, when classified by age of head of household, those age 55 and over were the largest net creditors. Debts as a percentage of total assets was 4 per cent for this group. In contrast, younger households (age 18-34) had a debt to total asset ratio averaging 23.5 per cent with a corresponding figure of 12 per cent for the 35-54 age group.

A very interesting fact, indicated in the Ando and Bach study (6), serves to throw light on the question: Do individuals make any effort to rearrange their balance sheets over time in order to protect

themselves from inflation? When Ando and Bach (6) examined the early 1950 net worth data to somewhat equivalent 1953 data, they found that the debtor/creditor positions of the various household groups had remained very stable over the three year interval. As a further test, they compared the ratios of debt to total assets as of year end in 1939, 1945, and 1949. The ratios of monetary assets to total assets were 30, 36, and 33 per cent respectively for the three year end periods. Debts as a percentage of total assets were 11, 7, and 9 per cent respectively. These figures suggest that households did little to adjust their portfolios during a period that exhibited a continual increase in the level of prices. Looking at the debt to total asset ratios, it seems that households actually operated in reverse during this period in that they reduced their debt position during a time of rising price levels.

As a test of the impact of inflation on income account, the Ando and Bach study represents a highly aggregative view as the investigation is restricted to broad functional income categories. Perhaps a more disaggregated analysis, focusing on as many different classifications of individuals as the data will permit, may reveal redistributions within the more broadly defined functional income groups. It is along these lines that this particular research is directed.

In regard to the effect of inflation on wealth, given the lack of extensive data in this area, the Ando and Bach study does identify particular groups vulnerable to inflation. It remains now to test the limited net worth data available for later periods in order to see if the vulnerability of various groups has changed and also to see if

households in general have altered their portfolios in any way during a period of relative price stability as opposed to periods of inflation.

The Hollister and Palmer study (15) focused on the effects of inflation on the poor as defined by the Social Security Administration poverty lines. They examined the impact of inflation on the poor in three areas: expenditure patterns, sources of income, and types of assets held by the poor.

A novel feature of the Hollister and Palmer study is the construction of a Poor Price Index (PPI) to analyze the expenditure effects of inflation on the poor. The spending patterns of this group are likely to be quite different than those of the "typical family" characterized in the Consumer Price Index (CPI) of the Bureau of Labor Statistics. As a result of different spending habits, changes in various prices will have differential impacts on the cost of living for various groups. After examining expenditure patterns of the poor, the authors devise a series of expenditure weights more representative of the poor than those weights assigned in the CPI.

In comparing their PPI to the CPI over the 1953-67 period, Hollister and Palmer conclude that the poor have not been adversely affected on expenditure account during the post-war inflation. In certain periods, in fact, the prices paid by the poor have risen less rapidly than those of other income groups.

To investigate the income effects of inflation, Hollister and Palmer first examined the various sources of income of the poor based on 1960 data. Perhaps the most surprising finding was that only about 10 per

cent of the poor over age 65 received money from pensions and other fixed value income sources. Furthermore, less than 10 per cent of the mean income of these aged persons was from this source. The most important source of income for aged poor was through various forms of public assistance payments as 95 per cent of this group reported income from this source. To the non-aged poor, these same public assistance payments were the second most important means of income following wages and salaries.

As a second step in their income analysis, Hollister and Palmer ran a series of regressions to test for relationships between poverty and changes in the Consumer Price Index. The dependent variable in this test was the percentage of the population below the poverty lines, in constant dollars, according to the Social Security Administration standard. This incidence of poverty measure was regressed on median family income, the unemployment rate, and the percentage change in the CPI over the interval 1947-66. The results reported disclosed that the price-index term had a significant negative coefficient. This finding suggests that the poor are not adversely affected by inflation--that the incidence of poverty falls as the price level rises. Hollister and Palmer concluded that this inflationary benefit arises because tighter labor markets associated with inflationary periods have enabled the poor to gain through increased labor participation rates and a narrowing of wage differentials in favor of the poor.

The final part of the Hollister and Palmer analysis on income account investigated the behavior of transfer payments. They compare

various forms of public assistance payments expressed in terms of the average monthly benefit in constant 1966 dollars. Over the 1947-66 interval the trend was an increase in the real value of these benefits. They concluded that, in general, these transfer payments have more than kept up with the general level of prices.

On net worth account, Hollister and Palmer (15) examine the asset distribution of the poor as of 1961, again defined along Social Security Administration poverty lines. They used the flow of income generated by the assets vulnerable to inflation (fixed value assets - fixed value liabilities) as a measure of the wealth effects of a rising price level. Allowing the poor a hypothetical 10 per cent rate of return on these assets, it was revealed that the amount of annual income from these assets constituted only about 3 per cent of the annual income of families with non-aged heads and about 5 per cent of annual income for families with aged heads (over 65 years of age). These percentages represent only that amount of total family income vulnerable to inflation. Multiplying these percentages by a hypothesized 5 per cent increase in the price level, Hollister and Palmer estimated that the negative wealth effects generated by such an inflation would represent about one-sixth of one per cent and one-fourth of one per cent of the respective annual incomes of non-aged and aged groups. Based on this analysis, it would appear that the poor are not drastically hurt by inflation on net worth account as inflation affects only a small portion of their income through the wealth effect.

Budd and Seiders (9) developed econometric models of income and net worth to test the distributional impact of inflation on consumer units. The consumer units tested by the models were those in the Survey of Financial Characteristics of Consumers commissioned by the Federal Reserve Board and represented incomes for 1962 and net worth data as of the end of 1962.

In estimating the impact of inflation on income and net worth components for the consumer units in the models, Budd and Seiders devised adjustment coefficients that attempt to measure the sensitivity to inflation of the various income and net worth items in order to express these items in real terms. The adjustment coefficient, for each income and net worth type, was defined as the proportionate change in the money value of that particular item with respect to a specified amount of change in the rate of inflation.

After each of these adjustment coefficients were empirically estimated, they were then applied to each income and net worth component, for individual consumer units in the sample, in two simulated inflations and stratified in terms of both income and net worth in order to estimate the effects of inflation on the size distribution of income and wealth.

The results of the two simulated inflation rates in the net worth model indicated a modest redistribution of wealth toward the lower 80 per cent from the upper 20 per cent of the groups classified by net worth. The largest gainers were those consumer units in the range of negative net worth up to a mean net worth of \$2,000. Groups in the mean net worth range of \$2,000 to \$17,000 experienced a slight benefit.

The mean net worth groups in the \$17,000 to \$214,000 range were modest losers. The loss of the wealthiest group, in particular, was slightly lower than the other losing groups. The smaller relative net loss for the highest net worth group was attributed by Budd and Seiders to the fact that this group held more assets in common stock whereas the groups just below them held relatively more assets in the form of real estate, which had a lower adjustment coefficient in their model than that for stocks.

Budd and Seiders tested the effects of a simulated inflation on income by using three different concepts of income in their income models. Income concept 1 used money income as defined in the Survey of Financial Characteristics to which was added retained earnings of closely held corporations as imputed income to the owners of these firms. The results using this concept revealed that all groups, ranked by mean income, lost in terms of the change in the real value of income. In respect to changes in income distribution, both the 2 and 5 per cent inflations produced very small redistributions. The gainers in this redistribution were the middle income groups, those with mean incomes in the \$4,600 to \$13,000 range. The lowest 40 per cent and the highest 4 per cent of the income groups experienced a modest loss in their respective changes in income shares.

The second income concept tested added to income concept 1 the retained earnings of publicly-held corporations, imputed to the share-owners. In this test the lowest 40 per cent of the income groups (\$500 to \$4,700 mean income) suffered a slightly smaller loss in income shares

than that of income concept 1. Again the upper 4 per cent income group (\$28,533 mean income) experienced a loss in income shares slightly higher than that of income concept 1.

The third income concept added corporate profit taxes, imputed to shareowners, to income concept 2. On this pre-tax basis, the highest 4 per cent income group then realized the largest gain in percentage change in income share which was, however, a modest .224 per cent. Inequality of distribution was further increased in this case as now the lowest 50 per cent (\$500 to \$5,800 mean income) suffered modest losses in changes in their share of income.

Because their net worth model indicated reduced inequality in wealth distribution through inflation while the income models suggested increased inequality in distribution on income account, Budd and Seiders attempted to integrate the two types of models into their income concept 4. This concept was arrived at by adding the real capital gains and losses due to the simulated inflation, as estimated in the net worth model, to income concept 2. The results of this final test indicated a slight redistribution occurring in favor of the middle income groups (\$5,800 to \$28,000 mean income). The lowest 50 per cent (\$500 to \$800 mean income) and the top 4 per cent (\$28,000 mean income) of the income groups experienced reductions in income shares. The authors reported a 2.5 per cent reduction in the shares of the bottom two quintiles and a 1.8 per cent drop in the share of the top 3 per cent in the distribution. They attributed these results to the fact that both lower and top income

groups had less net indebtedness than those in the middle toward whom the redistribution tends.

In summary, the authors concluded that the redistributive effects of inflation on real income or net worth, although present, were modest under the rates of inflation simulated in their models.

In terms of the impact of inflation on the poor, Budd and Seiders (9) results seem to contradict those of Hollister and Palmer (15) who maintained that this group gains from inflation. This divergence is primarily the result of two items. First, many forms of transfer payments, through various public assistance programs, have increased substantially since the 1962 income period study by Budd and Seiders. Although they attempted to capture some of these increases in the adjustment coefficients for Social Security benefits, civilian government pensions, and military pensions, they applied a value of zero to the coefficients for other items of transfer income such as Aid to Dependent Children and unemployment compensation. These later two transfer items have increased considerably in real value in recent years and are reflected in the Hollister and Palmer study.

Secondly, the Budd and Seiders models held the rate of unemployment and real output constant. However, if inflation is accompanied by a tightening of labor markets the benefits to the poor, as a result of potentially higher labor participation rates, remain uncaptured in a model of this type. Related to this is the fact that the model utilizes a single wage adjustment coefficient for all wealth and income classes. This limitation, cited by both Metcalf (16) and Palmer (18), precludes

an analysis of the impact of inflation within groups classified along these income and net worth lines by implicitly assuming a proportional adjustment in the wage income of all individuals.

CHAPTER IV. AN OVERALL LOOK AT THE INTERVAL 1957-72

Relative Price Stability Versus Inflation

Perhaps the simplest definition of an inflationary situation is that characterized by a rise in various price indices over a period of time. Using such a definition for the purposes of this research, however, would result in classifying the entire interval under study as being one of an inflationary situation. This fact is disclosed in Figure 1 in which the Consumer Price Index (CPI), Wholesale Price Index (WPI), and the Gross National Product Price Index (GNPI) all exhibit a continual increase over the period 1957-72.

In view of this sustained increase in the level of prices, it is necessary to make an arbitrary distinction between a period of relative price stability as opposed to that of an inflationary situation. Looking at the trend of various price indices over time, this distinction depends upon the rate at which the price level is rising and the duration of this increase in prices. To facilitate such a distinction, Figure 2 displays the rates of percentage change annually in the CPI, WPI, and GNP index.

If an inflationary situation is defined as a price level increase in excess of 3 per cent annually, such conditions hold for the periods: 1966-72 using the GNP index, 1967-72 using the CPI, and 1965-66 and 1968-72 using the WPI. By the same token, if any annual price change less than 3 per cent serves to define a period of relative price stability, the interval 1957-65 qualifies as such by all three indices.

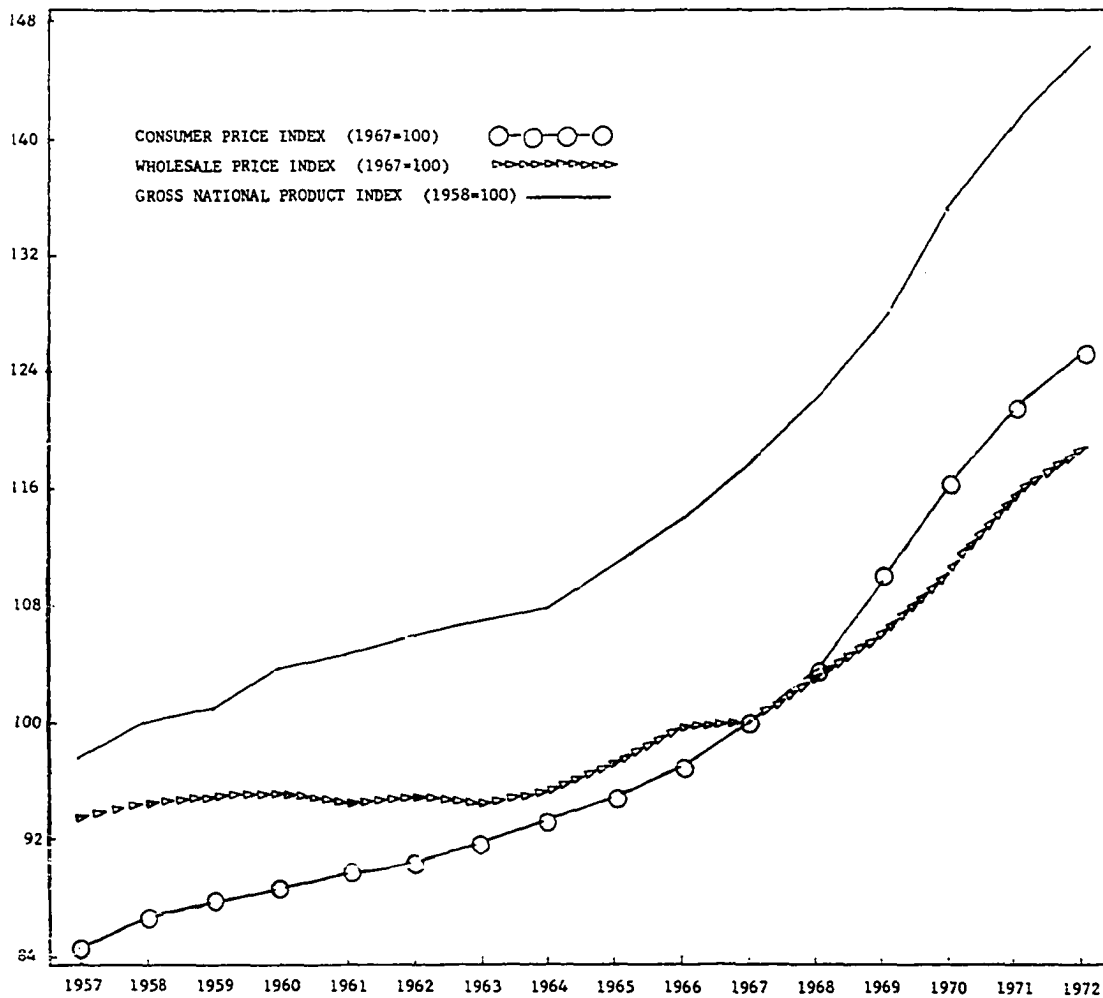


Figure 4-1. Behavior of the Consumer Price Index, Wholesale Price Index, and Gross National Product Index, 1957-72 (25)

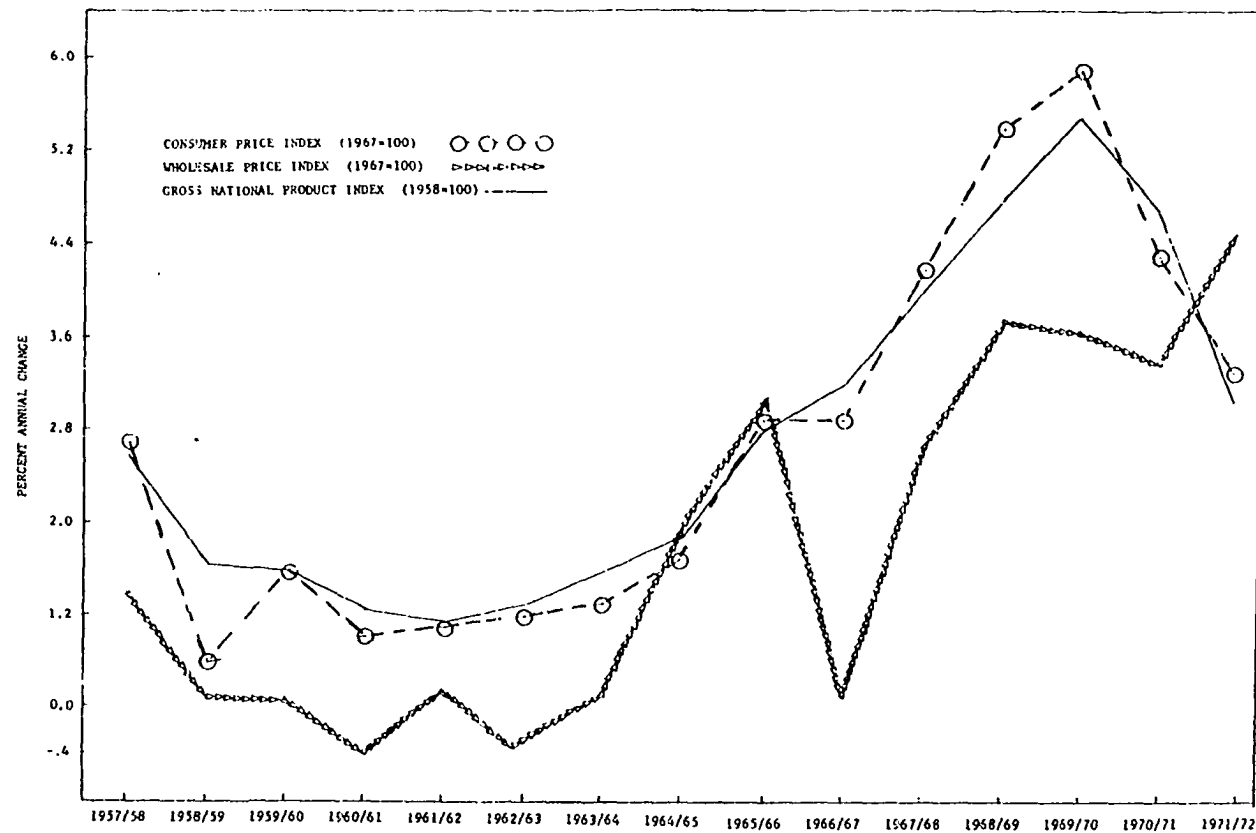


Figure 4-2. Annual rates of percent change in the Consumer Price Index, Wholesale Price Index, and the Gross National Product Index, 1957-72 (25)

As a more rigorous test, annual price increases in excess of only 2 per cent may be used to make the distinction between inflation and relative price stability. At this rate, an inflationary situation would hold for the periods: 1957-58 and 1965-72 for both the CPI and GNP index. The 1956-57, 1964-65 and 1967-72 intervals qualify using the WPI. At the 2 per cent level, relative price stability prevailed during 1958-65 by all three price level measures.

For the purposes of this research then, the period 1958-65 will be defined as one of relatively stable prices and that of 1965-72 as an inflationary situation.

However, to avoid any mistaken analysis due to a particular choice of end years, additional tests will be made using the periods 1957-66 and 1966-72 as respective intervals of stability and inflation in examining the behavior of functional income shares. These two additional intervals are very similar to their counterparts previously defined. For a period of relative price stability the 1957-66 period evidences compound annual rates of increase of 1.74 per cent for the GNP index, 1.58 per cent for the CPI, and .75 per cent for the WPI. For the 1958-65 interval, these compound annual rates of increase were 1.25 per cent for the CPI, 1.48 per cent for the GNP index and .29 per cent for the WPI. For the inflationary situation, the 1966-72 interval displays annual compound rates of increase of 4.20 per cent for the GNP index, 4.32 per cent for the CPI, and 2.99 per cent for the WPI. For the 1965-72 period, these rates of increase were 4.00 per cent for the GNP index, 4.11 per cent for the CPI, and 3.03 per cent for the WPI.

The definition of a period of relative price stability as opposed to that of an inflationary situation then yields intervals over which comparisons may be made of the experience of diverse groups in our economy and, hopefully, some identification can be made of the relative gainers and losers over the different periods of price level experience.

Behavior of Functional Income Shares

Examination of the national income shares of wages and salaries, unincorporated non-farm business income, farm proprietor income, rental income, corporate profits and net interest income over the 1957-72 interval shows mixed results in terms of the direction of change in each component's share, as is exhibited in Figure 3. The trend in direction of change for the factor shares has been generally consistent with the exception of wages and salaries and corporate profits. As for these two components, labor's share in national income fell six times and rose nine times over the 15 year interval while corporate profit's share fell eight times and increased seven times over this same period.

If the entire period is considered inflationary in the sense that the level of prices was rising throughout this time, then the commonly expected consequences of inflation do not appear to hold. The labor and interest shares which should be expected to fall instead show gains at the expense of the other factor shares. As Table 4-1 shows, the labor and interest share increased by 5.5 and 2.9 percentage points, respectively. The shares that should be expected to gain--unincorporated enterprises, farm, and corporate profits--did in fact fall during this interval. The rent share declined as expected.

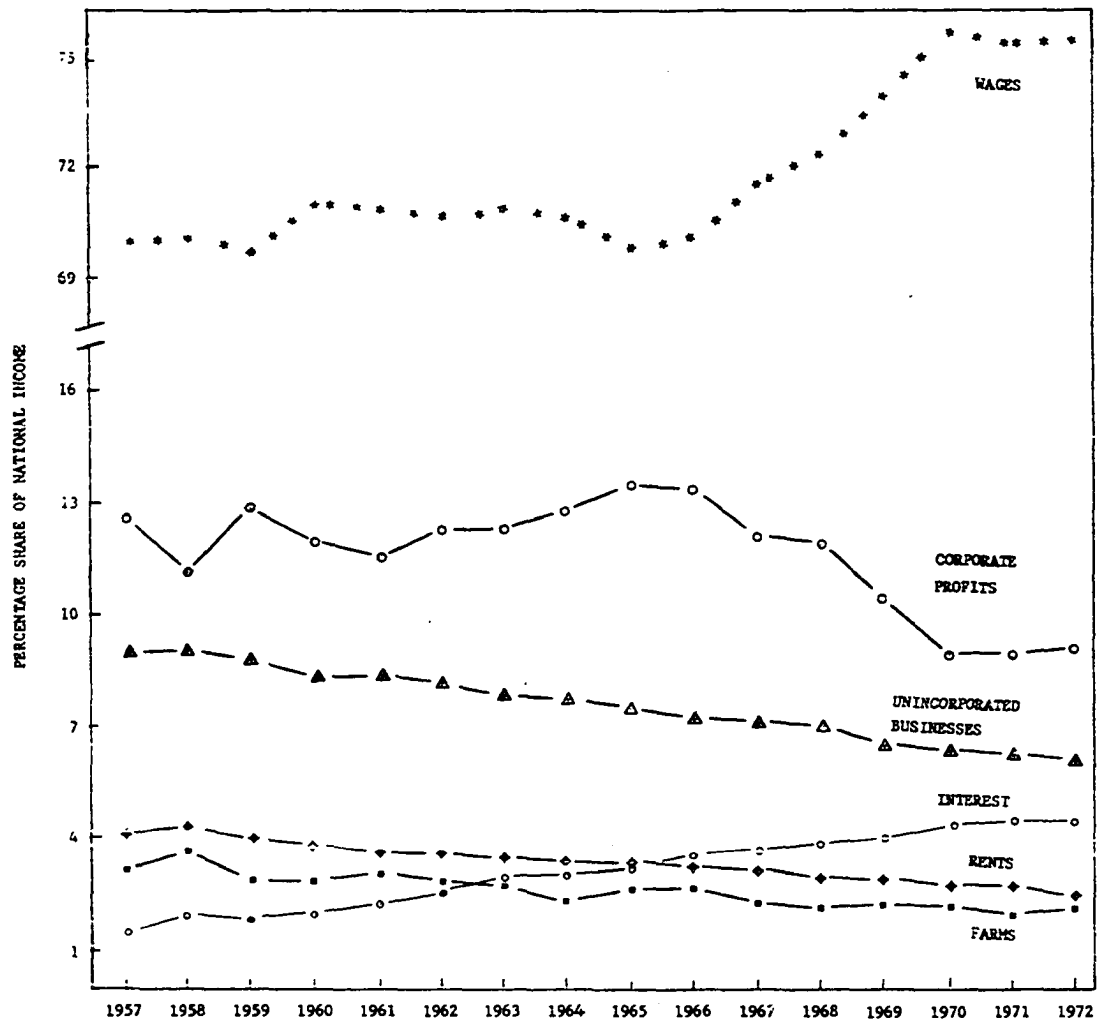


Figure 4-3. Percentage shares of national income, 1957-72 (25)

Table 4-1. Changes in percent share of national income for selected periods:^a 1957-72

	1957-72	1957-66	1958-65	1966-72	1965-72	1963-66	1967-69	1969-71
Wages and salaries	+5.5	+ .3	- .3	+5.2	+5.6	- .6	+2.4	+1.4
Unincorporated enterprises	-3.0	-1.7	-1.5	-1.3	-1.6	- .6	- .7	- .4
Farm	-1.0	- .5	-1.0	- .5	- .5	- .1	- .1	- .2
Rents	-1.3	- .8	- .8	- .5	- .6	- .3	- .3	- .1
Corporate profits	-3.1	+ .8	+2.2	-3.9	-4.1	+1.0	-1.6	-1.2
Net interest	+2.9	+1.9	+1.4	+1.0	+1.2	+ .6	+ .3	+ .5

^aSource: U.S. Department of Commerce (22-24).

Table 4-2. Annual compound rates of change in national income shares for selected periods:^a 1957-72

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	1957-72	1957-66	1958-65	1966-72	1965-72	1963-66	1967-69	1969-71
Wages and salaries	.51%	.12%	- .15%	1.20%	1.06%	- .38%	1.69%	.94%
Unincorporated enterprises	-2.75	-2.27	-2.62	-3.31	-3.30	-2.53	-4.60	-3.40
Farm	-2.61	-1.91	-4.60	-3.52	-3.21	-1.50	-1.79	-3.74
Rents	-2.61	-2.50	-3.09	-2.66	-2.94	-3.19	-4.43	-1.54
Corporate profits	-1.88	.72	2.75	-5.64	-5.06	2.88	-7.00	-6.05
Net interest	7.36	9.53	8.23	4.22	4.63	6.45	3.38	6.33

^aSource: U.S. Department of Commerce (22-24).

Over the 1958-65 interval of relatively stable prices, the shares of rents, farms, and unincorporated enterprises declined much more than that of labor. The erosion of these shares over the interval was exclusively in favor of the corporate profit and interest shares which posted respective increases of 2.2 and 1.4 percentage points. The magnitude of these changes may perhaps be more readily assessed by noting the respective annual compound rates of change presented in Table 4-2.

In the inflationary situation of the 1965-72 interval, the results are again contrary to what would be expected. The labor share increased 5.6 percentage points suggesting the invalidity of the wage lag thesis at this aggregative level. The business and farm shares fell when they would commonly be expected to rise. The interest share did not lag as anticipated but instead displayed a change in percent share in this inflationary period nearly equal to that of the relatively stable price situation although its compound rate of growth was only about one-half that of the previous period.

To examine the behavior of income shares during periods of different levels of economic activity, three additional selected intervals are included in Table 4-1. The first of such intervals is that of 1963-66. This period was characterized by price level changes below the 3 per cent level. During this time the rate of unemployment fell from the high 6.7 per cent of 1961 to 3.8 per cent for 1966. This then was a period of recovery coupled with relatively stable prices as the economy moved toward the full employment level. In this period the only functional shares to increase were corporate profits, up by 1 percentage

point, and net interest, up by .6 per cent of total national income. This would seem to support the notion that, during a recovery period, wages lag profits. However, in this case only the corporate sector of the business community received any benefit through an increase in functional share. The interest share, although also increasing during this interval, did not gain anything near the per cent changes recorded for preceeding periods. The compound rate of growth of the interest share had recovered, however, to almost one and one-half times its rate during the 1965-72 period. This lag of wages in recovery is also suggested for 1961-62. During this time the unemployment rate fell 18 per cent and the value of real GNP rose approximately 6.6 per cent. The only shares gaining in this interval were again those of corporate profits and interest.

The next selected interval, 1967-69, was also a period of increasing economic activity as the rate of unemployment fell almost 8 per cent from 1966-69. As the unemployment rate fell to 3.5 in 1969, however, the effects of this increased level of activity appeared in the price indices. In the 1967-69 period the CPI was increasing at a 4.8 per cent compound annual rate. The labor share did not decline in this period of continuing reductions in unemployment. The labor share gained in this period mainly at the expense of the corporate sector indicating that perhaps wages more than catch up in the later stages of a move toward full employment. Similar cyclical behavior in wage and profit shares was found by Conard (10) for the 1939-58 period. His explanation was that profits rise in the earlier phase of the inflation of a demand-

pull type with the wage share rising in the later phase when an inflation of the cost-push variety may be emerging.

This shorter period with rapidly increasing prices again shows results contrary to expectations as the entire profit sector loses to wages and interest. It is worthwhile to note, however, that although the interest share had increased, its compound growth rate had fallen considerably.

The final shorter selected interval is that of 1969-71. Like the 1967-69 interval, this period was also characterized by a rapid rate of change in the price level. The CPI during this time was in fact rising at approximately a 5.12 per cent annual compound rate. Unlike the previous period, however, the level of employment was now falling with the rate of unemployment having increased approximately 68 per cent to reach a 5.9 per cent rate for 1971. The upswing in activity that began in 1963 had now subsided over this interval. This period of price increase coupled with rising unemployment resulted in both labor and interest again increasing their shares of national income at the expense of rents and profits. The rate of increase in the labor share did, however, fall to almost one-half the rate of the 1967-69 period of relatively full employment. The rate of increase in the interest share nearly doubled despite the rate of price increase which in terms of both the CPI and GNP index was at its highest rate for the entire period of this study. Again the customary predictions about the behavior of income shares in inflation fail to hold with rents being the only exception.

To gain additional information concerning the behavior of income shares, the same time intervals are also examined using Personal Income data. Before examining the behavior of the personal income components, however, a discussion of the treatment of some of the items in the personal income data is first in order. For the wage and salaries share, the total money value of these disbursements in personal income differs from that in national income. Total compensation of employers in national income includes employer contributions for social insurance while such payments are excluded in the personal income data.

Personal interest income is composed of three parts: the net interest income as reported in national income, and interest paid by government and consumers. The interest share in national income account is the net account paid by the private business sector and received from abroad. Net interest paid by government and consumers is considered a transfer payment and thus is not found in the definition of national income. As government and consumer interest are now provided separately in the data, it is possible to study the behavior of all three interest types in the examination of personal income data.

A final item to be treated is that of personal contributions for social insurance which is composed of the contributions of those employees under covered employment and contributions by the self-employed. The sum of the components of personal income is in excess of the reported personal income by the amount of those personal contributions for social insurance. As a result, the calculations of the respective percentage

shares in personal income components include the personal contributions for social insurance as an added component. This treatment is necessary because it is impossible to apportion the total insurance contributions between the employees and the self-employed in any attempt to subtract the contributions from the gross amounts included in the respective shares. Treating personal income data in this fashion also allows then an examination of the behavior of the social insurance contributions over time.

Analysis of personal income data for the interval 1957-72 supports the direction in trend for those sources of personal income that are also components in national income namely, the income accruing to wages and salaries, unincorporated enterprises, farms, rents, and business interest. The changes in percent shares (Table 4-3) are roughly equal in magnitude to those changes in shares of national income with the exception of wages and salaries. The smaller change in the labor share of personal income (.7 percentage points) relative to the change in share based on national income data is largely accounted for by the fact that the employer's contribution for social insurance is not counted as compensation in personal income. In this interval profits and rents as sources of personal income fell while the labor and interest share increased over the 1957-72 period. For the remaining sources of personal income, consumer interest and net transfer payments (total transfer payments less personal contributions for social insurance) increased. Dividends and government interest, as sources of income, both declined.

The changes in shares of personal income sources for the 1958-72 interval approximate those of 1957-72 with the exception of wages and

Table 4-3. Changes in percent share of personal income for selected periods:^a 1957-72

	1957-72	1958-72	1958-65	1965-72	1963-66	1967-69	1969-71
Wages and salaries	+ .7	+2.2	+ .9	+1.3	+ .8	+ .9	- .9
Unincorporated enterprises	-3.4	-3.3	-1.3	-2.0	- .4	- .8	- .6
Farm	-1.1	-1.6	-1.0	- .6	- .1	- .2	- .2
Rents	-1.5	-1.6	- .8	- .8	- .3	- .4	- .2
Dividends	- .5	- .4	+ .5	- .9	0	- .2	- .3
Business interest	+2.8	+2.5	+1.5	+1.0	+ .6	+ .2	+ .4
Consumer interest	+ .2	+ .3	+ .5	- .2	+ .1	0	- .1
Government interest	- .4	- .3	0	- .3	- .1	0	- .1
Transfer payments	+5.1	+4.1	+ .3	+3.8	- .1	+ .7	+2.1
Personal contributions for social insurance	+1.9	+1.9	+ .6	+1.3	+ .5	+ .2	+ .1

^aSource: U.S. Department of Commerce (22-24).

salaries. The substantially larger increase posted for this source in 1958-72 is the result of the recession ensuing in 1958. This downturn in economic activity produced a decline in the labor share of approximately 2 per cent from 1957 to 1958. Consequently, this lower percentage of total personal income accruing to labor in 1958 then allows a greater gain in labor's share over the entire interval when the 1958 share is used as the base year.

The 1958-65 period of relative price stability exhibited an erosion in profits and rent as sources of personal income. The share of net transfer payments also fell as a consequence of the increase in personal social insurance contributions relative to personal income. Wages and salaries posted a modest increase over this interval. The largest relative gain accrued to interest income from the business sector with a compound rate of change of about 8.7 per cent (Table 4-4). The remaining income sources to gain were those of consumer interest and dividends with respective compound rates of increase of 3.97 and 2.09 per cent.

In the inflationary situation of 1965-72, the results do not correspond to what should have been expected. The profit sector continued to be a declining source of personal income and, in fact, the unincorporated business share declined over this interval at an annual compound rate almost twice that of the 1958-65 stable price situation. Dividends experienced a reversal in trend as this source of personal income declined over the inflationary interval in losing .9 percentage points in share. This behavior coincides with corporate profits which fell one full

Table 4-4. Annual compound rates of change in personal income components for selected periods:^a
1957-72

	1957-72	1958-72	1958-65	1965-72	1963-66	1967-69	1969-71
Wages and salaries	.07%	.22%	.18%	.26%	.37%	.64%	- .66%
Unincorporated enterprises	-3.00	-3.13	-2.15	-4.08	-1.66	-5.51	-4.61
Farm	-2.78	-3.96	-4.40	-3.53	-1.22	-4.24	-4.66
Rents	-2.91	-3.28	-2.90	-3.65	-2.78	-6.09	-3.41
Dividends	-1.10	-.95	2.09	-3.90	0	-3.00	-4.82
Business interest	7.00	6.17	8.67	3.74	6.26	2.52	4.70
Consumer interest	.74	1.23	3.97	-1.42	1.65	0	-2.43
Government interest	-1.68	-1.39	0	-2.74	-1.90	0	-3.00
Transfer payments	4.13	3.29	.58	6.10	-.23	4.20	11.32
Personal contributions for social insurance	4.72	5.07	4.00	6.16	6.26	3.00	1.45

^aSource: U.S. Department of Commerce (22-24).

percentage point in national income share over the same period. The only sources that appeared to act predictably were rents which continued in a downward drift, and the interest sources of consumers and government.

The gainers in this changing distribution were wages and salaries, business interest, and net transfer payments. The wage and salary component gained at roughly .26 per cent annually as opposed to .18 per cent for the 1958-65 period. Although business interest continued to gain as a share, its annual rate of gain was less than one-half that of the stable price period. Both transfer payments and personal social insurance contributions exhibited about the same rate of increase in terms of total shares. In terms of absolute percentage shares, however, net transfer payments posted an increase of 2.5 percentage points which was nearly double that of labor and business interest, the only other gainers.

In the 1963-66 interval of an upswing in activity coupled with relative price stability, the trends were substantially similar to those of 1965-72. The share going to wages and salaries continued to experience a modest rate of increase. Recall however, that in national income account, this share fell over this same interval as corporate profits increased. The effect on profits during the upswing is further suggested by noting the behavior of the unincorporated business sector. Here, even though unincorporated business and farm income were still declining as sources of personal income, their respective rates of annual decline had fallen by more than one-half during this period of increased activity. Following the trend in profits, dividends maintained the same percentage

of personal income thus compensating somewhat for the nearly 4 per cent annual rate of decline over the 1965-72 span. The upswing in activity was accompanied by a continued increase for business interest with this share having an annual growth approximating 6.26 per cent, almost double the rate for 1965-72. The consumer interest portion also gained a modest .1 per cent point while an equal decline occurred in the government interest portion. In summary, this short interval found profits, rents, net transfers and government interest losing in the distribution to wages and business and consumer interest. The 1967-69 period, of continued increase in the level of activity but now accompanied by price level changes in excess of 4 per cent annually, displays results somewhat different than those of 1963-66. The theoretical effects of inflation appear to have affected rents in that this share declined over this period at approximately 6.09 per cent annually. Business interest also appears to have been affected in that although its percentage share was still on the increase, the annual rate of increase had fallen to about one-third that of the 1963-66 period. Contrary to expectations however, the profits share in this period of considerable inflation actually fell at a rate more than double that of the 1963-66 upswing. The notion that the wage share begins to gain in the later phase of an upswing is supported in this personal income data just as it was earlier in national income account. Over the 1967-69 interval, wages and salaries increased at roughly .64 per cent annually, almost double the rate of increase for 1963-66. The behavior of profits in this later phase of increased economic activity is also suggested by the fact that dividends lost

in share over this interval. This period of rapidly rising prices then, found wages, business interest and net transfer payments gaining at the expense of rents and profits with government and consumer interest remaining constant in percentage share.

The final interval, 1969-71, was also a period of rapid price increase but was accompanied by a considerable drop in the level of activity as the average annual increase in real GNP fell to 1.1 per cent. This decline in activity found wages and salaries falling in share for the first time since the 1958 recession. This share's loss was mainly due to the substantial increase in net transfer payments which gained 2 per cent points in personal income share which translates to an annual compound rate of increase for the interval of 17.4 per cent. The only other component of personal income to gain in share over this interval was business interest which increased .4 percentage points, double the amount of increase of the 1967-69 inflationary situation. All other personal income sources lost in share over this interval. Profits continued to decline in share at about the same rate as the previous inflationary period. Rents continued to decline but the annual rate of loss in share had fallen to almost one half that of the 1967-69 period.

The persistent decline in the share of unincorporated enterprises in both national and personal income prompts an additional examination over the interval of this study in effort to partially account for structural changes in the economy. For example, an exodus of farm operators from the agricultural sector would largely account for any observed decline

in the share of income accruing to this sector. Failure to account for such population shifts could result in misinterpretation of observations in distributional trends. In order to help compensate for any such changes, wages and unincorporated business and farm income are analyzed in terms of a per person basis as reported for selected dates in Table 4-5. Per recipient income for unincorporated enterprises and farming is calculated as total annual income of each group divided by the number of active operators in each group. For active operators the number of active proprietorships and partnerships in both the farm and business and professional sector are taken from the Internal Revenue Service, Statistics of Income (26-33) series. The analysis extends only to 1969 as data for subsequent years are yet unreleased.

To arrive at an estimate of per recipient income from wages and salaries, total compensation of employees as reported in the national income data is divided by the total labor force less the number of active business, professional, and farm operators.

Inspection of Table 4-5 reveals that, although unincorporated profits have declined in share of income, all three groups have experienced continued increases in money income, on a per recipient basis.

The relative performance of each group is presented in Table 4-6. Over the 1958-69 period, the annual growth rate in per recipient income of employees was more than double that of either of the self-employed groups. Also, the absolute amount of money income per employee began the period at less than that of the self-employed businessman but had passed per recipient business income at the end of the period.

Table 4-5. Per recipient wage, business, and farm income for selected periods:^a 1957-1969

	Wages and Salaries	Unincorporated enterprises	Farm operators
1957	\$4,265	\$5,371	\$3,137
1958	4,260	5,426	3,687
1963	5,286	5,749	3,777
1965	5,861	6,387	4,414
1966	6,322	6,734	4,882
1967	6,603	7,048	4,456
1969	7,660	7,243	4,942

^aSource: U.S. Treasury Department (26-33).

Table 4-6. Annual compound rates of change in per recipient wage, business, and farm income for selected periods:^a 1958-1969

	Wages and Salaries	Unincorporated enterprises	Farm operators
1958-69	5.47%	2.65%	2.69%
1958-65	4.66	2.35	2.60
1965-69	6.91	3.18	2.85
1963-66	6.15	5.40	8.93
1967-69	7.72	1.39	5.32

^aSource: U.S. Treasury Department (26-33).

For the relatively stable price period of 1958-65, the same trend persisted with employee income growing at a rate almost double that of the other two groups.

The growth rate in employee income then resumed to over twice that of the other two groups in the 1965-69 interval that witnessed a 3.8 per cent compound rate of change in the CPI. However, both per recipient business and farm income also experienced increases in the rate of growth in income compared to the 1958-65 period. It appears that the later period of more rapid price increase did allow all three groups to gain on a per person basis. Comparing this experience with the behavior of national income shares over the same interval suggests that the gain for these groups, on the per person basis, accrued at the expense of rents and corporate profits.

Interesting results appear in looking at the 1963-66 interval of increased economic activity and relative price stability. In this upswing the growth rate in employee income declined modestly compared to the 1965-69 experience. The rates of income growth in the entrepreneurial sectors however, gained considerably from their previous rates. This increase in the growth rate of farm business and professional income would, on the surface, appear to be a gain accruing as a result of increased volume and not inflation owing to the relative stability of prices over this interval. However, a quite different explanation emerges in accounting for these healthy gains in rate of income increase for the unincorporated profit sector when the rates of change in the number

of persons in each group is taken into account. The rates of change in the number of persons in each group is presented in Table 4-7 to allow such a comparison.

The considerable increase in the rate of growth in the per person income of businessmen over 1963-66 is largely accounted for by the fact that the number of additional enterprises increased much less during this time. The number of individuals in this group increased at approximately .61 per cent annually compared to an annual rate of increase of 1.18 per cent over the 1958-69 period. Such an occurrence was even more marked in the farm sector. The almost 9 per cent compound rate of increase in per recipient income for farm operators over 1963-66 was materially affected by the substantial decline in number of operators. Over the 1963-66 interval, the number of farm operators declined at about 1.66 per cent compared to only .66 per cent for the 1958-69 interval. In both of these sectors then, the substantial increase in per person income during a period of increased economic activity, was largely accounted for by the rate of change in the number of operators.

In looking at per recipient income for the inflationary 1967-69 period, the commonly expected results fail to appear. In this interval employee income rose to an approximate 7.72 annual rate of increase but both the business and farm sectors suffered considerable losses in terms of rates of increase in individual income. As in 1963-66 however, these changes in income growth rates must be tempered by looking at the rates of change in the numbers of individuals over the same period. For the business sector, the annual rate of increase in the number of

Table 4-7. Annual compound rates of change in the numbers of individuals engaged as employees, unincorporated business persons, and farm operators for selected periods:^a 1958-69

	Employees	Unincorporated enterprises	Farm operators
1958-69	1.83	1.18	- .66
1958-65	1.50	1.17	-1.02
1965-69	2.40	1.22	.25
1963-66	2.21	.61	-1.66
1967-69	2.20	1.96	.88

^aSource: U.S. Treasury Department (26-33).

individuals rose to a 1.96 per cent annual rate compared to .61 per cent annually for 1963-66 and 1.18 annually for 1958-69.

For individual incomes in the farm sector, the same phenomena occurred. The rate of increase in per person farm income was almost one-half that of 1963-66, however, the number of farm operators actually increased thus helping to account for the decline in rate of increase in individual incomes. The number of farm operators grew at a .88 per cent annual rate for 1967-69 as opposed to the 1.66 per cent annual rate of decline over the entire period of 1958-69.

Again then in this period, the reduction in income growth rates for the self employed during the experience of 1967-69 is largely accounted for by changes in the rates of increase or decrease in the number of individuals.

In summary, comparing per person incomes over the relatively stable price period of 1958-65 to the inflationary situation of 1965-69, it appears that none of the three groups were adversely affected. The inflationary situation saw employee incomes growing at a higher rate (6.91 per cent annually) than in the stable price period (4.66 per cent annually). This increase is even more pronounced when one considers that the rate of increase in the number of such individuals also increased from a 1.50 per cent annual rate for 1958-65 to a 2.40 per cent annual rate for 1965-69. Businessmen's income grew at annual rate of approximately 3.18 per cent annually for 1958-65. The rate of change in the number of individuals in this category did not change appreciably however, when compared over the two longer intervals. The per person income of farm operators was also growing at a higher rate during the inflationary period--2.85 per cent annually for 1965-69 versus 2.60 per cent annually for 1958-65. This increase is also more pronounced in that there was an increase in the number of farm operators from 1965 to 1969 of approximately .78 per cent compared to a decline in number of operators from 1958 to 1965 of approximately 7.7 per cent.

In summarizing this examination of income shares, the question is then what was experienced in terms of gains and losses in the period of relative price stability as opposed to that of inflation. For many of the components examined, there have been discernible trends that have persisted in the 1958-65 and 1965-72 intervals. The trends continued with or without inflation. The only share to exhibit anything close

to the theoretical responses to inflation was that of rents. The rent share declined throughout the period of study but instead of lagging as expected did, in national income account, fall at a faster rate during the stable price period.

The wage and salary share experienced a continual updrift over the entire interval and, contrary to what would be expected, increased at a faster rate during the inflationary interval.

The unincorporated profit sector failed to gain in share as would be expected during inflation. In fact, with the exception of agriculture, declined in share at a greater rate during the inflationary situation. Corporate profits, as a functional share, declined in the inflationary interval, gaining only during periods of relative price stability. As a consequence of the behavior of corporate profits, dividends moved in the same fashion as their source.

Perhaps the most interesting behavior was that exhibited by the interest share which should be expected to lag during inflation. This does appear to be the case in respect to both consumer and government interest in that both experienced a loss in percentage share in personal income over the 1965-72 interval. The net interest of the business sector, however, continued to increase in income share over the entire period covered by this study. This behavior could readily be appreciated for the later years covered in this study owing to the higher interest rates which in fact reached historic highs during 1970. These higher rates could be the result of such things as a change in the time preference

of lenders, an increase in the level of risk attendant to the business community or perhaps a demand for an inflationary premium by lenders to offset increases in the level of prices. Discounting any fundamental changes in time preference or level of risk, it would appear that the higher interest rates and the rising share of net interest in national income is due to an inflationary premium required by lenders. The demand for such a premium could well serve as an explanation for the updrift in the business interest share for the 1965-72 period but is an inappropriate explanation for the updrift occurring during the 1958-65 period of relative price stability. A casual attempt to identify real variables that serve to resolve this dilemma suggests an interesting area of future research. The crux of such a study would be to see if the business sector, particularly corporations, has over time, increased its reliance on debt rather than equity in financing its capital structure. This curiosity was prompted in making a cursory attempt to identify real variables as an explanation of the updrift in business interest in national income share by looking at changes in the level of debt generating this interest income. The ratios of corporate debt to national income and also non-corporate commercial and financial debt to national income were examined over 1958-71 to gain some idea of the behavior of these debt levels. Surprisingly, corporate debt as a percentage of national income rose from 70.6 per cent in 1958 to 96.7 per cent as of 1971. The corresponding ratios for non-corporate business debt were 7.2 per cent in 1958 and 9.7 per cent for 1971. For the corporate sector in particular, the annual compound rate of increase in

this debt to national income ratio was 3.10 per cent for the 1965-71 inflationary situation in contrast to a 2.43 per cent rate for the 1958-71 interval and 2.00 per cent for the 1958-65 stable price situation. It would appear then that the demand for an inflationary premium is an inappropriate explanation of the continued rise in business interest as a share of national income. The substantial rise in corporate debt relative to national income suggests an increase in the demand for finance in the face of historically high rates of interest. Hopefully, future research in this area would contribute to an explanation of this phenomena.

The examination of income shares at this aggregate level indicates, in conclusion, that the theoretical effects of inflation are not well supported. The data suggest that, following Ando and Bach (6), either the redistributive effects of inflation are weak or that the inflation was sufficiently anticipated such that expected results do not occur. This is not to deny, however, that redistributions have not occurred within these highly aggregated groups. The following chapters are an effort to attempt a more disaggregated view in the identification of the relative gainers and losers within this aggregate.

CHAPTER V. WAGE AND SALARY BEHAVIOR OF SELECTED OCCUPATIONAL GROUPS

The previous examination of wages and salaries at an aggregate level reveals that the expected consequences of inflation on this income source are not well supported. This is not to deny, however, that redistributions of purchasing power have not occurred within this broad aggregate over an inflationary interval. Such a redistribution of purchasing power would be in favor of those whose wage or salary income increased more rapidly than others over a given period. Only by observing the wage and salary behavior of various occupational groups at a more disaggregated level then would it be possible to identify relative gainers and losers over different periods of price level experience.

To observe rates of wage and salary change among occupations, this study focuses upon numerous occupational groups such as professional, white collar, skilled and unskilled workers, college faculties, and sixty selected groups within broad industrial classifications. In the disaggregated analysis of wage and salary behavior, however, it is impossible to use the same data intervals as those used in the previous investigation of functional income shares as the reporting sources did not at the time collect information on many of the occupational groups within this analysis. Consequently, in the comparisons that are to follow, the wage experience of certain occupational groups will be missing when attention is directed to a particular interval of study.

The first wage and salary comparison is that of sixty selected industries taken from the Survey of Current Business (24). These industries are broadly classified as follows: (1) Agriculture, forestry, and fisheries, (2) Mining, (3) Contract construction, (4) Manufacturing, (5) Wholesale and retail trade, (6) Finance, insurance, and real estate, (7) Transportation, (8) Communication and public utilities, (9) Services, and (10) Government and government enterprises. The behavior of earnings in real terms for selected industries, within the broad classifications, are presented in Table 5-1.

In this and all subsequent wage comparisons, the value of earnings, when specified in real terms (1967 dollars) for a given year, is derived through deflating the nominal or money wage by dividing the money wage of that given year by the Consumer Price Index (1967 = 100) as reported for that same year.

The latest available data for the sixty selected industries of Table 5-1 was 1971. Thus to facilitate comparison of wage behavior during periods of relative price stability and inflation over intervals of equal length, the interval 1959-71 is presented. This time span includes then six years of relative price stability (1959-65) in that the CPI increased approximately 8.2 per cent during this time and six years of inflation (1965-71) as the CPI increased approximately 28.4 per cent over this latter interval.

The percentage changes in earnings for the respective intervals of Table 5-1 are based upon average annual real earnings. In the

Table 5-1. Average annual real earnings per full-time employee by industry
for selected periods: 1959-71, (in 1967 dollars) (22-24)

Industry	Ranked by average earnings 1959	Percentage change in earnings 1959-65
Security brokers	1	21.6
Radio, television broadcasting	2	9.4
Mfg.: petroleum, coal products	3	11.1
Pipeline transportation workers	4	10.9
Air transportation	5	13.6
Water transportation	6	8.9
Mfg.: transportation equipment except motor vehicles	7	16.7
Mfg.: motor vehicles	8	18.4
Mfg.: primary metal	9	10.2
Chemicals and allied products	10	14.1
Railroad transportation	11	13.0
Mfg.: machinery except electrical	12	14.1
Mining: metal	13	14.1
Wholesale trade	14	14.7
Electric, gas, and sanitary services	15	15.8
Motor freight transportation	16	27.7
Mining: crude petroleum and natural gas	17	10.6
Mfg.: instruments	18	11.9
Federal government: civilian	19	23.6
Mfg.: fabricated metal products	20	9.3
Mfg.: rubber and plastic products	21	3.8
Credit agencies and other investment companies	22	16.2
Mfg.: electrical machinery	23	10.9
Printing, publishing	24	10.2
Mfg.: paper and allied products	25	13.3
Insurance agents, brokers	26	23.2
Contract construction	27	15.9
Mfg.: stone, clay, and glass products	28	11.3
Mining and quarrying of nonmetallic minerals	29	16.2
Services allied to transportation	30	17.1

Ranked by average earnings 1965	Percentage change in earnings 1965-71	Ranked by average earnings 1971	Percentage change in earnings 1959-71	Ranked by percen- tage change in earnings 1959-71
1	18.5	1	44.1	7
2	- 2.2	10	7.0	59
3	8.2	5	20.2	39
6	10.5	6	22.5	32
5	18.1	2	34.2	15
9	9.4	9	19.2	42
7	.1	13	16.9	47
4	7.9	7	27.8	21
11	1.5	19	11.9	56
12	7.6	11	22.8	31
13	15.9	8	30.9	17
15	4.3	20	19.1	43
17	5.0	21	19.7	41
16	7.4	17	23.2	30
14	10.6	12	28.1	20
8	12.8	3	44.0	8
21	12.3	16	24.2	29
19	4.6	23	17.1	46
10	17.9	4	45.8	4
22	3.7	29	13.4	54
33	.8	36	4.6	60
20	8.1	22	25.6	25
24	5.7	28	17.2	45
28	4.9	32	15.7	51
23	6.5	25	20.6	37
18	14.0	14	40.4	10
25	17.2	18	35.9	14
32	9.1	31	21.5	35
29	9.0	26	26.7	22
27	8.1	27	26.6	23

Table 5-1 (Continued)

Industry	Ranked by average earnings 1959	Percentage changes in earnings 1959-65
Coal mining	31	20.3
Telephone and telegraph	32	20.5
Services: miscellaneous repairs	33	26.0
Mfg.: food and kindred products	34	12.8
Insurance carriers	35	20.5
Banking	36	13.8
State government: public education	37	19.4
Motion pictures	38	24.4
Amusement and recreation services	39	1.8
Miscellaneous manufacturing industries	40	7.8
Mfg.: furniture and fixtures	41	9.0
State government: nonschool	42	19.3
Local, suburban transportation	43	20.3
Legal services	44	15.3
Mfg.: lumber and wood products except furniture	45	9.7
Federal government: military	46	5.6
Nonprofit membership organizations	47	2.2
Forestry and fisheries	48	- 1.5
Retail trade	49	17.2
Educational services	50	- 1.9
Mfg.: textile mill products	51	14.9
Tobacco manufacturing	52	21.3
Mfg.: leather products	53	9.2
Real estate	54	25.1
Mfg.: apparel and other textile products	55	9.7
Services: personal services	56	21.3
Medical services	57	18.6
Hotels and other lodging places	58	18.8
Services: private households	59	12.0
Farms	60	10.1

Ranked by average earnings 1965	Percentage change in earnings 1965-71	Ranked by average earnings 1971	Percentage change in earnings 1959-71	Ranked by percen- tage change in earnings 1959-71
30	23.5	15	48.5	3
31	8.5	30	30.8	18
26	8.9	24	37.2	12
37	7.9	38	21.7	34
34	7.4	34	29.4	19
38	6.4	39	21.0	36
36	14.8	33	37.1	13
35	- 7.4	41	15.2	53
44	5.3	48	7.2	58
41	7.5	42	15.8	49
43	3.7	47	13.0	55
40	17.3	37	39.8	11
39	- .3	45	19.9	40
42	26.3	35	45.6	5
48	14.2	46	25.3	26
50	24.2	43	31.4	16
53	7.8	54	10.2	57
54	17.6	52	15.8	50
47	2.6	50	20.3	38
55	20.2	53	17.9	44
49	6.0	51	21.8	33
45	22.4	40	48.5	2
52	6.5	55	16.3	48
46	13.5	44	42.0	9
56	5.2	57	15.4	52
51	3.9	56	26.1	24
57	32.3	49	57.0	1
58	4.8	58	24.6	27
59	11.0	59	24.3	28
60	31.9	60	45.3	6

Table 5-1 (Continued)

Industry	Ranked by average earnings 1959	Percentage change in earnings 1959-65
Average change in real earnings		14.5
Median change in real earnings		14.1
Average annual real earnings	1959 = \$5,657	
Median annual real earnings	5,889	

Ranked by average earnings 1965	Percentage change in earnings 1965-71	Ranked by average earnings 1971	Percentage change in earnings 1959-71	Ranked by percen- tage change in earnings 1959-71
	10.2 8.1		25.9 22.7	
1965 = \$6,467 6,781		1971 = \$7,094 7,280		

1959-65 interval of relative price stability, only two occupational categories suffered a decrease in buying power in terms of goods and services. The average real earnings of workers in forestry and fisheries declined approximately 1.5 per cent over this interval. The average annual money wage of workers in this category was \$3,803 in 1959 and \$4,054 in 1965. Although this represented a 6.6 per cent increase in money income for the period, an 8.2 per cent increase in the CPI caused workers in this group to experience an actual loss in real terms. The only other real losers in this interval were workers in the category educational services as money wages for the 1959-65 interval increased from \$3,688 to \$3,914, a nominal gain of only 6.1 per cent.

For the sixty occupational categories as a whole, there was a real gain in purchasing power as the average increase in real earnings in this period approximated 14.5 per cent. The largest real increase was exhibited by the average earnings of workers in motor freight transportation which rose 27.7 per cent.

To gain some idea of the relative movement of occupational categories within the aggregate, the average annual real earnings are ranked in Table 5-1 by size of earnings for 1959, 1965, and 1971. In 1959, median annual real earnings were \$5,889 with security brokers being top ranked with annual real earnings averaging \$10,052 and farm workers low ranked with average real earnings of \$1,734. The 27.7 per cent gain of the motor freight transportation group allowed this category to move from sixteenth to eighth place in the rankings as of 1965.

As of 1965, security brokers were still in first place in the rankings with annual real earnings averaging \$12,220. Farm workers were still lowest in the rankings with real earnings averaging \$1,910 while the median earnings for the group stood at \$6,781 for 1965.

An examination of the 1965-71 inflationary period displays results different from the stable price interval of 1959-65 in that the average annual change in real earnings for the group was 10.2 per cent in this later period as opposed to an average real gain of 14.5 for 1959-65. The median change in real earnings, however, was only 8.1 per cent for the inflationary period as opposed to 14.1 per cent for the relatively stable price situation.

The 1965-71 interval also discloses only three losers within the sixty different occupational categories. The average annual real earnings of individuals engaged in radio and television broadcasting experienced approximately a 2.2 per cent decline in real earnings. The average nominal earnings for this group were \$8,632 in 1965 and \$10,829 in 1971 for an increase in money terms of only 25.5 per cent. This loss in real terms moved this group from second to tenth in rank by level of earnings in 1971.

The second loss in real terms was that of the average annual earnings for individuals in the motion pictures classification. Real earnings declined 7.4 per cent for this group. The average nominal earnings of this category were \$6,044 in 1965 and \$7,174 in 1971, a gain of 18.7 per cent which resulted in a change in the earnings ranking from thirty-five in 1965 to forty-one as of 1971.

The remaining group to experience a real loss were individuals engaged in the local, suburban, and highway passenger classification in the transportation category. The average annual real earnings of this group fell approximately .3 per cent over the 1965-71 interval as real earnings fell from \$5,752 in 1965 to \$5,727 in 1971. This loss moved the group from thirty-nine in rank as of 1965 to forty-fifth in rank as of 1971.

The largest gain during 1965-71 occurred in the annual real earnings in the medical and other health services category which displayed a 32.3 per cent increase. The average annual money wage of this group moved from \$3,700 in 1965 to \$6,278 in 1971, a 69.7 per cent nominal gain which moved the annual earnings rank from fifty-seven to forty-nine as of 1971.

Median annual real earnings for 1971 were \$7,280 with the range of real earnings being \$14,470 for security brokers at the top and \$2,517 for farm workers at the bottom. The second largest gain for 1965-71, however, was posted by farm workers as average real earnings for this group moved from \$1,910 in 1965 to \$2,517 in 1971, a 31.8 per cent gain in real terms.

In terms of the 1965-71 inflationary experience then, it appears on the surface that only three occupational groups actually suffered a loss of purchasing power although redistributions of purchasing power also occurred among the gainers relative to each other in terms of respective rates of wage changes. Of these three groups--radio and television

broadcasting, motion pictures, and local, suburban, and highway passenger transportation--the latter two experienced above average rates of real income increase over the 1959-65 period. Thus the average earnings in the motion picture and transportation categories did not fall appreciably in earnings rank in comparison to the communications group. The first two groups moved from thirty-eight to forty-one and forty-three to forty-five respectively as per Table 5-1, while the communications group fell from second to tenth place from 1959-71. Although these three groups lost purchasing power during the inflationary experience of 1965-71, previous real gains allowed them to realize a net gain, in real terms, over the entire interval (1959-71).

In examining the 1959-71 interval, the major observation of the analysis is the absence of any group actually experiencing a loss in average annual earnings per full-time employee in real terms. Each occupational category did, in fact, realize a gain in terms of the purchasing power of annual earnings. For the group, the average change in real earnings from 1959 to 1971 was 25.9 per cent and the median change in real earnings was 22.7 per cent. The range of real increase was from 57.0 per cent for medical and other health services to the low of a 4.6 per cent real increase in the average earnings of individuals engaged in the manufacture of rubber and plastic products. Relative to median average real earnings in 1971 of \$7,280, the average real earnings of the leading gainer, medical services, was \$5,176 in 1971 up from \$3,300 in 1959, a gain of 57 per cent. The average annual

real earnings of the smallest gainer, rubber and plastic manufacturing, were \$6,655 as of 1971 compared to \$6,369 for 1959, a real gain of only 4.5 per cent.

Each occupational group is ranked according to the amount of percentage change in real average annual earnings in Table 5-2 to facilitate a comparison between the absolute level of annual real earnings and the experience of that occupational category in terms of wage increases. To assess the impact of inflation upon the lower income categories in the sixty occupational groups, comparisons were made between levels of absolute annual earnings and rates of change in annual earnings. The occupational groups found in the lowest quartile of 1959 annual earnings were compared with the groups found in the lowest quartile of 1959-71 percentage change in real earnings. Four occupational groups were both in the lowest quartile of annual earnings and annual wage increase. They were apparel and other textile products, and leather products in the manufacturing category, forestry and fisheries in the agricultural category and non-profit membership organizations in the services category.

In the manufacturing classification real earnings in apparel and other textile products increased only 15.4 per cent over 1959-71, causing this group to fall from fifty-fifth to fifty-seventh in earnings rank between 1959 and 1971. The other manufacturing group, leather products, experienced a 16.3 per cent increase thus falling in rank from fifty-three to fifty-five over the same period. Annual real earnings in

Table 5-2. Percentage change in annual average real earnings per full-time employee: 1959-71, (in 1967 dollars) (22-24)

Less than or equal to median change of 22.7% (1959-71)		Greater than median change of 22.7% (1959-71)	
Mfg.: rubber and plastic products	4.6%	Medical and other health services	57.0%
Radio and television broadcasting	7.0	Tobacco manufactures	48.5
Amusement and recreation services	7.2	Coal mining	48.5
Non-profit membership organizations	10.2	Federal government: civilian	45.8
Mfg.: primary metal	11.9	Legal services	45.6
Mfg.: furniture and fixtures	13.0	Farms	45.3
Mfg.: fabricated metal products	13.4	Security brokers	44.1
Motion pictures	15.2	Motor freight transportation	44.0
Mfg.: apparel and other textile products	15.4	Real estate	42.0
Printing and publishing	15.7	Insurance agents, brokers	40.4
Forestry and fisheries	15.8	State government: non-school	39.8
Miscellaneous manufacturing industries	15.8	Services: miscellaneous repairs	37.2
Mfg.: leather products	16.3	Education	37.1
Mfg.: transportation equipment except motor vehicles	16.9	Contract construction	35.9
Mfg.: instruments	17.1	Air transportation	34.2
Mfg.: electrical machinery	17.2	Federal government: military	31.4
Educational services	17.9	Railroad transportation	30.9
Mfg.: machinery except electrical equipment	19.1	Telephone and telegraph	30.8
Water transportation	19.2	Insurance carriers	29.4
Mining: metal	19.7	Electric, gas, and sanitary services	28.1
Local, suburban transportation	19.9	Mfg., motor vehicles	27.8
Mfg.: petroleum and coal products	20.2	Mining: mining, quarrying non-metallic	26.7
Retail trade	20.3	Services allied to transportation	26.6
Mfg.: paper and allied products	20.6	Services: personal	26.1
Banking	21.0	Credit agencies, investment companies	25.6

Table 5-2 (Continued)

Less than or equal to median change of 22.7% (1959-71)		Greater than median change of 22.7% (1959-71)	
Mfg.: stone, clay, and glass products	21.5%	Mfg.: lumber, wood products except furniture	25.3%
Mfg.: food and kindred products	21.7	Hotels and other lodging places	24.6
Mfg.: textile mill products	21.8	Services: private households	24.3
Pipeline transportation	22.5	Mining: petroleum and natural gas	24.2
		Wholesale trade	23.2
		Chemicals and allied products	22.8

forestry and fisheries increased 15.8 per cent over 1959-71 and fell in rank from forty-eight to fifty-two. The average annual real earnings in nonprofit membership organizations increased 10.2 per cent over 1959-71 as rank in earnings fell from forty-seven to fifty-four.

When the lowest quartile of annual earnings as of 1971 are used, in comparison with the lowest quartile of percentage increase in earnings, four additional occupational groups are added to the four previously cited.

Annual real earnings in the manufacture of furniture and fixtures increased 13 per cent over 1959-71 with the rank in earnings falling from forty-one to forty-seven. Average annual real earnings in educational services rose by 17.9 between 1959-71 while earnings rank fell

from fifty to fifty-three over the interval. For the retail trade group over this same period, earnings increased 20.3 per cent moving this group one notch down in rank, from forty-nine to fifty. The average annual real earnings in manufacturing of textile mill products increased 21.8 per cent over 1959-71, slightly less than the median increase of 22.7 per cent for the sixty industries, resulting in no change in level of earnings rank.

In summary, the eight isolated occupational groups treated above fall into the lowest quartile of earnings and, their experience in the inflation of 1965-71 was that increases in real earnings were also below average. Nevertheless, it is important to realize that these groups, along with all the others, do not appear to have been hurt by inflation to the extent that all of them realized increases in real earnings over the period. In this respect, these lower income groups have not experienced a diminution in their living standard in terms of the price indices but have, however, been affected, over the inflationary interval, in that purchasing power was redistributed to those whose earnings grew at a faster rate. The earnings changes for the sixty occupational groups, Table 5-2, suggests the relative gainers and losers in the redistribution of earnings. This redistribution would be toward those groups whose earnings increases were above the median in this sample and, away from those whose earnings increased less than this median amount.

A second set of occupational groups, for which data are available for the same 1959-71 interval as that used in the sixty industry set

is that of average union wage scales in selected trades. These wage scales are presented in terms of average hourly union rates in Table 5-3. In comparing these wage rates with the earnings experience of the sixty industry set, it is necessary to note that the union rates for the selected trades are hourly rates and not annual average earnings of full-time employees, which was the case with the previous group. The use of hourly rates to assess the impact of inflation could be misleading if average hours worked per week declined considerably over a given interval although hourly rates may have increased significantly in real terms over that same interval. This problem is not a serious handicap with respect to the wage experience of the selected trades in Table 5-3 however. The average weekly hours per production worker for these trades have not appreciably changed. The average weekly hours per production worker in contract construction were 38.0 in 1957 and stood at 37.3 for 1971. For printing and publishing, average weekly hours per worker were 38.6 and 37.6 for 1957 and 1971, respectively, and were 37.9 hours per week for 1972. For trucking and local transit, the earliest available data explicitly for this category, 1962, discloses average weekly hours of 41.5 while for 1972 the figure was a 40.4 hour average work week.

In looking at the hourly union rates of Table 5-3, it appears that these real wage rates increased by greater amounts during the inflationary 1965-71 period as opposed to 1959-65. The only exception was that of union rates in newspaper printing. Recall that in the sixty industry

Table 5-3. Average hourly union rates for selected trades^a in 1959, 1965, and 1971

	Hourly rate in current dollars			Hourly rate in real terms (1967 dollars)			Percentage increase in real terms		
	1959	1965	1971	1959	1965	1971	1959-65	1965-71	1959-71
Building:									
Journeymen	\$3.71	\$4.64	\$7.28	\$4.25	\$4.91	\$6.00	15.6%	22.2%	41.3%
Helpers and laborers	2.74	3.54	5.43	3.14	3.75	4.48	19.3	19.5	42.6
Printing:									
Book and job	2.96	3.58	5.11	3.39	3.79	4.21	11.7	11.2	24.2
Newspapers	3.40	3.94	5.65	3.90	4.17	4.66	7.0	11.7	19.6
Local trucking:									
Drivers	2.56	3.26	4.95	2.93	3.45	4.08	17.7	18.3	39.2
Helpers	2.27	2.90	4.41	2.60	3.07	3.64	18.0	18.5	39.9
Local transit	2.29	2.88	4.38	2.62	3.05	3.61	16.2	18.5	37.7
Median increase: 60 industry series							14.1	8.1	22.7

^aSource: U.S. Department of Labor (25).

set previously cited, the median rate of earnings increase was greatest in the relatively stable price period 1959-65. In addition, with the exception of hourly rates in newspaper printing, the percentage increases in hourly rates in real terms were in excess of the median rate of increase for the sixty industry group.

Based upon average weekly hours per production worker for each of the union scale categories and assuming a fifty working week year, the annual average real earnings of each union scale category were for 1971 in excess of the median annual real earnings of the group of Table 5-1. With the exception of the rates for local trucking helpers and local transit, these same union scale categories also had annual earnings in excess of the sixty industry median for 1959.

In summary, the real earnings of individuals in these union trades increased more during the inflationary interval of 1965-71 relative to the more stable price situation of 1959-71. Purchasing power in real terms was also redistributed toward individuals in these groups to the extent that increases in their earnings were in excess of the median increase of the sixty industry group used as a fairly representative measure of the wage experience within the economy.

It is quite striking to find then that the real gains of union members were in general greater during the inflationary experience of 1965-71 than those of the 1959-65 period of relatively stable prices. This was just the opposite case for workers in general who realized greater real earnings increases during 1959-65. And, in addition, it is quite

interesting to note that union wage rate increases were greater in real terms than the medians for the sixty industry series during both intervals of different price level experience.

Beginning in 1961, wage data became available for a number of different occupations in addition to those previously examined. These additional groups and the order of their analysis are: professional, white collar, skilled and unskilled workers, and college faculties. As the latest available data for the majority of these occupations are as of 1970, the period of analysis is the 1961-70 interval. This nine year interval is divided into two periods of different price level experience, 1961-65 and 1965-70. The 1961-65 period was one in which the CPI rose approximately 5.5 per cent which translates into a compound annual rate of increase of 1.33 per cent. The 1965-70 interval witnessed an approximate 23.1 per cent increase in the CPI which is equivalent to an annual compound rate of 4.23 per cent.

The earnings experience of selected categories of professional workers is exhibited in Table 5-5. The annual earnings presented for each occupational group is the average of all ratings or classes designated for that particular group by the Bureau of Labor Statistics (25). As with the sixty industry group examined earlier, these professional workers also realized greater percentage increases in real earnings during the period of relative price stability, 1961-65. However, with the exception of attorneys and chemists, the real increase in earnings for these professional workers, over this period, were less than the median increase

Table 5-4. Average hourly union rates for selected trades^a in 1961, 1965, and 1970

	Hourly rate in current dollars			Hourly rate in real terms (1967 dollars)			Percentage increase in real terms		
	1961	1965	1970	1961	1965	1970	1961-65	1965-70	1961-70
Building:									
Journeyman	\$4.02	\$4.64	\$6.18	\$4.49	\$4.91	\$5.31	9.2%	8.2%	18.3%
Helpers and laborers	3.06	3.54	4.86	3.42	3.75	4.18	9.7	11.5	22.2
Printing:									
Book and job	3.18	3.58	4.65	3.55	3.79	4.00	6.7	5.5	12.7
Newspapers	3.58	3.94	5.13	4.00	4.17	4.41	4.3	5.8	10.3
Local trucking:									
Drivers	2.78	3.26	4.41	3.10	3.45	3.79	11.3	9.9	22.3
Helpers	2.48	2.90	3.91	2.77	3.07	3.36	10.8	9.5	21.3
Local transit	2.46	2.88	4.03	2.75	3.05	3.47	10.9	13.8	26.2
Median increase: 60 industry series							9.5	6.2	16.7

^aSource: U.S. Department of Labor (25).

Table 5-5. Earnings of selected professional, technical, and administrative occupations^a for 1961, 1965, and 1970

	Average annual salaries in current dollars ^b			Average annual salaries in real terms (1967 dollars)			Percentage increase in real terms		
	1961	1965	1970	1961	1965	1970	1961-65	1965-70	1961-70
Accountants	\$ 7,706	\$ 8,642	\$11,406	\$ 8,600	\$ 9,145	\$ 9,807	6.3%	7.2%	14.0%
Auditors	7,218	8,280	11,092	8,056	8,762	9,537	8.8	8.8	18.4
Chief accountants	12,288	13,740	17,869	13,714	14,540	15,365	6.0	5.7	12.0
Attorneys	10,490	14,544	21,839	11,708	15,390	18,778	31.4	22.0	60.4
Job analysts	7,551	8,466	10,682	8,427	8,959	9,185	6.3	2.5	9.0
Personnel directors	11,411	13,101	16,941	12,735	13,863	14,567	8.9	5.1	14.4
Chemists	11,024	12,795	16,566	12,304	13,540	14,272	10.0	5.4	16.0
Engineers	11,594	13,047	16,566	12,940	13,806	14,244	6.7	3.2	10.1
Draftsmen	NA	6,779	8,458	NA	7,174	7,273	NA	1.4	NA
Draftsmen (tracers)	3,931	4,345	5,675	4,387	4,598	4,880	4.8	6.1	11.2
Engineering technicians	NA	6,802	8,648	NA	7,198	7,436	NA	3.3	NA
Median increase: 60 industry series							9.5	6.2	16.7

^aSource: U.S. Department of Labor (25).

^bAnnual average salaries based upon the average of salaries for all BLS ratings within that occupation.

of the sixty industry group. These same professional categories were also, for the most part, outdistanced by the union scale groups, Table 5-4, over the like period.

To identify potential losers in real terms within the professional groups over this interval, the poorest performers in each group are presented in Table 5-6. Here, each occupational category is appended with its range of ratings designated by the Bureau of Labor Statistics. The published figures are then those of the particular rating, within that occupation, experiencing the least amount of earnings increase. Although there were no losers in real terms for these groups isolated by rating, all exhibit earnings increases less than the sixty industry median.

Classified along these lines, attorneys (III rating) received the least increase, 1.7 per cent, whereas the increase in the earnings, based on the average of attorneys of all ratings, was the highest of all the professional categories surveyed in Table 5-5. For auditors and job analysts, the particular rating exhibiting the least earnings increase was also the highest rating designated for that occupational category.

Over the inflationary interval, 1965-70, the professional categories of Table 5-5 experienced smaller rates of real earnings increase relative to 1961-65, as previously noted. And with the exception of accountants, auditors, and attorneys, the rates of increase for the group were below that of the sixty industry series. Also during this later period, these professional groups, with the exceptions noted above, were outpaced

Table 5-6. Rating with lowest amount of increase within that occupation in earnings of selected professional, technical and administrative occupations:^a 1961 and 1965

Occupation	Range of rating	BLS rating ^b	Average annual salary in current dollars		Average annual salary in real terms (1967 dollars)		Percentage increase in real terms
			1961	1965	1961	1965	1961-65
Accountants	(I-V)	I	\$ 5,736	\$ 6,312	\$ 6,402	\$ 6,679	4.3%
Auditors	(I-IV)	IV	9,480	10,728	10,580	11,352	7.3
Chief accountants	(I-IV)	I	9,564	10,740	10,674	11,365	6.5
Attorneys	(I-VII)	III	9,804	10,512	10,942	11,124	1.7
Job analysts	(I-IV)	IV	9,612	10,668	10,728	11,289	5.2
Personnel directors	(I-IV)	I	8,676	9,576	9,683	10,133	4.6
Chemists	(I-VIII)	II	6,684	7,584	7,460	8,025	7.6
Engineers	(I-VIII)	VII	16,476	18,012	18,388	19,060	3.7
Median increase: 60 industry series							9.5

^aSource: U.S. Department of Labor (25).

^bBureau of Labor Statistics rating.

relative to the earnings increases in the union scale categories of building and trucking. An additional identification of the occupational rating experiencing the least amount of earnings increase is presented in Table 5-7 for the 1965-70 period. Over this interval, it appears that there are losses in real terms. Job analysts (IV rating), engineers (VII rating), and draftsmen (II rating) appear to have suffered real losses of .7, 2.3, and 1.1 per cent respectively. And, the rating for job analysts, chemists, and engineers showing the least earnings increase was also the highest of the range for those categories. Unlike the previous stable price period case, however, the poorest performers among accountants, auditors, and attorneys did in fact realize increases in excess of the sixty industry median.

Over the entire interval of analysis, 1961-70, it appears that none of the professional categories surveyed in Table 5-5 suffered an earnings loss in real terms. Even the real losers, of the 1965-70 rating with lowest increase analysis of Table 5-7, job analysts and engineers, display real gains when viewed over the 1961-70 interval as shown in Table 5-8. With the exception of draftsmen, tracers, and engineering technicians, the selected professional occupations all have above average annual earnings. Of these higher income groups, only accountants, auditors, and attorneys have average annual earnings in excess of the sixty industry median for this particular interval. It appears that along occupational lines, attorneys have gained substantially as witnessed by the approximate 60.4 per cent increase in average annual real earnings during the

Table 5-7. Rating with lowest amount of increase within that occupation in earnings of selected professional, technical, and administrative occupations:^a 1965 and 1970

Occupation	Range of rating	BLS rating ^b	Average annual salary in current dollars		Average annual salary in real terms (1967 dollars)		Percentage increase in real terms
			1965	1970	1965	1970	1965-70
Accountants	(I-V)	III	\$ 8,124	\$10,686	\$ 8,597	\$ 9,188	6.9%
Auditors	(I-IV)	III	8,748	11,475	9,257	9,867	6.6
Chief accountants	(I-IV)	I	10,740	13,917	11,365	11,966	5.3
Attorneys	(I-VII)	IV	13,644	20,304	14,438	17,458	20.9
Job analysts	(I-IV)	IV	10,668	13,035	11,289	11,208	- 0.7
Personnel directors	(I-IV)	III	14,520	18,419	15,365	15,837	3.1
Chemists	(I-VIII)	VIII	22,212	27,731	23,505	23,844	1.4
Engineers	(I-VIII)	VIII	21,108	25,393	22,337	21,834	- 2.3
Engineering technicians	(I-V)	III	6,828	8,541	7,225	7,344	1.7
Draftsmen	(I-III)	II	6,875	8,364	7,275	7,192	- 1.1
Tracers (I rating only)			4,345	5,675	4,598	4,880	6.1
Median increase: 60 industry series							6.2

^aSource: U.S. Department of Labor (25).

^bBureau of Labor Statistics rating.

Table 5-8. Ratings with lowest amount of increase within that occupation in earnings of selected professional, technical, and administrative occupations:^a 1961 and 1970

Occupation	Range of rating	BLS rating ^b	Average annual salary in current dollars		Average annual salary in real terms (1967 dollars)		Percentage increase in real terms
			1961	1970	1961	1970	
Accountants	(I-V)	IV	\$ 8,724	\$12,755	\$ 9,737	\$10,967	12.6%
Auditors	(I-IV)	IV	9,480	14,044	10,580	12,076	14.1
Chief accountants	(I-IV)	II	11,159	15,647	12,454	13,454	8.0
Attorneys	(I-VIII)	II	8,136	13,585	9,080	11,681	28.6
Job analysts	(I-IV)	IV	9,612	13,035	10,728	11,208	4.5
Personnel directors	(I-IV)	I	8,676	12,593	9,683	10,828	11.8
Chemists	(I-VIII)	VI	13,356	19,700	14,906	16,939	13.6
Engineers	(I-VIII)	VIII	19,056	25,393	21,268	21,834	2.7
Tracers (I rating only)			3,931	5,675	4,387	4,880	11.2
Median increase: 60 industry series							16.7

^aSource: U.S. Department of Labor (25).

^bBureau of Labor Statistics rating.

1961-70 period. The remaining professions with this occupational spectrum have had purchasing power redistributed from them to the extent that their earnings gains are below that of the sixty industry median.

The next occupational analysis is that of selected white collar and clerical workers. The earnings experience of this group is presented in Table 5-9. The majority of occupations covered here realized greater increases in real earnings during the relatively stable price interval of 1961-65. The exceptions to this occurrence were the increases in real weekly earnings of office boys, keypunch operators, and industrial nurses, as the earnings of these three groups grew at a greater compound annual rate during the inflationary period. It appears that, although average weekly earnings were generally lower for women over this heterogeneous collection of occupations, their rates of real income increase were, for the most part, greater than that for males over the three intervals examined. During the 1961-65 interval, all of the groups in Table 5-9 experienced earnings increases less than that of the sixty industry median. Over the 1965-70 inflationary interval, only office boys and industrial nurses posted earnings increases above this same industry median. It is important to note that none of the occupational categories surveyed in Table 5-9 suffered a loss in real earnings in either of the two shorter intervals and consequently realized increased real earnings over the entire period, 1961-70. However, using the sixty industry median as a proxy, it appears that the only relative gain in terms of a redistribution of purchasing power in this clerical category was in the real earnings of registered industrial nurses.

Table 5-9. Average weekly earnings for selected white collar and clerical occupations in 1961, 1965, and 1970 by sex (25)

Occupational category	Weekly earnings in current dollars			Weekly earnings in real terms (1967 dollars)			Percentage increase in real terms		
	1961	1965	1970	1961	1965	1970	1961-65	1965-70	1961-70
Men									
Accounting clerks, class A	\$105.00	\$116.50	\$145.00	\$117.20	\$123.30	\$124.70	5.2%	1.1%	6.4%
Accounting clerks, class B	84.50	93.00	119.50	94.30	98.40	102.80	4.3	4.5	9.0
Tabulating machine operators	90.00	99.00	124.50	100.40	105.80	107.10	5.4	1.2	6.7
Office boys	59.00	66.00	83.50	65.80	69.80	76.10	6.1	9.0	15.7
Women									
Accounting clerks, class B	67.50	76.50	96.50	75.30	81.00	83.00	7.6	2.5	10.2
File clerks class B	59.00	66.50	86.50	65.80	70.40	74.40	7.0	5.7	13.1
Key punch operators	69.00	74.50	96.50	77.00	78.80	83.00	2.3	5.3	7.8
Registered nurses (industrial)	96.00	108.50	147.00	107.10	114.80	126.40	7.2	10.1	18.0

Table 5-9 (Continued)

Occupational category	Weekly earnings in current dollars			Weekly earnings in real terms (1967 dollars)			Percentage increase in real terms		
	1961	1965	1970	1961	1965	1970	1961-65	1965-70	1961-70
Secretaries	\$ 90.50	\$102.50	\$130.00	\$101.00	\$108.50	\$111.80	7.4%	3.0%	10.7%
Stenographers	73.50	81.50	103.00	82.00	86.20	88.60	5.1	2.8	8.0
Typists, class B	61.50	68.00	8.50	68.60	72.00	76.10	5.0	5.7	10.9
Median increase: 60 industry series							9.5	6.2	16.7

The earnings experience of skilled and unskilled workers is illustrated in Table 5-10. As with the majority of occupational groups previously examined, the real earnings of both skilled and unskilled workers generally grew more rapidly during the period of relative price stability. The only exception was in the case of the skilled category tool and die makers with compound annual rates of real earnings increase of 1 per cent and 1.2 per cent for the respective 1961-65 and 1965-70 periods. None of the groups surveyed in Table 5-10 suffered losses in the real value of hourly earnings in any of the three periods examined. In the stable price interval 1961-65, only the real hourly earnings of auto mechanics were in excess of the sixty industry median. For the inflationary 1965-70 interval, only tool and die makers realized earnings increases approximating the sixty industry median. In general, the real earnings changes for these skilled and unskilled categories, although positive, were below the sixty industry median during each of the three time periods examined.

Additional comparisons can be made, using Table 5-10, in terms of the impact of inflation on the poor. If the poor are relegated to the unskilled labor status, it would appear that the real earnings of the unskilled increased more rapidly vis-a-vis skilled workers during the period of relatively stable prices. This gain was eroded during the inflationary interval as the earnings increases of skilled workers outpaced those of the unskilled to the degree that, over the entire interval, the unskilled realized a smaller increase. Over the entire interval,

Table 5-10. Average hourly earnings for selected skilled and unskilled occupations^a in 1961, 1965, and 1970

Occupational category	Hourly earnings in current dollars			Hourly earnings in real terms (1967 dollars)			Percentage increase in real terms		
	1961	1965	1970	1961	1965	1970	1961-65	1965-70	1961-70
Skilled									
Carpenters	\$2.79	\$3.14	\$4.07	\$3.11	\$3.32	\$3.50	6.7%	5.4%	12.5%
Electricians	2.99	3.34	4.30	3.34	3.53	3.70	5.7	4.8	10.8
Machinists	2.97	3.32	4.24	3.32	3.51	3.65	5.7	3.9	10.0
Auto mechanics	2.69	3.11	4.01	3.00	3.29	3.45	9.6	4.8	15.0
Painters	2.73	3.12	4.03	3.05	3.30	3.47	8.2	5.1	13.8
Tool and die makers	3.16	3.48	4.55	3.53	3.68	3.91	4.2	6.2	10.8
Unskilled									
Janitors, porters	1.76	1.97	2.46	1.96	2.09	2.12	6.6	1.4	8.1
Laborers	2.10	2.38	3.01	2.34	2.52	2.59	7.6	2.7	10.6
Order fillers	2.11	2.40	3.06	2.36	2.54	2.63	7.6	3.5	11.4
Truck drivers	2.47	2.85	3.62	2.76	3.02	3.11	9.4	3.0	12.7
Forklift operators	2.33	2.61	3.27	2.60	2.76	2.81	6.2	1.8	8.1
Median increase: 60 industry series							9.5	6.2	16.7

^aSource: U.S. Department of Labor (25).

1961-70, the average increase in real hourly earnings of the six skilled categories of Table 5-10 was approximately 12.2 per cent as opposed to an approximate 10.2 per cent for the unskilled. In terms of median increases in real wages for these same two classifications, the respective increases are 11.7 per cent for skilled workers and 10.6 per cent for unskilled workers.

In addition, using both the average and median hourly wage for each classification as an index, there appears to have been no narrowing of wage differentials between skilled and unskilled workers. The differential between the two divisions remained nearly constant through 1961-70 in terms of average hourly earnings in current dollars.

Based upon these facts, apparently the poor, as represented by the unskilled worker, may not have benefited during inflation through a more rapid increase in earnings and a consequent narrowing of wage differentials relative to the skilled workers.

Such a conclusion, however, is inappropriate at this point based upon the restricted information provided by Table 5-10. Although the hourly earnings of unskilled workers may not have increased sufficiently to demonstrate above average real gains during inflation, an increase in the level of employment of unskilled workers during an upswing in economic activity could provide gains for the poor viewed as an income class in the aggregate. Such an upswing in the level of economic activity could also result in many unskilled workers already in the labor force moving to the skilled labor ranks through an upgrading of their skills.

Such events are obviously unaccounted for in terms of the scope of analysis of hourly earnings rates.

The next selected occupation surveyed is that of college faculties. The earnings experience of four academic ranks is exhibited in Table 5-11. As with the majority of occupational groups previously examined, the average annual real earnings of college and university faculty members increased at a greater rate during the 1961-65 period of relative price stability. All four ranks within this faculty category also realized increases in real earnings that were in excess of the sixty industry median. The range of the earnings increases over this period corresponded to academic rank in that the greatest increase was realized by full professors, 16.5 per cent, while the smallest increase was that of instructor with a 12.5 per cent gain. For the 1965-70 period of rapidly rising prices, the real earnings of all four ranks were again in excess of the sixty industry median. Over the interval, however, the highest rate of increase was in the earnings of the assistant professor rank with a 12.2 per cent gain. For the entire period, 1961-70, all ranks exhibited real earnings increases considerably in excess of the sixty industry median. The absolute amounts of these increases did not, however, follow along the lines of academic rank. The relatively higher rate of increase in earnings at the assistant professor level, during 1965-70, allowed this rank to realize a slightly greater increase than that of the associate professor over this same period. For all three time intervals examined in Table 5-11, it would appear that the academic community has gained in terms

Table 5-11. Average faculty salaries for 1961, 1965, and 1970^a
(Data on 9 month basis)

Academic rank	Average annual earnings in current dollars			Average annual earnings in real terms (1967 dollars)			Percentage increase in real terms		
	1961 ^b	1965 ^c	1970 ^d	1961	1965	1970	1961-65	1965-70	1961-70
Professor	\$10,344	\$12,715	\$17,374	\$11,545	\$13,455	\$14,939	16.5%	11.0%	29.4%
Associate professor	7,949	9,623	13,066	8,872	10,183	11,235	14.8	10.3	26.6
Assistant professor	6,676	7,980	11,015	7,451	8,444	9,471	13.3	12.2	27.1
Instructor	5,428	6,442	8,541	6,058	6,817	7,344	12.5	7.7	21.2
Median increase: 60 industry series							9.5	6.2	16.7

^aSource: American Association of University Professors (3-5).

^bAverage salary for 1960-61 academic year.

^cAverage salary for 1964-65 academic year.

^dAverage salary for 1969-70 academic year.

of a redistribution in purchasing power in that the earnings increases of this group were in excess of the sixty industry median.

The preceding analysis of the earnings experience of college faculties is the final category in the examination of selected occupational groups. This examination covers a total of 102 different occupational designations for the period 1961-70.

Perhaps the most interesting finding of this analysis is the fact that none of the groups surveyed actually suffered a loss in real terms during the recent inflation. All of these groups were, in fact, gainers in that the change in money wages over the nine year period were in excess of the change in the CPI over this same interval. If the wage experience of this 102 group analysis is representative of wage behavior for the economy in the aggregate, then wages, as a factor share, did not appear to lag during inflation. Recall from previous chapters' examination of functional income shares that this does appear to be the case in that the wage share has continually gained at the expense of other factor shares with the exception of interest income. It would be possible to visualize a wage lag if a particularly short time interval is adopted which is the case when, for example, a particular occupational group might realize that in a given year the CPI may have increased more than their money wage. In the analysis of selected occupational groups this was the case in the 1965-70 inflationary interval for only approximately 5.9 per cent of the groups examined. Nevertheless, this small group also became gainers in real terms when viewed over the entire 1961-70 interval.

Thus, after examining the behavior of both functional income shares and occupational earnings it would seem that real wages have increased for the majority of the groups under study during periods of both relative price stability and inflation. This fact implies that, in effort to identify gainers and losers during the recent inflation, one must concentrate on redistribution of income within the occupational groups surveyed. To facilitate such an analysis, the real earnings experience of the entire 102 occupational groups are presented in Table 5-12. The median real earnings increase was 15.5 per cent for the entire set of occupations over the 1961-70 interval. A given occupation within this set would have gained (lost) relative to other occupations to the extent that the change in real earnings for that occupation was higher (lower) than the median increase for the group. In other words, purchasing power would be redistributed toward those groups whose earnings increased more rapidly.

The real earnings changes for the entire group ranged from 60.4 per cent increase in the average annual real earnings of attorneys to a low of 2.4 per cent in the annual average real earnings of those in the amusement and recreation industry in the services sector. Along broadly classified occupational categories, certain sectors were relative losers in the earnings redistribution over both the inflationary and stable price period. Table 5-13 illustrates the earnings experience of the occupational groups classified along these broad lines. In respect to the redistribution of purchasing power, the earnings increases

Table 5-12. Percentage increases in real earnings for the 102 occupational classifications: 1961-70 (1967 dollars) (3-5, 22-24, 25).

Less than median increase of 15.5 per cent		Greater than median increase of 15.5 per cent	
Services: amusement and recreation	2.4%	Professional: attorneys	60.4%
Mfg.: rubber and plastic products	3.0	Agriculture: farm workers	39.6
Services: educational services	4.5%	Mining: coal mining	39.2
Services: non-profit organizations	5.0	Services: medical and other health services	34.8
Clerical: accounting clerks, class A	6.4	Mfg.: tobacco products	34.1
Clerical: tabulating machine operators	6.7	Services: legal services	33.0
Mfg.: fabricated metal products	7.3	Finance: real estate	33.0
Unskilled: janitors, porters, cleaners	7.7	Finance: insurance agents	32.8
Clerical: keypunch operators	7.8	Transportation: motor freight	31.2
Clerical: stenographers	8.0	Services: miscellaneous repair	29.9
Unskilled: forklift operators	8.2	Transportation: pipeline	29.6
Mfg.: primary metal products	8.4	Professional: professors	29.4
Communications: radio, television broadcasting	8.8	State government: nonschool	29.0
Professional: job analysts	9.0	Federal government: civilian	28.9
Clerical: accounting clerks, class B	9.0	Professional: assistant professors	27.1
Mfg.: transportation equipment, except motor vehicles	9.9	Professional: associate professors	26.6
Skilled: machinists	10.0	Contract construction	26.5
Professional: engineers	10.1	Local truck transit (union rates)	26.2
Mining: metal mining	10.1	Mfg.: lumber products except furniture	25.3
Clerical: accounting clerks, class B (women)	10.2	Finance: insurance carriers	24.3
		Federal government: military	24.2
		State government: public education	23.0
		Transportation: air (common carriers)	22.6
		Building: helpers labors (union rates)	22.4
		Local trucking: drivers (union rates)	22.2

Table 5-12 (Continued)

Less than median increase of 15.5 per cent		Greater than median increase of 15.5 per cent	
Unskilled: laborers, materials handling	10.4	Services: hotels, other lodging places	21.7
Printing: newspapers (union rates)	10.4	Local trucking: helpers (union rates)	21.5
Mfg.: electrical machinery	10.4	Services: personal services	21.2
Mfg.: printing, publishers	10.4	Professional: college instructors	21.2
Clerical: secretaries	10.7	Finance: credit agencies	21.1
Skilled: electricians	10.8	Mining: non-metallic and quarrying	21.1
Mfg.: instruments	10.8	Transportation: services allied	20.2
Clerical: typists, class B	10.9	Mining: petroleum, gas	18.8
Skilled: tool and die makers	10.9	Transportation: local highway passenger	18.4
Mfg.: furniture and fixtures	10.9	Professional: auditors	18.4
Mfg.: miscellaneous mfg.	11.0	Building: journeymen (union rates)	18.4
Professional: draftsmen (tracers)	11.2	Mfg.: motor vehicles	18.2
Unskilled: order fillers	11.7	Wholesale trade	18.2
Professional: chief accountants	12.0	Registered nurses (industrial)	18.0
Mfg.: petroleum, coal	12.1	Transportation: railroads	17.8
Services: motion pictures	12.2	Mfg.: textile-mill products	17.5
Skilled: carpenters	12.4	Communications: electric, gas utilities	17.3
Printing: book and job	12.7	Retail trade	16.8
Unskilled: truck drivers	12.9	Communications: telephone, telegraph	16.6
Clerical: file clerks (women)	13.1	Finance: banking	16.2
Mfg.: paper and allied products	13.3		
Skilled: painters	13.7		
Agriculture: forestry and fisheries	13.7		
Professional: accountants	14.0		
Mfg.: apparel and other fabric products	14.3		

Table 5-12 (Continued)

Less than median increase of 15.5 per cent		Greater than median increase of 15.5 per cent	
Professional: personnel directors	14.4	Transportation: water transportation	16.0
Mfg.: chemicals and allied products	14.8	Professional: chemists	16.0
Skilled: auto mechanics	14.9	Clerical: office boys	15.7
Mfg.: food and kindred products	14.9	Mfg.: leather products	15.6
Finance: security brokers	15.1	Services: private households	15.5
Mfg.: machinery, except electric	15.4	Mfg.: stone, glass, and clay products	15.5

Table 5-13. Median increases in real earnings by broadly classified occupational categories^a

Occupational category	Number of occupational descriptions in this category	Median increase 1961-65	Median increase 1965-70	Median increase 1961-70
Agriculture, forestry and fisheries	2	3.1%	22.6%	26.7%
Mining	4	10.5	8.7	19.9
Contract construction	1	10.5	14.6	26.5
Manufacturing	21	8.5	3.9	13.3
Transportation	7	12.0	7.3	20.2
Communication	3	9.5	3.8	8.8
Wholesale and retail trade	2	13.0	4.0	17.5
Finance, insurance, and real estate	6	15.8	6.0	22.7
Services	10	10.0	7.4	18.4
Government	4	11.0	13.5	26.6
Professional, technical and administrative	13	9.5	7.5	17.2
Clerical	11	5.4	4.5	10.2
Selected union rates	7	9.7	9.6	21.5
Selected skilled trades	6	6.4	4.9	11.7
Selected unskilled trades	5	7.5	2.7	10.4
Median increase: 102 occupational descriptions		8.8	5.6	15.5

^aSources: American Association of University Professors (3-5); U.S. Department of Commerce (22-24); U.S. Department of Labor (25).

for the clerical, skilled, and unskilled categories appear to have been relatively substandard during both the inflationary and stable price intervals and consequently, for the entire period of study. However, the clerical and skilled categories fared better in inflation in that their real earnings increases were, in this period, nearer the median increase for all occupations. Nevertheless, the substandard performance in the earnings of all three of these categories over the entire interval of study resulted in a widening of wage differentials between them and other occupational groups--with or without inflation.

The poorest performance exhibited among the broad classifications of Table 5-13, for the 1961-70 interval, was that in the communications sector. This group posted only an 8.8 per cent gain over the entire interval despite the fact that the increases for the 1961-65 and 1965-70 periods were 9.5 and 3.8 per cent, respectively. This irregularity occurs as there are only three occupational descriptions within this category and, accordingly, the median in this group would be that of the middle ranked performer. Thus, for the 1961-65 period, the median increase for the group would be the 9.5 per cent increase in the average annual real earnings in radio and television broadcasting as the other two descriptions--telephone and telegraph and electric, gas, and sanitary--yield increases of 12.4 and 8.7 per cent, respectively.

For the 1965-70 period, the median observation becomes that of the average real earnings increase in telephone and telegraph at 3.8 per cent as the earnings changes for the other two categories ranged from

7.9 per cent in electric, gas and sanitation to a real earnings loss of .6 per cent in radio and television broadcasting.

For the entire interval, 1961-70, the middle observation for the communications sector again becomes that of radio and television broadcasting at 8.8 per cent while the other increases stood at 16.6 per cent for earnings in telephone and telegraph and 17.3 per cent for electric, gas and sanitation. Thus for this restrictive case in the communications sector, it is more appropriate to measure the performance of the groups in the area independently rather than in terms of median increases for the sector as a whole. Taken independently then, the inflationary period, 1965-70, produced an actual loss in the real value of average earnings in radio and television broadcasting. Over this same interval, the change in telephone and telegraph earnings, although positive in real terms, was below the median for all the occupations surveyed and thus also experienced a loss in the redistribution of purchasing power. The only occupational group to have gained in the communications sector during the inflationary interval appears to be the earnings increase in the electric, gas and sanitation group. This group realized a 7.9 per cent increase in real terms of this interval which was approximately 41 per cent above the median increase for the 102 occupational classifications taken as a whole. This earnings experience then allowed this group to realize a relative gain in purchasing power. The final occupational sector that experienced a relative loss in purchasing power was that of manufacturing. During the stable price period, this group realized

a median increase equal to that of the set of 102 occupations surveyed. This sector was a relative loser over the inflationary interval, however, in that the median real earnings increase of this category--3.9 per cent--was roughly 30 per cent below that of the entire occupational survey for the same 1965-70 interval.

Turning to those occupational categories that benefited over these same intervals, the most spectacular performance was that of earnings in the agricultural sector. Although this category posted an average increase in annual real earnings of only 3.1 per cent for the 1961-65 period, the inflationary 1965-70 interval witnessed a 22.6 per cent gain in real earnings. The considerable relative gain allowed this group to then also realize the largest gain over the entire interval of all the categories of Table 5-13.

Only two other occupational categories, government and contract construction, exhibited annual earnings changes approaching that of the agriculture sector. In both time periods both of these categories realized earnings improvements that were in excess of the median for the entire set of 102 occupations. In addition, the largest relative gain for the two categories occurred during the period of inflation in that their gain was proportionately higher relative to the 102 set median for this interval as opposed to the stable price period. This performance is exhibited in Table 5-14 which shows the median increases in the contract construction and government categories to be in excess of the 102 set median by 161 and 141 per cent respectively for the 1965-70 period. In contrast, for the stable price interval the median real

Table 5-14. Median earnings performance of broadly classified occupational categories relative to median of entire occupational set^a

Occupational category	Ratio of occupational category median to median of entire occupational set		
	1961-65	1965-70	1961-70
Agriculture, forestry, and fisheries	.35	4.04	1.72
Mining	1.19	1.55	1.28
Contract construction	1.19	2.61	1.71
Manufacturing	1.00	.70	.86
Transportation	1.36	1.30	1.30
Communication	1.08	.69	.57
Wholesale, retail trade	1.48	.71	1.13
Finance, insurance, real estate	1.80	1.07	1.46
Services	1.14	1.32	1.19
Government	1.25	2.41	1.72
Professional, technical, and administrative	1.08	1.34	1.11
Clerical	.61	.80	.66
Selected union rates	1.10	1.71	1.39
Selected skilled trades	.73	.88	.75
Selected unskilled trades	.85	.48	.67

^aSources: American Association of University Professors (3-5); U.S. Department of Commerce (22-24); U.S. Department of Labor (25).

earnings increase for these two categories were in excess of the median for the entire occupational set in the amount of 19 per cent for contract construction and 25 per cent for government.

Of the fifteen broadly classified categories of Table 5-14, the only other categories realizing greater relative gains over the inflationary interval were in union rates and the mining, professional, services, clerical, and skilled categories. As was noted earlier, however, although the clerical and skilled labor classifications turned in a better performance relative to the median of the entire occupational set over the inflationary period, their real earnings increases were below that same median. This would suggest that the growth rate in the wage differential between these and other occupational categories was reduced during the inflationary interval.

Two occupational categories in Table 5-14 appear to have been adversely affected during the 1965-70 inflationary period in that their earnings increases, while in excess of the median for the entire occupational set, were not as relatively high as in the stable price interval. The finance and transportation categories realized median earnings increases in excess of the median for the entire set of 7 per cent and 30 per cent, respectively, over the inflationary period. Over the stable price interval these same categories were in excess of the median by 80 per cent and 36 per cent, respectively.

The final group of the broadly classified occupational categories is that of wholesale and retail trade. The relative performance of

earnings in wholesale and retail trade also appears to have been poorer during the inflationary interval. Unlike the finance and transportation categories, however, earnings in the trade category were below median for the inflationary period. Consequently, although this category experienced a relative gain over the entire interval of study, earnings increases during inflation were insufficient in terms of maintaining relative parity.

The analysis of this section was in effort to observe the wage flexibility experienced by various occupational groups during periods of both relative price stability and inflation. As such, the data are representative of the average real earnings experience realized by an individual who remained employed in a particular occupational category over the 1961-70 interval.

During the 1965-70 inflationary experience wages were of sufficient flexibility such that approximately only 6 per cent of the occupations examined suffered a loss in real purchasing power over this interval. When viewed over the broader perspective, however, all the occupations surveyed did, in fact, realize real earnings gains.

The redistributive impact of inflation on wages, then, must be viewed in terms of relative wage changes among occupations. Consequently, the analysis of wage data was then focused upon an examination of the relative earnings experience among broadly classified occupational categories.

In terms of relative earnings performance, it appears that the occupational categories realizing the smaller relative gains during both

the stable and inflationary price intervals were the lower paying occupational categories--clerical, skilled, unskilled and manufacturing. During the inflationary interval this poor relative performance was intensified in respect to the earnings behavior in the manufacturing and skilled categories.

The higher relative gains during periods of both inflation and price stability accrued to the higher paying occupations with the median earnings increases in services and agriculture as exceptions. In addition, the higher paying occupations, for the most part, exhibited better relative earnings performance during the inflationary interval.

In conclusion, it would seem that although none of the occupations examined over the 1961-70 interval lost in terms of real purchasing power, a continued widening in wage differentials did persist between broadly classified lower and higher paying occupations. On the surface, this would imply that lower income groups became relatively worse off and that for certain occupational categories this relative loss was intensified during the inflation of 1965-70. A conclusion such as this, however, is based solely on an analysis of changing incomes along occupational lines and does not include the macroeconomic effect of changing levels of aggregate employment. Thus, although lower paying occupations may have realized relatively smaller gains over the time periods in question, this does not imply that particular groups must have then necessarily gained or lost when these groups are examined by income levels instead of along occupational lines. An analysis of the impact of inflation

on particular groups classified along other than occupational lines remains to be treated in subsequent sections of this research.

CHAPTER VI. CHANGES IN THE COMPOSITION AND DISTRIBUTION OF VARIOUS INCOME SOURCES

This chapter focuses upon the changes that have occurred in respect to selected sources of income during periods of both inflation and relative price stability. The object of this analysis is to detect if there has been any redistribution of aggregate income between groups over the different periods of price level experience.

Data on the distribution of aggregate income are published by the Bureau of the Census but, unfortunately, the data are not broken down into component parts which would allow an examination of the behavior of selected income sources. It is possible, however, to construct income distribution data by relying on material provided in the Statistics of Income series published by the Internal Revenue Service. The income data published annually by the Internal Revenue Service in Statistics of Income, "Individual Income Tax Returns" (26-34) provide a statistical summary of taxable income by source, based upon sample information taken from all tax returns filed each calendar year. The income data include both taxable and non-taxable returns and ranks income groups in ascending order by adjusted gross income class. Relying on this data, it is possible to examine the behavior over time, of selected sources of income. The income sources analyzed in this chapter, based upon this income tax information, are: wages, dividends, interest, pensions, rents, capital gains and losses, and business and professional income from both proprietorships and partnerships.

As previously noted, the Statistics of Income sources of income data are ranked by order of adjusted gross income class. The range of adjusted gross income classes used in this study runs from returns with \$1.00 to returns with adjusted gross income of \$1 million or more. This range represents twenty-four adjusted gross income classes. For each income class, the published data specify the total number of returns filed in that class, total number of exemptions claimed, taxable amount of income (or loss where applicable) from each source, and the number of returns showing income or loss from that particular income source.

The use of this data makes it possible to examine the income experience of a substantial proportion of the population. In order to illustrate this, the total number of exemptions other than for age or blindness claimed on individual returns was compared to total population estimates made for the same year, by the Bureau of the Census. Using the data for the years 1961, 1965, and 1969, the comparisons reveal that, of the total estimated population, those covered in the income tax data as claimed exemptions were approximately 92.3, 93.5, and 96.5 per cent of the total population for those respective years.

Although the Statistics of Income data are representative of a considerable part of the population, there are limitations on this data which restrict the time interval over which the analytical approach of this chapter may be used. The comparability of the income tax data between years was not significantly affected by any amendments to tax legislation until the Tax Reform Act of 1969. This particular legislation

changed tax return filing requirements beginning in taxable year 1970 by raising the level of income that could be received before tax return filing was required. Many low income taxpayers were taken from the tax rolls as a result, thus destroying the comparability of 1970 with previous years. As 1969 is the final year of consistency in the data, that year is taken as the end point of an interval and the analysis of this chapter is over the interval 1961-69. In this way, two equal intervals of different price level experience are made available. The behavior of the selected income sources treated in this chapter are then analyzed over the 1961-65 period in which the CPI rose 5.5 per cent and 1965-69 over which the same index rose 16.2 per cent.

A second event that may have had an influence on the comparability of the data was a change in data reporting practices in 1966 which affected dividend and interest income. Prior to 1966, income from these sources that was reported by individuals filing the 1040A short form was classified only as other income. Since 1966, dividend and interest income reported on 1040A forms is appropriately included in the totals for these two income sources. For 1966, approximately one per cent of all interest income was of the type that had previously been classified as other income. In respect to dividend income, less than one-half per cent of all dividends were of this previously unreported variety.

The only other major change in reporting practices over the interval was in the treatment of business and professional income for sole proprietorships for the years 1961 and 1962. For those two years, that

income source also included farm income. The technique employed to eliminate the estimated farm income share for those two years is explained in the part of this chapter devoted to the separate treatment of the business income source.

The behavior of the eight income sources treated in this chapter is in terms of the share of each aggregate income source received by each fifth of the population. Thus, the analysis of this chapter is essentially in the nature of a Lorenz curve type of approach in assessing shifts in the distribution of income. In other words, the cumulated fraction of aggregate income from each source is compared with the cumulated portion of exemptions, when exemptions are arrayed in ascending order by adjusted gross income class. As the Statistics of Income data are ranked by adjusted gross income class in nominal terms, allotting shares of income by fifths of the population compensates for having to define adjusted gross income classes in terms of real intervals. Over the interval of this study, 1961-69, the CPI increased approximately 22.5 per cent. Given this change in the price level, \$1,000 of adjusted gross income in 1961 would be equivalent, in real terms, to an adjusted gross income of \$816 in 1969. Alternatively stated, \$1,000 of adjusted gross income in 1969 would be equivalent, in real terms, to \$1,225 of adjusted gross income in 1961. In other words, a given income class of one year is equivalent to its counterpart for another year in nominal but not real terms. In the absence of a compensating scheme such as allotting income shares by fifths then, changes in income shares accruing over time to a given nominal income class would be misleading.

The published data of sources of income based upon tax returns include, for each adjusted gross income class, returns filed as either single, joint, and head-of-household returns. As a result, the data are not specifying a consistent reporting unit such as either a family or a single individual. The allocation of income shares for purposes of analysis in this chapter is instead then, based upon the concept of a spending unit. To capture this concept, shares of income accruing to each fifth of the population are based upon the population of total exemptions claimed on tax returns for each year. The income tax data include for each adjusted gross income class both the number of returns filed and total exemptions claimed within that income class. In order to allocate income shares for each year, the total number of exemptions claimed in that year is separated into fifths and each fifth is assigned its calculated share of income from each of the reported sources.

As the tail-ends of each fifth of the population of exemptions do not coincidentally account for all of the income reported in a given adjusted gross income interval, it is necessary to make an allocation of the income reported in this adjusted gross income class between two population fifths. This allocation is made by first finding the number of exemptions needed to fill out the particular income fifth in question. The percentage of this number of exemptions to the total number of exemptions in that adjusted gross income class is then that percentage used to allocate the total reported income, by source, between the two fifths. This method of apportioning income between two population fifths should not seriously

distort the data due to the narrowness of the adjusted gross income intervals. The narrowest interval over which such an adjustment was made was \$500. This narrow range was used in allocating income shares between the lowest and second fifths of exemptions and also between the second and third fifths for the years 1961-65.

The remaining allocations were made within \$1,000 wide intervals with the exception of the fourth and top fifths. For these later two groups, the interval was \$5,000 wide (\$10,000-\$15,000 adjusted gross income) in the years 1965-69.

The number of claimed exemptions used to establish population fifths for this study include the extra exemptions allowed taxpayers for age and blindness. In this respect, the total number of exemptions claimed in a given year would obviously be in excess of the population of taxpayers. However, rather than use as a basis for distribution only total exemptions for other than age or blindness, a more stringent test seems possible by using the figures that are inclusive of the extra exemptions allowed for age and blindness. On the assumption that the population of blind and aged is more likely to be predominant in the lower income fifths, the income allotted to lower income groups would be less if total exemptions were used as a basis of distribution rather than only exemptions for other than age or blindness.

Before moving to an individual examination of each of the eight separate income sources, an overall view of the interval of this study is first in order. The respective shares of each of the eight taxable income

sources are displayed in Table 6-1. The relative changes in share for these income sources taken from income tax data coincide with the changes exhibited by their respective counterparts in data provided by other sources examined in Chapter IV of this study. A salient feature concerning the changes in respective factor shares over the 1961-69 interval was the erosion in share experienced by the proprietorship, partnership, and rental income sectors during the periods of both relative price stability and inflation. The reverse was true in the case of wages, interest, pensions, and net capital gains, as these components increased in share during both time periods. The only income source showing no consistent trend was that of dividend income which displayed a modest increase in share during the stable price period but experienced a considerable loss in relative share over the inflationary interval.

It is particularly illuminating to find that both taxable interest and pension income increased at a remarkable rate relative to the other sources over both time periods. The rate of growth of these two sources was only approximated, in absolute value terms, by the rate of decay in the rental income share.

On the surface it would appear that the expected consequences of inflation do not fit well over the 1965-69 period. Shares expected to lag in inflation--wages, interest, and pensions--did in fact gain in share when viewed at this aggregate level. The only validation of any expected lags would seem to hold for the interest and pension shares to the extent that their respective rates of growth were less during the inflationary

Table 6-1. Composition of shares in total income of the eight selected income sources:^a
1961, 1965, and 1969

	Percent share of total income			Change in percent share		Compound rate of change in percent share	
	1961	1965	1969	1961-65	1965-69	1961-65	1965-69
Wages	81.80%	82.10%	82.80%	+ .30%	+ .70%	.10%	.22%
Dividends	3.03	3.07	2.61	+ .04	- .46	.25	-3.97
Interest	1.74	2.67	3.26	+ .93	+ .59	11.28	5.10
Pensions	.57	.84	1.15	+ .27	+ .31	10.17	8.17
Business and professional net income	6.93	5.82	5.05	-1.11	- .77	- 4.27	-3.49
Partnership net income	2.74	2.51	2.27	- .23	- .24	- 2.17	-2.49
Net capital gains	2.34	2.41	2.42	+ .07	+ .01	.73	.12
Net rental income	.85	.58	.44	- .27	- .14	- 9.11	-6.67

^aSource: U.S. Treasury Department (33).

period. The rental income share also appears to have run counter to expectations as, although losing in share over both periods, its rate of decay was less during the inflationary interval.

Conclusions such as the above, based upon the aggregative data of Table 6-1, fail to account for underlying structural changes within the economy over time. For example, the continued decrease in income share accruing to the business sector could be the result of an exodus of individuals from the role of business proprietor to that of wage earner. Only by attempting to compensate for the real forces at work beneath the surface, can any inferences be made concerning the monetary phenomena of inflation. In the analysis to follow, the effort made to identify relative gains and losses through inflation will also acknowledge some very interesting findings relative to such structural changes that have occurred within the economy over the time period of this study.

The analysis of changes in the distribution of the eight selected income sources will be made in the following order: wages, dividends, interest, pensions, business and professional proprietorship income, partnership income, capital gains, and rents. These income sources will then be merged in order to make a concluding analysis of the distribution of aggregate taxable income.

The techniques employed to allocate the total amount of each income component by fifths of the population of exemptions was previously explained. In order to compensate for structural phenomena such as changes in the number of individuals receiving income from a particular source, the share

of income accruing to each fifth of the population will also be expressed on a per exemption basis. To accomplish this an additional adjustment is required to the data for each income source. The Statistics of Income data show, for each adjusted gross income class, both the number of tax returns filed and number of claimed exemptions. This same data also show, by adjusted gross income class, the number of tax returns reporting income or loss from each of the eight income components analyzed in this chapter. Unfortunately, no information is provided about the number of exemptions that are included in these same returns. Any analysis based upon using a per return value for each income source for each population fifth would be misleading as the receiving unit would not be consistent; some returns would be joint returns, others single returns. To overcome this problem, an estimate of the number of exemptions sharing in each income source has been employed to express the data on a per exemption basis. This estimate is derived by first finding the ratio of total claimed exemptions to total number of returns filed for each fifth of the population. The ratio is then applied to the number of returns, in each population fifth, that report income from that particular source. This technique, applied to the years 1961, 1965, and 1969, then provides the information necessary to not only examine changes in the per exemption real value of each source of income, but to also gain some appreciation of the change in the numbers of individuals participating in a particular type of income over time.

The distribution of taxable wage and salary income by fifths of the population of exemptions for the years 1961-69 is exhibited in Table 6-2.

Table 6-2. Distribution of wage and salary income by fifths of the population of exemptions:^a 1961, 1965, and 1969

	Change in percent share					
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	7.02%	7.26%	7.03%	+ .24	-.23	+ .01
Second fifth	14.20	14.95	14.45	+ .75	-.50	+ .25
Third fifth	19.87	19.95	19.34	+ .08	-.61	- .53
Fourth fifth	23.92	24.09	25.07	+ .17	+.98	+1.15
Highest fifth	34.99	33.75	34.11	-1.24	+.36	- .88

	Real per exemption value (1967 dollars)			Percentage change in real per exemption value		
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	\$ 724	\$ 844	\$ 919	16.6%	8.9%	26.9%
Second fifth	1,350	1,623	1,786	20.2	10.0	32.3
Third fifth	1,801	2,068	2,272	14.8	9.9	26.2
Fourth fifth	2,134	2,462	2,906	15.4	18.0	36.2
Highest fifth	3,352	3,707	4,159	10.6	12.2	24.1
Average (all returns)	1,192	2,182	2,465	14.1	13.0	28.9

	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Percentage change in real value of aggregate wage income	23.3%	23.6%	52.3%
Percentage change in number of returns reporting wage income	10.5	13.5	25.5
Percentage change in exemptions reporting wage income for:			
Lowest fifth	9.4	9.8	20.2
Second fifth	8.0	8.5	17.2
Third fifth	7.8	9.0	17.5
Fourth fifth	7.7	8.9	17.2
Highest fifth	7.5	11.3	19.7
All returns	8.0	9.4	18.2

^aSource: U.S. Treasury Department (28, 30, 33).

Before moving to an analysis of the data, however, a definition of several terms used in Table 6-2 is necessary.

The per exemption value of wage income for each income fifth for the selected years 1961, 1965, and 1969, has been calculated as previously described. This per exemption value of wage income is specified in real terms (1967 dollars) by adjusting the per exemption money values by the appropriate Consumer Price Index (CPI) for the selected years.

The average real per exemption value of wage income, in Table 6-2 for these same years, is derived by first finding the average per return value of money income for all tax returns reporting income from wages and salaries. This per return average is then divided by the average number of exemptions for all tax returns in that same year. The resulting per exemption average, for all returns, is then expressed in real terms using the appropriate CPI. The average real per exemption value of wage income reported in Table 6-2 then is not the average over the income fifths but rather, the average over aggregate wage and salary income and all taxpayers reporting income from this source. This same format is used to specify the average real per exemption value for each of the remaining income sources treated in this chapter.

In looking at the distribution of wage and salary income, Table 6-2, it appears that the stable price interval of 1961-65 witnessed a shift to a more equal distribution of this income source. Over this period, the level of unemployment fell from 6.7 per cent in 1961 to 4.5 per cent for 1965. Undoubtedly, the increasing level of employment of the labor

force allowed the lower income groups to gain in aggregate income share as a result of increased labor participation rates. As Table 6-2 suggests, the major gains accrued to the lowest two quintiles of taxpayers. The change in income distribution, over this period of relatively stable prices coupled with an increase in the level of economic activity, was entirely at the expense of the top fifth of the income distribution. Over this four year period, the real value of aggregate wage income grew approximately 23.3 per cent which translates into annual compound rate of growth of 5.4 per cent. As the annual compound growth in the average number of exemptions approximated only 2.0 per cent over this same period, the average real per exemption value of wage income was allowed to increase at roughly a 3.3 per cent compound rate. Thus, each of the income fifths experienced a real increase in the per exemption slice of an increasing aggregate real wage income.

For the 1961-65 period then, it becomes a matter of relative rather than absolute real gains or losses. In this respect, only the top fifth of the income distribution posted a substandard performance with an increase in the real value of per exemption wage income of approximately 10.6 per cent as opposed to an average increase for all taxpayers of 14.1 per cent.

The largest real gain over the 1961-65 interval accrued to the second fifth of the income distribution as this group exhibited an approximate 20.2 per cent real gain over this time period. The magnitude of this gain represents a 4.7 per cent compound annual rate of growth in the real per exemption value of wage and salary income. The remaining income

groups realized real gains in the order of the first, fourth, and third fifths with respective gains over this same period of roughly 16.6, 15.4, and 14.8 per cent which translate into annual compound rates of increase of 3.9, 3.6, and 3.5 per cent.

Over the inflationary interval 1965-69, the increase in the real value of aggregate wage and salary income stood at 23.55 per cent. This translates into an annual compound rate of growth of approximately 5.4 per cent, the same rate at which aggregate wage income grew over the preceding four year period 1961-65. However, for the 1965-69 period, the average real per exemption value of wage income for all taxpayers increased by only an approximate 13.0 per cent as opposed to a 14.1 per cent figure for the 1961-65 stable price period. This differential is accounted for by noting, Table 6-2, that the percentage change in the number of returns reporting wage income increased roughly 13.5 per cent over 1965-69 compared to 10.5 per cent for 1961-65. In addition, the percentage change in the average number of exemptions covered by these returns was approximately 9.4 per cent for 1965-69 as opposed to 8.0 per cent for 1961-65. Thus, although aggregate real wage income grew at an identical rate over periods of both relatively stable prices and inflation, the average value of real wage income, over all taxpayers, grew more slowly during the period of inflation as a result of a greater rate of increase in both tax returns with wage income and the number of exemptions sharing in this income during this inflationary period.

As Table 6-2 suggests, the redistribution in wage income over the inflationary period was quite different than that realized in the stable price interval. Over 1965-69, wage income was redistributed toward the two top fifths of the income distribution with the fourth income fifth realizing a .98 percentage point increase in share and the highest fifth a .36 percentage point increase. The redistribution over this later period then resulted in a complete elimination of the gain posted by the third income fifth during 1961-65 to the extent that this group actually ended up losing roughly a one-half percentage point in share over the entire interval 1961-69.

The substantial losses of the first and second income fifths over this inflationary period did not, however, completely eliminate their respective gains which accrued during the period of more stable prices. The inflationary loss of the lowest income fifth put that group at a respective share of aggregate wage income just about equal to the percentage started with in 1961.

The second income fifth fared somewhat better. Although this group lost approximately one-half percentage points in share over the inflationary period, over the entire interval this group was still able to realize roughly a one-fourth percentage point increase in share of aggregate wage and salary income.

When viewed from the per exemption value basis, some very interesting results emerge for the inflationary interval. Over this period, the two highest groups in the income distribution actually realized

a greater real gain during the period of inflation. The gain in real per exemption value for the fourth highest group approximated 18 per cent for 1965-69 as opposed to 15.4 per cent for 1961-65. The highest income fifth experienced a gain in per exemption value of roughly 12.2 per cent for 1965-69 compared to 10.6 per cent for the 1961-65 interval.

The lowest three income groups all realized smaller real gains during the inflationary interval than those experienced during the stable price period. The adverse income redistribution witnessed by these groups was considerable in that the first and second income fifths had a real per exemption gain that was only approximately one-half that of the stable price period while the third highest group posted a 9.9 per cent increase in per exemption value over 1965-69 in contrast to 14.8 per cent for the stable price period.

In essence, the inflationary experience of 1965-69 resulted in a redistribution of wage and salary income from the lowest 60 per cent to the highest 40 per cent of the population of exemptions during a time in which the level of unemployment continually fell from a figure of 4.5 per cent in 1965 to 3.5 per cent for 1969. This occurrence seems to suggest that the benefit to lower income groups accruing as a result of inflation appears to be transitory. Initially, the upswing in economic activity resulted in considerable gains in wage share for the lower income groups. However, as a full employment level of activity is sustained, such as 1966-69, the lower income groups begin to lose the earlier gains.

In analyzing the changing distribution of wage and salary income over the 1961-69 period, it would appear that although both wage rate

and level of employment effects were at work, the preponderance of one effect over the other stands out more clearly during a given period of price level experience versus another. Recall that the analysis of wage behavior in Chapter V led to the conclusion that lower paying occupational categories did, in fact, realize the smaller real gains during periods of both relative price stability and inflation. Essentially, a continued widening of wage differentials occurred over both price level periods. Nevertheless, the dramatic increase in the level of employment, over 1961-65, thus allowed the employment effect to overcome the wage rate effect to the extent that the lower income fifths gained in the distribution of aggregate wage and salary income.

The higher level of economic activity sustained over the 1965-69 interval seems to have resulted in the wage rate effect now taking command as, during this period, the redistribution was in favor of the two highest income fifths. The effects of the widening wage differentials posited in Chapter V seem to have now emerged.

In addition to the wage performance of selected occupational groups, obviously another factor was at work to affect the aggregate wage distribution during the high employment period of 1965-69. The fact that low unemployment rates prevailed over this five year period undoubtedly allowed many workers to enter and continue in the labor force for a considerable length of time. This time duration would enable many workers to upgrade their skills and consequently move to occupational categories exhibiting greater real rates of increase.

Another interesting phenomena is that in respect to the levels of participation of wives in the paid labor force. The data presented in Table 6-3 are based upon information provided by the Bureau of the Census from the "Current Population Survey" (19-21) sample which ranks families by income size and by number of families that report a wife in the paid labor force, in each income group. The data of Table 6-3 are recast such that the families in the Census sample are redistributed into income fifths along the same intervals used in distributing the tax return information used in this chapter. This was done for the years 1961, 1965, and 1969, respectively, in order that the income fifths taken from the Census data coincide with the income fifths used, throughout this chapter, to analyze the redistribution of selected income sources.

Looking at Table 6-3, it is very interesting to note the substantial increase in the number of working wives that occurred in the fourth and fifth highest income groups during the 1965-69 inflationary interval. Over this period there was an increase in the percentage of families reporting a working wife by all income groups except the lowest fifth. However, the increase in the number of working wives reported by the fourth and fifth highest income groups was of sufficient magnitude that, in terms of the percentage distribution of total working wives, these two income groups actually gained in absolute share. This may be seen by noting, in Table 6-3, that the fourth and fifth highest income groups exhibited respective increases in percent share of total working wives of 1.8 and 3.1 percentage points. Recall that these same two income

Table 6-3. Distribution of working wives by fifths of the population of exemptions:^a 1961, 1965, and 1969

Income class	Per cent of families reporting wife in labor force		
	<u>1961</u>	<u>1965</u>	<u>1969</u>
Lowest fifth	11.9%	11.1%	10.5%
Second fifth	20.7	21.5	22.7
Third fifth	24.0	28.3	31.9
Fourth fifth	32.1	39.2	43.7
Highest fifth	39.7	42.5	48.7

	Percentage distribution of total number of working wives		
	<u>1961</u>	<u>1965</u>	<u>1969</u>
Lowest fifth	8.1%	6.5%	4.1%
Second fifth	13.9	14.5	12.6
Third fifth	17.7	19.9	19.3
Fourth fifth	23.9	26.5	28.3
Highest fifth	36.4	32.6	35.7
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

	Change in percent share of total working wives		
	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	-1.6	-2.4	-4.0
Second fifth	+ .6	-1.9	-1.3
Third fifth	+2.2	- .6	+1.6
Fourth fifth	+2.6	+1.8	+4.4
Highest fifth	-3.8	+3.1	- .7

^aSource: U.S. Bureau of the Census (19-21).

groups also posted the highest real per exemption gains over this same inflationary period. This then suggests that wage and salary income was redistributed toward the higher income groups over the 1965-69 interval not only by virtue of the fact that higher paying occupations realized greater real wage increases but that these groups also gained through increased labor participation by having a working wife. The basis for this increased participation by wives in the labor force can be visualized in two ways. One, the increased level of economic activity over the 1965-69 period allowed many wives to be assimilated into the labor force. Alternatively, the inflationary experience during this period prompted wives to enter the labor force in order to bolster family income during this time of increasing cost of living. Irrespective of the rationale, however, the phenomena in respect to working wives aids in explaining the income redistribution realized by the two upper income groups during the 1965-69 period of inflation.

Concluding the analysis of wage and salary income, certain significant observations must be restated. During the upswing in economic activity that occurred over 1961-65, a more equal distribution of wage income was achieved through increased labor force participation especially by lower income groups. However, once a low rate of unemployment was reached and pressure on prices was exerted in the interim, the wage and salary distribution tended to one of less equality. In terms of the cumulative distribution of wage and salary income, the data of Table 6-2 suggest that the trend toward more equality achieved during 1961-65

was reversed over the period of inflationary experience such that the aggregate wage and salary distribution pattern of 1969 was quite similar to that of 1961, the starting point of this analysis.

The second income source analyzed in this chapter is taxable dividend income. The distribution of this income source is exhibited in Table 6-4. An outstanding feature of the examination of dividend income is the behavior of this income source during the inflationary as opposed to the relatively stable price period. Over the entire 1961-69 interval, the aggregate real value of dividends increased by about 29.6 per cent. However, as Table 6-4 reveals, the aggregate real value of dividend income increased approximately 24.2 per cent over the four year period of relative price stability but grew only 4.4 per cent over the four year inflationary period 1965-69. Stated alternatively, the aggregate real value of dividend income increased at an annual compound rate of approximately 5.6 per cent over the 1961-65 period in contrast to an approximate 1.1 per cent compound rate over the 1965-69 period.

In contrast to the considerable disparity in growth rates of real dividend income over the 1961-65 and 1965-69 periods, the opposite effects occurred in respect to the numbers of taxpayers reporting income from dividends. Over 1961-65, the number of tax returns reporting dividend income increased roughly 17 per cent. For the 1965-69 period, the increase in number of returns reporting income from this source approximated 30 per cent. Over these two equal four year periods then, the rate of increase in the number of returns with dividend income was nearly

Table 6-4. Distribution of dividend income by fifths of the population of exemptions:^a 1961, 1965, and 1969

	Change in percent share					
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	3.80%	4.02%	4.91%	+ .22	+ .89	+1.11
Second fifth	4.95	5.60	6.22	+ .65	+ .62	+1.27
Third fifth	4.67	5.33	5.89	+ .66	+ .56	+1.22
Fourth fifth	5.99	6.95	7.86	+ .96	+ .91	+1.87
Highest fifth	80.59	78.10	75.12	-2.49	-2.98	-5.47

	Real per exemption value (1967 dollars)			Percentage change in real per exemption value		
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	\$ 289	\$ 324	\$306	12.1%	- 5.6%	5.9%
Second fifth	311	347	305	11.6	-12.1	-1.9
Third fifth	269	305	260	13.4	-14.8	-3.4
Fourth fifth	249	291	258	16.9	-11.3	3.6
Highest fifth	1,033	1,133	994	9.7	-12.3	-3.8
Average (all returns)	760	826	689	8.7	-16.6	-9.3

	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Percentage change in aggregate real value of dividends	24.2%	4.4%	29.6%
Percentage change in number of returns reporting dividend income	16.9	30.0	51.9
Percentage change in average number of exemptions reporting dividend income for:			
Lowest fifth	17.4	35.2	58.8
Second fifth	26.1	31.6	66.1
Third fifth	25.2	35.2	69.2
Fourth fifth	23.3	33.4	64.5
Highest fifth	9.8	14.4	25.6
All returns	14.2	25.2	43.1

^aSource: U.S. Treasury Department (28, 30, 33).

twice as great during the inflationary experience of 1965-69. In terms of annual compound rates of increase in dividend reporting returns, the above phenomena translates into rates of roughly 4 per cent over 1961-65 and 7 per cent over 1965-69.

The changes in dividend income on an average per return basis over both price level periods may be contrasted when the change in aggregate real value of dividends is compared to the change in number of returns for each period. Over the 1961-65 period, the average real per return value of dividend income grew at an approximate 1.5 per cent compound annual rate because the aggregate real value of dividend income grew more rapidly than the number of tax returns participating in this income source. However, for the 1965-69 interval, the aggregate real value of dividends grew less rapidly than the number of participating returns. In light of the different rates of growth previously cited for these two items, the average real per return value of dividend income actually fell in real value over the 1965-69 interval at a compound rate of approximately 5.4 per cent annually.

Thus, in summary, the average dividend reporting tax return realized a real gain over the relatively stable price period but experienced a real loss during the inflation of 1965-69. It remains then to examine the redistributive effects that have occurred within the aggregate of this income source.

Returning to Table 6-4, it appears that over the 1961-65 period, the redistribution of dividend income was entirely at the expense of

the highest income fifth of the population of exemptions. The share of dividend income accruing to this group fell from 80.59 per cent in 1961 to 78.10 per cent for 1965, a loss of 2.49 points in percent share of total dividend income. The largest gain in percent share was realized by the fourth highest income group with a gain of .96 in percent share over 1961-65. The smallest relative gain was posted by the lowest income fifth as this group gained .22 points in percent share.

Different results appear when dividend income is viewed on a per exemption basis, however, as the lower income groups also have a lower average number of exemptions per tax return. This fact is highlighted in Table 6-4 where the percentage change in the average number of exemptions covered by reporting returns in each income fifth is presented for the time periods examined. Thus, although the lowest income fifth realized the smallest gain in percent share of dividend income for 1961-65, this same group had the second lowest rate of increase in the average number of exemptions sharing in this income source--approximately 17.4 per cent over 1961-65. This relatively smaller increase in the average number of exemptions thus allowed this group to realize an approximate 12.1 per cent increase in the real per exemption value of dividend income as this real (1967 dollars) per exemption value moved from \$289 in 1961 to \$324 in 1965.

As Table 6-4 suggests, the changes in real per exemption value of dividend income for the other income fifths roughly coincide with the magnitude of changes in their respective changes in aggregate income

share. The fourth highest income group, for example, realized the greatest increase in percent share of the aggregate distribution and also had the largest relative gain in real per exemption value--16.9 per cent during 1961-65. As previously mentioned, the lowest income fifth posted the second highest gain in real per exemption value with an increase of 12.1 per cent. The second and third highest income fifths posted respective gains in this index of approximately 11.6 per cent and 13.4 per cent. The highest income group, the only net loser in aggregate share over this 1961-65 period, realized the largest relative loss by realizing an increase in real per exemption value of only 9.7 per cent for this period, a rate of increase some forty per cent less than the gain of the fourth highest income group.

As previously noted, the aggregate real value of dividend income actually fell during the 1965-69 inflationary interval. The redistribution of total dividend income over this period was again entirely at the expense of the highest income fifth as this income group lost 2.98 points in percent share over this interval. As Table 6-4 points out, this redistribution away from the highest income group did not, however, follow the same trend as that exhibited over 1961-65. Over the 1965-69 period the fourth highest income group remained the largest gainer with an increase of .91 points in percent share, a gain slightly less than that of the prior period. It is interesting to note that the second and third income fifths also realized smaller increases in percent share over the inflationary interval as opposed to the stable price period.

The experience of the lowest income group was, however, remarkably different over this same period. For 1965-69, the lowest income fifth gained .89 points in percent share, a gain over four times as great as that experienced during the stable price interval.

Although the first four income groups realized the entire redistribution of dividend income over the period of inflation, the level of increase in aggregate dividend income was too small to produce a real gain for any of these income groups. This fact is revealed in Table 6-4, where the real value of dividend income is expressed on a per exemption basis. All of the income fifths experienced a real loss when viewed on this basis and consequently, an analysis of redistributive effects must be in terms of the degree of relative loss by respective income groups.

The largest relative loss over the inflationary period was that of the third highest income group with a decline of 14.8 per cent in real per exemption value over 1965-69. This loss transpired as a result of an approximate 35.2 per cent increase in the average number of exemptions covered by reporting returns in this income group while the aggregate real value of dividends received by this group increased over this same period by approximately 15 per cent.

The second largest relative loss for 1965-69 occurred in the real per exemption value of dividend income for the highest income fifth with a decline of roughly 12.3 per cent over the four year period. Although this group lost almost 3 points in percent share of dividend

income over the inflationary period, the loss realized on a per exemption basis was somewhat mitigated by the fact that the covered exemptions in this highest income group increased about 14 per cent over this period--a rate of increase roughly one-half that of the other income fifths.

The considerable increase in percent share of dividend income received by the lowest income fifth allowed this group to experience the smallest relative loss in real per exemption value over the 1965-69 period. Although this group shared the largest increase in the average number of covered exemptions, 35.2 per cent over 1965-69, the gain of .89 points in percent share over this interval resulted in a decline of only 5.6 per cent in real per exemption value, falling from \$324 in 1965 to \$306 for 1969.

The two remaining income groups, the second and fourth highest in the distribution, displayed respective losses of 12.1 and 11.3 per cent in real per exemption value over 1965-69. These two groups then would have suffered the smallest relative losses were it not for the phenomenal performance of the lowest income group.

Merging the data of both time intervals, the events over 1961-69 reveal that only two income fifths emerged with an actual real gain in per exemption terms. The lowest income fifth realized a 5.9 per cent gain in real per exemption value over 1961-69 with the fourth highest group having the only other real gain during this period with an increase of 3.6 per cent.

As would be expected, the highest income fifth, by virtue of a continual erosion in dividend share, had the greatest loss for the 1961-69 period with a decline of 3.8 per cent in real per exemption value. This figure, however, was not much higher than that of the third income group with a loss of 3.4 per cent over the same interval. However, as Table 6-4 displays, the third income group experienced the highest increase in the number of participants in dividend income over 1961-69 with an increase in average number of exemptions of 69.2 per cent as opposed to, for example, only 25.6 per cent for the highest income fifth.

In conclusion, the data suggest that a continual redistribution of share in dividend income has occurred exclusively at the expense of the highest income group during periods of both relative price stability and inflation. During the inflationary period, however, all income groups suffered a loss, in real terms, when measured on a per exemption basis. The lowest and fourth highest income groups fared better on a relative basis during both periods of varied price level experience. The trend in the distribution of dividend income has been one of increasing equality over the entire interval of this study with the lowest income fifth exhibiting the largest relative gain when approximated on a per recipient basis.

The third income source separately analyzed in this chapter is interest income. The distribution of this income source is displayed in Table 6-5 for the 1961-69 interval. A striking fact concerning

Table 6-5. Distribution of interest income by fifths of the population of exemptions:^a 1961, 1965, and 1969

	Change in percent share					
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	13.83%	15.48%	16.31%	+1.65	+ .83	+2.48
Second fifth	12.50	14.59	15.30	+2.09	+ .71	+2.80
Third fifth	11.00	12.35	12.90	+1.35	+ .55	+1.90
Fourth fifth	12.52	13.82	14.20	+1.30	+ .38	+1.68
Highest fifth	50.15	43.76	41.29	-6.39	-2.47	-8.86

	Real per exemption value (1967 dollars)			Percentage change in real per exemption value		
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	\$251	\$272	\$256	8.4%	- 5.9%	2.0%
Second fifth	195	186	191	- 4.6%	2.7	- 2.1
Third fifth	150	114	131	-24.0	14.9	-12.7
Fourth fifth	125	98	110	-21.6	12.2	-12.0
Highest fifth	239	208	247	-13.0	18.0	3.4
Average (all returns)	218	179	204	-17.9	14.0	- 6.4

	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Percentage change in aggregate real value of interest income	88.7%	49.6%	182.2
Percentage change in number of returns reporting interest income	135.4	36.2	220.6
Percentage change in number of exemptions reporting interest income for:			
Lowest fifth	105.7	59.0	227.1
Second fifth	143.0	44.7	251.7
Third fifth	191.7	28.7	275.15
Fourth fifth	181.5	29.0	263.1
Highest fifth	99.5	12.6	124.6
All returns	130.1	31.2	201.9

^aSource: U.S. Treasury Department (28,30,33).

taxable interest income was the phenomenal increase in the number of returns reporting interest income over the 1961-65 interval. The number of tax returns participating in interest income increased approximately 135 per cent during this time. This was the largest increase exhibited for the eight income sources examined in this chapter. During this period, the aggregate real value of interest income also displayed the greatest increase, approximately 88.7 per cent.

Consequently, as the rate of increase in tax returns was in excess of the rate of increase in the aggregate real value of interest income, the average per return real value of interest income fell almost 18 per cent over 1961-65.

The decrease in per return real value of interest income was also accompanied over this stable price period by a redistribution in respective shares of aggregate interest income. The changes in percent share among the income fifths over 1961-65, as displayed in Table 6-5, was entirely at the expense of the highest fifth in the income distribution. This group lost 6.39 percentage points as the share of taxable interest income accruing to this group fell from 50.15 per cent in 1961 to 43.76 per cent in 1965. The largest gain in percent share accrued to the second income fifth with an increase of 2.09 percentage points. The remaining income classes realized gains somewhat lower than this with the lowest, third, and fourth highest income fifths posting respective gains of 1.65, 1.35, and 1.30 points in percent share of interest income.

Examining each income fifth on a per exemption basis, each but the lowest income fifth suffered a decline in the real value of interest income over 1961-65. Each income fifth experienced a substantial increase in the average number of exemptions participating in interest income. The largest increase in number of average exemptions was in the third highest income fifth with an increase of approximately 192 per cent from 1961 to 1965. This increase also produced the largest relative loss in real per exemption value with a decline of 24 per cent over the period.

Only the lowest income group gained over the 1961-65 period with an increase of 8.4 per cent in real per exemption value of interest income. This is largely accounted for by the fact that this group had the second lowest increase in the average number of exemptions coupled with an absolute increase in percent share of aggregate interest income.

The second highest income fifth experienced the lowest loss in real per exemption value. Although this group had one of the higher rates of increase in the number of average exemptions, the high relative gain in percent share of aggregate interest income allowed this group to post a loss of 4.6 per cent in real per exemption value over 1961-65.

Despite the substantial erosion in share of interest income during the relatively stable price period, the highest income fifth had the smallest increase in exemptions participating in that income source. Consequently, this group suffered a per exemption real loss approaching

13 per cent during 1961-65. Even though this loss was nearly three times as great as that of the second highest income group, this decrease in per exemption value was only about one-half as large as that experienced by the third and fourth deciles of the income distribution.

Over the 1961-65 period then, a considerable widening occurred in the number of individuals participating in interest income--over all income classes. During this period, rates of interest remained quite stable. To use selected examples as proxies, the average interest rate reported for Moody's Aaa rated corporate bonds stood at 4.35 per cent for 1961 and 4.49 per cent for 1965. The equivalents in terms of Standard and Poor's high grade municipals were 3.46 per cent for 1961 and 3.27 per cent for 1965. This would then suggest that the redistribution of aggregate interest income over 1961-65 arose primarily as a result of a more wide spread participation in interest earning assets rather than through differential rates of change in the yields on different types of assets held by various income groups. The redistribution that occurred during 1961-65 was one of increasing equality with the highest income group being the sole loser in aggregate percent share.

Quite different results occurred in respect to interest income during the inflationary interval of 1965-69. During this later period, the aggregate real value of interest income increased only 49.6 per cent as opposed to the 88.7 per cent increase posted over the stable price period. The number of tax returns participating in this income source increased 36.2 per cent over 1965-69 compared to the 135.4 per cent

increase over 1961-65. As a result, the average per return real value of interest income did in fact appreciate over the inflationary interval rather than fall in value as was the case for 1961-65.

The trend in the redistribution of aggregate interest income over the inflationary period appears to have been similar to that of the stable price interval in that the highest income fifth was again the only group to actually lose in percent share within the aggregate distribution. This highest income fifth lost 2.47 percentage points over 1965-69 as the share accruing to this group fell from 43.76 per cent in 1965 to 41.29 per cent for 1969. This loss in percent share during 1965-69 was, however, only one-third as great as that of the stable price period.

The largest gain in the redistribution of interest income accrued to the lowest income fifth during the 1965-69 period. This income fifth realized an increase of .83 percentage points in share which was roughly one-half the amount of increase realized during the stable price period. The smaller gains in absolute percent shares also held for the second, third, and fourth highest income groups over this interval. Noting Table 6-5, the second highest income fifth gained only .71 points in percent share for 1965-69 as opposed to 2.09 points for the prior period. For the third highest income fifth the gain over 1965-69 was .55 points as compared to a gain of 1.35 points in percent share for 1961-65. The fourth highest group in the distribution realized a gain of .38 points in percent share during 1965-69 versus the 1.30 point gain over the preceeding period.

As stated previously, the greater increase in real value of aggregate interest income relative to the increase in the number of participating returns thus allowed for a real appreciation in the per return real value of interest income over the inflationary period.

This real increase in value also occurred for the four highest income groups when interest income is viewed on a per exemption basis. As suggested in Table 6-5, the gains in real per exemption value, for the 1965-69 period, ranged from 2.7 per cent for the second highest income fifth to 18.8 per cent for the highest income fifth. Only the lowest fifth in the income distribution failed to realize a real value increase for 1965-69 as this group in fact suffered a 5.9 per cent loss in per exemption real value for the period.

The differential rates of increase in the average number of exemptions for each income group serves to explain the diversity in gains accruing to each group over 1965-69. For example, the data of Table 6-5 show a 59 per cent increase in the average number of exemptions receiving interest income for the lowest income group over 1965-69, compared to a 31 per cent increase in participating exemptions for tax returns taken as a whole. In contrast, the top income fifth experienced an increase in the average number of exemptions of only 12.6 per cent over the same period. This relatively smaller rate of increase enabled this highest income group to realize an 18.8 per cent gain in real per exemption value for the 1965-69 period.

Visualizing the 1965-69 period of inflation, it would appear that the rate of erosion in share of interest income for the highest income group was considerably diminished primarily as a result of the smaller amount of increase in the number of exemptions participating in this income relative to the other fifths in the distribution. However, one additional factor deserves attention in this respect and that is the level of interest rates. Using the same sources previously reported as proxies, the average interest rate for Moody's Aaa rated corporate bonds was reported at 7.03 per cent for 1969, up from 4.49 per cent in 1965 and 4.35 per cent in 1961. The rates reported on Standard and Poor's high grade municipals was 5.81 per cent for 1969 in contrast to 3.27 per cent for 1965 and 3.46 per cent for 1961. In contrast, the maximum rate allowable by the Federal Home Loan Bank Board on passbook savings accounts remained constant over this same period. This ceiling stood at 4.75 per cent as of December, 1969, and was lifted to 5.00 per cent as of January, 1970. A priori reasoning would seem to suggest that, in terms of interest yielding assets, the higher income groups would most likely be the greater holders of corporate and municipal debt whereas the lower income groups would predominantly hold savings in the form of deposits at thrift institutions. Consequently, the relatively higher rates of return realized on bonded debt, over the 1965-69 period, is an added factor in explaining the diminution in the rate of erosion in interest share and the larger relative increase in real per exemption value for the highest income group over the inflationary interval.

It must be realized, however, that this gain, accruing to higher income groups due to much higher interest yields, is in terms of income flows. If the higher income groups are the predominant bonded debt holders then the rise in interest rates over this period would also produce real losses for these groups on net worth account which is an entirely different matter.

In summary, interest income increased in percentage share relative to other income sources during the periods of both inflation and relative price stability. The rate of growth in this income component over the 1961-69 interval was such that in 1967 interest income became a larger part of aggregate income than dividends. During both time periods analyzed in this study, a trend to a somewhat more equal distribution of this income source continued when distributive shares are allocated on the basis of the population of exemptions. The highest income fifth was the consistent loser in this redistribution during both periods of price level experience. The two lowest income fifths realized the largest relative gains in share during both periods.

An interesting fact concerning the distribution of interest income is , as Table 6-5 shows, that the lowest income fifth consistently had realized a larger share of this income source relative to the next three highest groups in the income distribution. Thus, the redistribution of interest income over the entire interval 1961-69 was one of increasing equality only to the extent that the highest income group experienced the sole consistent loss over this interval.

When interest income is viewed on a per exemption basis rather than in terms of relative shares for each fifth over the entire population, quite different results appear. Approached in this fashion, the stable price period displays a real gain for only the lowest income group in the distribution. The inflationary experience, however, exhibits a redistribution of purchasing power away from the lowest income group exclusively. The relative gains and losses realized over both periods of price level experience appear to have had the net effect of redistributing purchasing power toward the highest and lowest income fifths at the expense of the groups in between.

The fourth source of income analyzed in this chapter is that of pensions. The data relative to pension income, as displayed in Table 6-6, pertain only to the taxable portion of pension and annuity income for the years 1961 through 1969.

The number of tax returns reporting income from this source increased 55.3 per cent over 1961-65. This was the second largest increase over the stable price period of the income sources treated in this chapter. During this same time period, the aggregate real value of pension income grew 81.9 per cent. As a result of both the changes in number of returns and aggregate real value, the average real per return value of pension income increased 17.2 per cent over the period 1961-65. This increase in average real per return value was outpaced only by the gain exhibited by this similar measure for proprietorship net income.

Table 6-6. Distribution of pension income by fifths of the population of exemptions:^a 1961, 1965, and 1969

	Change in percent share					
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	23.58%	25.91%	25.85%	+2.33	- .06	+2.27
Second fifth	27.95	28.30	26.73	+ .35	-1.57	-1.22
Third fifth	13.97	13.93	15.93	- .04	+2.00	+1.96
Fourth fifth	11.46	9.90	12.17	-1.56	+2.27	+ .71
Highest fifth	23.04	21.96	19.32	-1.08	-2.64	-3.72

	Real per exemption value (1967 dollars)			Percentage change in real per exemption value		
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	\$561	\$721	\$754	28.5%	4.6%	34.4%
Second fifth	636	776	795	22.0	2.5	25.0
Third fifth	555	657	745	18.4	13.4	34.2
Fourth fifth	529	576	660	8.9	14.6	24.8
Highest fifth	608	758	831	24.7	9.6	36.7
Average (all returns)	564	675	716	19.7	6.1	27.0

	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Percentage change in aggregate real value of pension income	81.9%	66.7%	203.2%
Percentage change in number of reporting returns	55.3	63.3	153.6
Percentage change in number of exemptions reporting pension income for:			
Lowest fifth	55.7	59.0	147.6
Second fifth	51.0	53.7	132.1
Third fifth	53.2	68.1	157.5
Fourth fifth	44.5	78.7	158.2
Highest fifth	39.1	33.7	85.9
All returns	51.7	57.3	138.7

^aSource: U.S. Treasury Department (28, 30, 33).

As Table 6-6 shows, a redistribution of shares occurred relative to pension income over 1961-65. The redistribution was toward the two lowest income groups with the lowest income fifth of the population realizing 2.33 points of increase in percent share and the second lowest income group gaining a modest .35 points in percent share. The two highest income groups experienced the largest loss in percent shares with the fourth highest group losing 1.56 points in percent share while the highest income fifth lost 1.08 points.

The same conditions do not quite follow when pension income is viewed from a per exemption basis rather than in terms of relative percent shares. On a per exemption basis, the lowest income group remained as the largest relative gainer as was the case when this income source was examined on a relative share basis. This group realized a 28.5 per cent increase in real per exemption value as this measure increased from \$561 in 1961 to \$721 in 1965. The large gain in percent share by this group thus also allowed the largest increase in real per exemption value despite the above average rate of increase in the number of exemptions--55.7 per cent over 1961-65.

Despite the loss in percent share over the stable price period, the highest income fifth realized the second largest increase in real per exemption value. This measure increased from \$608 in 1961 to \$758 in 1965, an increase of 24.7 per cent. This increase is primarily attributable to the fact that the number of exemptions participating in this income source increased only 39.1 per cent over 1961-65.

Although the fourth highest income fifth also had a below average increase in number of participating exemptions--44.5 per cent over 1961-65--this group experienced the lowest increase in per exemption real value for the period. On a per exemption basis, this income fifth gained only 8.9 per cent for the interval. The relatively lower increase in number of exemptions within this group was an insufficient offset to the considerable loss in percent share posted by this group.

For the 1961-65 period of relatively stable prices then, a trend toward a more equal distribution of pension income occurred in so far as the lowest two income fifths were able to gain an increased share in the aggregate distribution. These two income groups garnered the major share of pension income in 1961, 51.53 per cent, and the stable price interval concluded with this same group accounting for 54.21 in 1965. The redistribution of pension income on a per exemption basis was toward the two lowest and the highest income fifths to the extent that these groups realized greater rates of real increase relative to the third and fourth highest fifths in the aggregate income distribution.

The inflationary period of 1965-69 produced quite different results with respect to pension income than those of the stable price period. The aggregate real value of pensions increased only 66.7 per cent over 1965-69. This increase was nearly 19 per cent less than the 81.9 per cent increase during the previous four year period. The total number of tax returns, however, increased 63.3 per cent over 1965-69 as opposed to 55.3 per cent for 1961-65. Consequently, the period of inflation

produced only a 6.1 per cent increase in the average real per return value of pension income. The expected consequences of inflation thus appear to be borne out when the 6.1 per cent gain of 1965-69 is contrasted to the 19.7 per cent increase in average real per return value over 1961-65.

The redistribution occurring in relative shares in pension income was also quite different during the inflationary interval. In terms of gains and losses in percent share, as Table 6-6 shows, only the third and fourth income fifths realized increases in percent share over 1965-69. The third income fifth, which suffered a modest .04 point loss in percent share during 1961-65, gained 2.00 points over the inflationary interval as this group's share increased from 13.93 per cent in 1965 to 15.93 per cent in 1969. The fourth income fifth posted an even greater gain over this same period as this group's share moved from 9.90 per cent in 1965 to 12.17 per cent for 1969.

The highest fifth of the total income population was again the largest loser in percent share during the inflationary interval. The loss was, however, over twice as great during 1965-69, 2.64 points in percent share, compared to the 1.08 point loss for 1961-65.

The lowest income fifth suffered a moderate .06 point decline in percent share over the inflationary period. However, as a consequence of the large gain realized by this group over the stable price period, the lowest income fifth realized a 2.27 point increase in percent share over the entire interval, 1961-69.

The inflationary interval also resulted in a net loss in percent share for the second highest income group of 1.57 points. This loss overshadowed the gain of the prior four year period such that this income group emerged with a net loss for the entire interval, 1961-69. In terms of relative shares in pension income then, the inflationary experience of 1965-69 resulted in actual reductions in share for both the second lowest and the very highest fifths of the total income population.

When pension income is viewed on a per exemption basis, the effects parallel those changes exhibited in relative shares. As Table 6-6 shows, the largest increases in real per exemption value occur for the third and fourth highest income groups. These two groups show above average rates of increase in the number of exemptions participating in interest income over 1965-69. However, the gains in percent share of pension income over the same interval enabled the third and fourth highest income fifths to display respective increases in real per exemption value of 13.4 and 14.6 per cent over 1965-69. The results for 1965-69 were then just opposite those of 1961-65 as, over the stable price period, these two groups realized the smallest relative gains in aggregate pension income.

The second highest income fifth experienced the greatest relative loss in real per exemption value with an increase over 1965-69 of only 2.5 per cent. This amount of increase was roughly only one-half that of the lowest income fifth with a 4.6 per cent increase and only about one-fourth the increase of the highest income group at 9.6 per cent for 1965-69.

The inflationary experience did, it appears, inflict a loss primarily upon the two lowest income groups in society in so far as these groups realized the smaller relative gains in a growing aggregate pension income. In the aggregate, the fixed value characteristics or nature of many pension sources does emerge over the inflationary interval as is demonstrated in the lackluster performance of this income source relative to the other sources examined in this chapter. This relatively poorer performance in the aggregate did not, however, fall uniformly on the income fifths as witnessed by the considerably higher relative gains posted by the third and fourth highest income groups. Essentially, purchasing power was redistributed, on pension income account, toward the middle two income groups and away from pension recipients at both ends of the income spectrum--a move away from the trend of increased equality in income distribution that transpired over the stable price period.

The income source analyzed in this section is that of proprietorship net income from businesses and professions. As previously stated, the Internal Revenue Service, Statistics of Income, Individual Returns series includes farm income in total proprietorship income for the years 1961 and 1962. To make proprietorship income for these two years consistent with proprietorship income of later years, an estimated farm income component is taken out of the tax data for both 1961 and 1962. The estimates of proprietorship income exclusive of farm income for 1961 and 1962 were devised by relying upon the Internal Revenue Service,

Statistics of Income, Sole Proprietorships for the intervals July, 1960-June, 1961, and July, 1961-June, 1962 (34-35). The income data in this publication include all businesses including farms. The total number of businesses and total net profits are tabulated in class intervals by size of net profit. Farm income is also then reported separately along the same lines of classification. The total amount of profits and total number of firms for each of the two years were allocated into income fifths through the utilization of size of the net profit intervals that coincided with the adjusted gross income class intervals applied to apportion the other income sources for 1961 and 1962. This same procedure was then applied to both farm income and number of farms in order to distribute these aggregates into income fifths also. Then, a ratio of non-farm profit to total profit of all businesses was developed for each of the income fifths. These ratios were then applied to each counterpart income fifth of proprietorship net income, inclusive of farms, that had been previously derived from the Statistics of Income Individual Returns data. The resulting income figures are then those used as the estimated proprietorship net income for the years 1961 and 1962.

To estimate the number of active proprietorships net of farms for 1961 and 1962, the techniques used were the same as those applied in order to derive the net income estimates. First, both the total number of active businesses and non-farm active businesses were calculated for each of the income fifths derived from the Statistics of Income, Sole Proprietorships data. A ratio of the number of non-farm businesses to total number of

businesses was then developed for each income fifth for both 1961 and 1962. These ratios were then applied to the reported numbers of firms in each income fifth of net proprietorship income, inclusive of farms, that had previously been calculated from the Statistics of Income, Individual Returns data. The resulting figures were then those used as estimates of the number of active non-farm businesses for 1961 and 1962. The net proprietorship income data, presented in Table 6-7, are after adjustment through the use of these estimates of both non-farm income and number of firms for 1961.

As Table 6-7 shows, the relatively stable price period of 1961-65 witnessed a redistribution in shares of aggregate net proprietorship income toward the two highest income fifths. Over this period, the largest increase in share accrued to the highest income fifth as this group gained 3.21 points in percent share of net proprietorship income. The only other gain was that of the fourth highest income group with a modest .12 point increase in percent share over 1961-65.

Over this same time period, the real value of aggregate proprietorship net income increased 17.9 per cent while the number of returns reporting income or loss from this source actually decreased 10.9 per cent from 1961 to 1965. As a result of these two changes, the average per return real value of net businesses income increased approximately 32 per cent over this four year period. This was the largest increase in real per return value of all eight income sources analyzed in this chapter.

Table 6-7. Distribution of proprietorship net income by fifths of the population of exemptions:^a 1961, 1965, and 1969

	Change in percent share					
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	6.32%	4.83%	3.87%	-1.49	- .96	-2.45
Second fifth	11.32	10.33	9.55	- .99	- .78	-1.77
Third fifth	11.78	10.93	9.86	- .85	-1.07	-1.92
Fourth fifth	12.35	12.47	12.99	+ .12	+ .52	+ .64
Highest fifth	58.23	61.44	63.73	+3.21	+2.29	+5.50

	Real per exemption value (1967 dollars)			Percentage change in real per exemption value		
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	\$ 464	\$ 570	\$ 548	22.8%	-3.9%	18.1%
Second fifth	699	881	868	26.0	-1.5	24.2
Third fifth	773	941	864	21.7	-8.2	11.8
Fourth fifth	857	1,055	1,058	23.1	+ .3	23.5
Highest fifth	2,502	3,109	3,208	24.3	+3.2	28.2
Average (all returns)	1,244	1,683	1,771	35.3	+5.2	42.4

	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Percentage change in aggregate real value of business net income	17.9%	6.8%	25.8%
Percentage change in number of reporting returns	-10.9	5.3	- 6.1
Percentage change in number of exemptions reporting proprietorship net income			
for: Lowest fifth	-26.7	-10.9	-34.7
Second fifth	-14.6	.1	-14.5
Third fifth	-10.2	5.0	- 5.2
Fourth fifth	- 3.4	10.0	6.6
Highest fifth	-	-	-
All returns	-1.1	-	-

^aSource: U.S. Treasury Department (28, 30, 33).

During the relatively stable price period, the large increase in the per return value of proprietorship income then, was the result of an exodus of entrepreneurs from the non-incorporated business sector. As Table 6-8 points out, the decline in returns reporting in the proprietorship sector was quite dramatic. This is especially true for the lowest income fifth which exhibited a 20.6 decrease in number of returns over 1961-65. This same period also seems to have resulted in a more healthy climate of profitability for the surviving proprietorships as is suggested in Table 6-9. As this table shows, a considerable improvement occurred in respect to the ratio of losses to profits for the majority of income groups over 1961-65. Taken over all tax returns reporting income or loss, proprietorship losses were only 3.9 per cent of proprietorship profits in 1965 as opposed to 6.9 per cent for 1961. Only the lowest income fifth appears to have experienced a relatively poor performance by this measure as the ratio of losses to profits for this group fell to only 15.2 per cent for 1965 from 16.9 per cent in 1961.

When net proprietorship income is analyzed on a per exemption basis, the changes in number of participating exemptions in each income fifth, Table 6-7, roughly approximate the changes in number of returns in each fifth, Table 6-8, over 1961-65. On a per exemption basis, the largest increase in real value accrued, as Table 6-7 shows, to the second highest income fifth with an increase over 1961-65 of 26 per cent. The poorest performance was that of the third highest income group with an increase of 21.7 per cent in real per exemption value of net proprietorship income.

Table 6-8. Percentage changes in the number of returns reporting proprietorship profit or loss by fifths of the population of exemptions for selected periods:^a 1961-69

	Percentage changes		
	1961-65	1965-69	1961-69
Lowest fifth	-20.6%	- 5.5%	-24.9%
Second fifth	-11.5	4.0	- 8.0
Third fifth	-10.9	5.2	- 6.3
Fourth fifth	- 5.8	15.0	8.4
Highest fifth	- 2.6	10.6	7.8
All returns	-10.9	5.3	- 6.1

^aSource: U.S. Treasury Department (28, 30, 33).

Table 6-9. Percentage of aggregate proprietorship loss to aggregate proprietorship profit by fifths of the population of exemptions:^a 1961, 1965, and 1969.

	1961	1965	1969
Lowest fifth	16.9%	15.2%	20.2%
Second fifth	9.5	6.7	8.5
Third fifth	7.7	4.4	7.0
Fourth fifth	5.6	3.4	5.0
Highest fifth	5.3	2.5	3.5
All returns	6.9	3.9	5.3

^aSource: U.S. Treasury Department (28, 30, 33).

A very interesting fact concerning the redistribution that occurred, between 1961-65, in terms of real per exemption value of business income is the low degree of variation between the rates of increase for the income fifths. Each of the income fifths realized increases in real per exemption value that were in the 20 per cent range for the 1961-65 period. A redistribution of business net profits toward the upper income fifths did occur in terms of share in the aggregate, during the relatively stable price period. However, when the exodus from the business sector is acknowledged by analyzing performance on a per exemption basis, only very slight redistributive effects appear to have occurred among the surviving entrepreneurs in each income fifth.

The experience in respect to proprietorship net income over the inflationary interval, 1965-69, appears to have been quite different from that of the relatively stable price period. As Table 6-7 shows, the aggregate real value of this income source increased 6.8 per cent during 1965-69 as opposed to the 17.9 per cent increase over 1961-65. Yet, during the inflationary period, the number of reporting returns in this income sector increased 5.3 per cent whereas an actual 10.9 per cent decrease in reporting returns occurred for 1961-65. The implication of these phenomena then is that the average per return real value of business net income increased only 1.4 per cent during the four years of inflation compared to a 32.2 per cent increase during the four previous years of relatively stable prices. This fact then hardly fits the theoretical expectation that profits should lead other income components during inflation.

During the inflationary interval, a net increase did occur in the number of active proprietorships. However, as Table 6-8 suggests, the increase was confined to only the four highest income fifths. And, among these groups, the increases in number of active proprietors in the fourth and highest income fifths were of such magnitude that, for these two groups, a net increase in participating returns transpired over the entire 1961-69 interval, the exodus of business proprietors was such that as of 1969, only the fourth and fifth highest income groups experienced an actual increase in numbers.

The climate in terms of profits in the proprietorship sector also appears to have turned for the worse by measure of a comparison of aggregate profits and losses. As Table 6-9 shows, proprietorship losses became an increased percentage of profits between 1965 and 1969 for all income fifths. And, in addition, for the lowest income fifth the ratio of losses to profits of 20.2 per cent for 1969 was in fact higher than the 16.9 per cent exhibited for 1961.

The same tendency for a decline in profitability during the inflationary interval is supplemented by visualizing the changing relationships between returns reporting profits and losses as exhibited in Table 6-10. A general improvement occurred in the ratio of loss returns to profitable returns for all of the income fifths over the stable price period. A reverse trend appears to have held for all the groups over the inflationary interval, however. In fact, for the two lowest income fifths the number of returns with losses relative to those reporting profits was higher in 1969 than in 1961.

Table 6-10. Returns reporting proprietorship loss as a percentage of returns reporting proprietorship profit by fifths of the population of exemptions:^a 1961, 1965, and 1969.

	1961	1965	1969
Lowest fifth	16.8%	15.2%	19.4%
Second fifth	21.0	16.1	22.0
Third fifth	26.8	17.6	25.3
Fourth fifth	24.2	16.5	23.2
Highest fifth	18.2	12.4	17.9
All returns	20.6	15.3	21.1

^aSource: U.S. Treasury Department (28, 30, 33).

The general decline in the profitability of the proprietorship sector during 1965-69 was also accompanied by a redistribution of shares in income accruing to the income fifths. Returning to Table 6-7, it appears that net proprietorship income was distributed toward the two highest income fifths as was also the case for the stable price period. During the inflationary interval, however, the fourth highest income fifth realized a gain of .52 points in percent share as opposed to a .12 point gain over the previous four year interval. The highest income fifth did not fare as well during the inflationary period as the gain over this interval was 2.29 points in percent share in contrast to the 3.21 point gain in percent share for 1961-65.

Examining proprietorship net income on a per exemption basis, as Table 6-7 suggests, only the lowest income fifth experienced an actual

decline in the number of exemptions participating in this income source over 1965-69. The largest increases in exemption participants over this same period were the fourth and fifth highest income groups with respective rates of increase in exemptions for these two highest income fifths, when coupled with the gains in percent shares, also produced the only increases in the real per exemption value of proprietorship net income. As Table 6-7 shows, the fourth highest income fifth realized a .3 per cent increase in real per exemption value of proprietorship net income over 1965-69. The largest relative gain in per exemption value over the same period was that of the highest income fifth with a gain of 3.2 per cent over 1965-69. The largest relative loss was that of the third highest income fifth. This group lost in percent share of income over 1965-69 while also experiencing an increase in the number of participating exemptions with the consequence being an 8.2 per cent decline in the real per exemption value of business net income.

In summary, the inflationary experience of the later 1960's witnessed a continued redistribution of proprietorship net income toward the upper two fifths in the income distribution when viewed in terms of shares in the aggregate. The degree of redistribution seems to have been intensified during the inflation in so far as the two highest income fifths were the only groups to show an actual increase in the real value of per exemption business net income. Nevertheless, it is startling to realize that the real gains of these two groups were very substandard relative to real gains exhibited in other income source sectors. Contrary

to what would be theoretically expected, the inflationary experience of 1965-69 appears to have contributed little towards a redistribution of purchasing power to the private proprietorship business sector.

The proprietorship sector underwent structural changes over both periods of different price level experience such that at 1969 only the two highest income fifths realized net increases in the number of entrepreneurs. Consequently, this is reflected in a distribution of net income for 1969 that is much more unequal than that for 1961. However, though the trend in redistribution was one of increasing inequality, recall that the groups benefiting from this trend, nevertheless, realized substandard rates of real increase relative to those exhibited by other income sources.

The sixth income source analyzed in this chapter is that of net income from business partnerships. As Table 6-11 shows, over the relatively stable price period of 1961-65, the redistribution of shares in this business income source was entirely toward the highest fifth in the income distribution. The top income fifth gained 2.60 points in percent share of aggregate partnership net income over this period. The largest relative losses occurred for the second and third income fifths with respective declines of .81 and .97 points in percent share over the same interval.

Unlike the proprietorship business sector, however, the partnership sector realized an increase in the number of returns reporting income from this source between 1961 and 1965. As Table 6-12 shows, only the

Table 6-11. Distribution of partnership net income by fifths of the population of exemptions:^a 1961, 1965, and 1969

	Change in percent share					
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	2.33%	1.76%	.77%	- .57	- .99	-1.56
Second fifth	5.45	4.64	5.09	- .81	+ .45	- .36
Third fifth	7.24	6.27	5.50	- .97	- .77	-1.74
Fourth fifth	8.73	8.48	8.35	- .25	- .13	- .38
Highest fifth	76.25	78.85	80.29	+2.60	+1.44	+4.04

	Real per exemption value (1967 dollars)			Percentage change in real per exemption value		
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	\$ 469	\$ 490	\$ 252	4.5%	-48.6%	-46.3%
Second fifth	763	787	751	3.2	- 4.6	- 1.6
Third fifth	933	845	765	- 9.4	- 9.5	-18.0
Fourth fifth	947	988	826	4.3	-16.4	-12.8
Highest fifth	2,638	2,823	2,400	7.0	-15.0	- 9.0
Average (all returns)	1,936	2,195	1,986	13.4	- 9.5	2.6

	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Percentage change in aggregate real value of partnership net income	14.5%	12.1%	28.3%
Percentage change in number of reporting returns	3.3	28.7	32.9
Percentage change in number of exemptions reporting partnership net income for: Lowest fifth	-17.0	- 5.1	-21.2
Second fifth	- 5.7	28.9	-15.2
Third fifth	9.7	8.6	19.1
Fourth fifth	6.5	32.0	40.6
Highest fifth	10.6	34.3	48.6
All returns	1.0	23.9	25.2

^aSource: U.S. Treasury Department (28, 30, 33).

Table 6-12. Percentage change in the number of returns reporting partnership profit or loss by fifths of the population of exemptions for selected periods:^a 1961-69

	Percentage changes				
	1961-65	1965-69		1961-69	
		(b)	(c)	(b)	(c)
Lowest fifth	-10.0%	.7%	-10.2%	- 9.4%	-19.2%
Second fifth	- 2.3	33.8	18.9	30.8	16.2
Third fifth	8.7	8.8	- 4.0	18.3	4.4
Fourth fifth	3.9	37.0	14.1	42.3	18.6
Highest fifth	7.7	38.4	7.5	49.1	15.7
All returns	3.3	28.7	6.1	32.9	9.7

^aSource: U.S. Treasury Department (28, 30, 33).

(b) includes small business corporations for 1969.

(c) excludes small business corporations for 1969.

two lowest income fifths displayed an actual decline in reporting returns of approximately 10.0 per cent and 2.3 per cent, respectively, for the lowest and second lowest income fifths.

Although the partnership sector experienced an increase in reporting returns during 1961-65, the real value of aggregate partnership net income increased only 14.5 per cent between 1961 and 1965. In contrast, the real value of aggregate proprietorship net income increased 17.9 per cent over this same period while the number of participating returns in this same sector actually decreased.

Essentially, the climate of profitability in the partnership sector turned for the worse during the period of relatively stable prices. This fact may be readily appreciated in looking at the ratios of aggregate partnership losses to partnership profits for each income fifth shown in Table 6-13. Using the loss to profit ratio as an index, it appears that the profitability of the partnership sector turned for the worse for each of the income fifths over 1961-65. Recall that for the proprietorship sector this was indeed not the case for the 1961-65 period. Each income fifth in the proprietorship sector actually displayed an improvement in the aggregate loss to profit ratio over the period of relatively stable prices.

The trend toward a lower level of profitability in respect to partnership net income is also supported when numbers of returns are used as a measure rather than the aggregate money figures. As Table 6-14 shows, the ratios of returns reporting losses to those reporting profits increased for each income fifth over 1961-65. Again, just the opposite occurred for all income fifths when this measure was applied to proprietorship returns for the 1961-65 interval.

The demise in profitability in the partnership net income sector is also evident when this income source is analyzed on a per exemption basis. Returning to Table 6-11, the change in the real per exemption value of partnership net income ranged from an increase of 7.0 per cent for the highest income fifth, over 1961-65, to an actual decrease in real per exemption value of 9.4 per cent for the third highest income

Table 6-13. Aggregate partnership loss as a percentage of aggregate partnership profit by fifths of the population of exemptions:^a 1961, 1965, 1969

	1961	1965	1969 (b)	(c)
Lowest fifth	18.0%	25.1%	61.3%	44.6%
Second fifth	7.8	14.2	16.1	11.6
Third fifth	5.8	10.9	16.7	11.4
Fourth fifth	5.8	8.0	12.9	9.6
Highest fifth	4.9	5.7	12.3	11.8
All returns	5.6	7.1	13.6	12.2

^aSource: U.S. Treasury Department (28, 30, 33).

(b) includes small business corporations for 1969.

(c) excludes small business corporations for 1969.

Table 6-14. Returns reporting partnership loss as a percentage of returns reporting partnership profit by fifths of the population of exemptions:^a 1961, 1965, and 1969

	1961	1965	1969 (b)	(c)
Lowest fifth	18.1%	23.6%	31.6%	28.5%
Second fifth	16.5	22.9	28.4	23.1
Third fifth	17.8	24.5	40.8	36.8
Fourth fifth	20.7	28.6	37.3	35.9
Highest fifth	21.6	25.7	38.5	41.0
All returns	19.7	25.3	36.4	35.3

^aSource: U.S. Treasury Department (28, 30, 33).

(b) includes small business corporations for 1969.

(c) excludes small business corporations for 1969.

fifth. The third income fifth experienced the second largest increase in number of exemptions participating in this income source, 9.7 per cent from 1961 to 1965. This increase coupled with the absolute loss in percent share of aggregate partnership net income over this period thus produced the only real loss among the five income groups.

Although the lowest, second, and fourth highest income fifths also lost in percent share of partnership income during 1961-65, the changes in the number of participating exemptions within each group were such that each of these income fifths actually displayed an increase in real per exemption value over the stable price period.

It is particularly noteworthy to realize that, although four of the income groups realized increases in real per exemption value of partnership net income, the real value increases were considerably less than those exhibited in the proprietorship sector. The average real per exemption value of partnership net income, taken over all reporting returns, increased 13.4 per cent between 1961 and 1965. For the proprietorship sector this same measure yields an increase of 35.3 per cent over the relatively stable price period.

In summary, the 1961-65 period witnessed a redistribution of share in aggregate partnership net income solely in favor of the highest income fifth. On a per exemption basis this income group also exhibited the largest relative increase over 1961-65. Nevertheless, this gain was substandard relative to gains exhibited in other income sectors over the same time interval.

The inflationary interval of 1965-69 appears to have produced a poorer performance on the part of partnership income than that of the relatively stable price period. Between 1965 and 1969, the aggregate real value of partnership net income increased 12.1 per cent while the number of returns reporting profit or loss in this sector increased 28.7 per cent. As a result, the average per return real value of partnership net income decreased approximately 12.9 per cent over 1965-69. In contrast, the average per return real value of partnership net income increased 10.8 per cent over the previous four year period of relatively stable prices.

The substantial increase in the number of active partnerships from 1965 to 1969 is exhibited in Table 6-12. Two different measures of change in number of returns over 1965-69 are given in Table 6-12 due to differences in reporting practices used in the Internal Revenue Service, Statistics of Income series. Qualifying business firms, under Sub-chapter S of the Internal Revenue Code, may elect to be taxed as either a partnership or corporation. The reporting practices in the Statistics of Income series classified both partnership and small corporation profits and losses together under the partnership heading for all years except 1966, 1967, and 1969, in which years the income data were reported separately. Consequently, Tables 6-12, 6-13, and 6-14, present partnership data both including and excluding small business corporations for 1969.

As Table 6-12 shows, there was an overall increase in the number of reporting partnership returns between 1965 and 1969 whether or not

small business corporations are included. The considerable increase in number of reporting returns when small business corporations are included underscores the trend toward increased incorporations by business entities that qualify for Sub-chapter S tax treatment. The 1965-69 interval then witnessed a rate of increase in entrepreneurs in both the partnership and proprietorship sectors that was considerably in excess of that exhibited during the stable price period.

The increase in participants in the partnership sector over 1965-69 was not, however, accompanied by an enhanced climate of profitability. As Table 6-13 shows, the aggregate profit/loss ratio turned for the worse for each income fifth between 1965 and 1969. This poorer performance was especially intense for the lowest income fifth as the aggregate profit/loss ratio for this group moved from .251 for 1965 to .613 for 1969.

The decreased profitability in the partnership sector is also apparent when the status of number of reporting returns is used as a measure. The ratios of returns reporting losses to those reporting profits, presented in Table 6-14, increased for all income fifths between 1965 and 1969. This same trend also occurred in respect to the proprietorship sector over the 1965-69 inflationary experience. Essentially then, both business income sectors, proprietorships and partnerships, displayed a decrease in profitability measured in terms of both money amounts and number of firms.

The overall increase in the number of partnerships between 1965 and 1969 was accompanied by a continued trend toward greater inequality in relative shares accruing to respective income fifths. As Table 6-11 shows, a redistribution in percent share of partnership net income occurred such that the highest income fifth gained 1.44 points in percent share. The 1965-69 interval did, however, produce another gain as the second highest income fifth realized a .45 point increase in percent share over this period. The remaining income fifths appear to have continued to experience the erosion in relative shares that transpired over the previous four year period.

When partnership net income is viewed on a per exemption basis, it is quite interesting to note that each income fifth suffered a net loss in real per exemption value. As Table 6-11 points out, the percentage changes in real per exemption value over 1965-69 range from a 48.6 per cent loss for the lowest income fifth to a 4.6 per cent loss for the second highest income fifth.

For the highest income fifth, the absolute gain in relative share was insufficient to compensate for the increase in exemptions for this group and as a result this upper income tier experienced a 15 per cent decrease in real per exemption value over the inflationary period.

It would appear that the expected consequences of inflation for the business sector hardly fit the partnership sector. All income groups in this sector suffer a loss when partnership net income is viewed on a per exemption basis. The redistribution that occurred over 1965-69

was one of relative losses with the second and third highest income fifths losing relatively the least. The lowest income fifth experienced a devastating loss despite the apparent exodus of entrepreneurs from this group.

Recall that the proprietorship sector also displayed a behavior that was uncharacteristic of the theoretical expectations as to the consequences of inflation. Although the proprietorship sector did exhibit positive real per exemption gains for certain income groups, these gains were considerably less than those experienced in other sectors. Essentially, the inflationary experience of 1965-69 held little in the way of relative gains for the unincorporated business sector.

The seventh income source separately analyzed in this chapter is that of net capital gains. This income source is quite different than the other sources previously examined because of the discretionary nature of capital gains or losses. In other words, the income recipient has control over the timing of the actual realization of a capital gain or loss.

The increase in the average real per return value of net capital gains exhibited the smallest increase among those income sources studied in this chapter, showing a real gain during periods of both relative price stability and inflation. As Table 6-15 shows, the average real per return value of net capital gains increased 1.6 per cent over 1961-65 and 1.7 per cent between 1965 and 1969.

Table 6-15. Distribution of net capital gains by fifths of the population of exemptions:^a 1961, 1965, and 1969

	Change in percent share					
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	3.73%	3.70%	3.35%	-.03	-.35	-.38
Second fifth	4.72	4.92	4.99	+.20	+.07	+.27
Third fifth	4.21	4.31	4.98	+.10	+.67	+.77
Fourth fifth	5.74	6.32	6.28	+.58	-.04	+.54
Highest fifth	81.60	80.75	80.40	-.85	-.35	-1.10

	Real per exemption value (1967 dollars)			Percentage change in real per exemption value		
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	\$179	\$205	\$197	14.5%	- 3.9%	10.1%
Second fifth	178	180	191	1.1	6.1	7.3
Third fifth	149	138	154	- 7.4	11.6	3.4
Fourth fifth	157	154	140	- 1.9	- 9.1	-10.8
Highest fifth	776	783	815	.1	4.1	5.0
Average (all returns)	513	521	530	1.6	1.7	3.3

	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Percentage change in aggregate real value of net capital gains income	26.0%	22.7%	54.6%
Percentage change in number of reporting returns	26.9	25.1	58.7
Percentage change in number of exemptions reporting capital gains or losses			
for: Lowest fifth	9.0	15.5	25.9
Second fifth	30.1	17.2	52.2
Third fifth	38.9	28.4	76.7
Fourth fifth	41.3	36.9	88.8
Highest fifth	23.6	17.3	45.0
All returns	24.0	20.5	49.4

^aSource: U.S. Treasury Department (28, 30, 33).

In terms of relative percentage shares of this income source, the stable price period resulted in a redistribution in share away from both the lowest and highest income fifths. During this period, noting Table 6-15, the lowest income fifth lost a modest .03 points in percent share while the percent share accruing to the highest income fifth dropped .85 points between 1965 and 1969. However, these losses did not appear when viewed on a per exemption basis. Over 1961-65, the modest loss in percent share by the lowest income fifth was also accompanied by a below average increase in the number of exemptions participating in this income source--9 per cent between 1961 and 1965--compared to a 24 per cent increase taken over all returns. Consequently, the real per exemption value of net capital gains increased 14.5 per cent for the lowest income fifth between 1961 and 1965. The loss in percent share for the highest income fifth also translates into a gain, although modest, when viewed on a per exemption basis as this group exhibited a .1 per cent increase in real per exemption value between 1961 and 1965.

Between 1961 and 1965 then, it appears that only the two lowest income fifths and the highest income group were able to realize capital gains such that they enjoyed a real per exemption value that stood higher as of 1965. On this account, it appears that purchasing power, through capital gains income, was transferred to these income groups and away from the third and fourth income fifths who actually suffered declines in the real value of this income source.

The inflationary interval of 1965-69 resulted in a continued decrease in percent share accruing to both the highest and lowest income fifths. However, as Table 6-15 shows, during this period the fourth highest income group also suffered a modest decline of .04 points in percent share of net capital gains between 1965 and 1969. These declines also translated into losses for both the lowest and fourth highest income fifth when capital gains are expressed on a per exemption basis. The fourth highest income fifth suffered the largest loss by this measure as the per exemption value of net capital gains income was approximately 9.1 per cent less in real terms for 1969 as opposed to 1965. For the lowest income group during the same period, the real per exemption value of net capital gains decreased roughly 3.9 per cent. The largest gain in real per exemption capital gains income between 1965 and 1969 was exhibited by the third highest income fifth with an increase of 11.6 per cent. This increase was followed by respective increases for the second lowest and the highest income fifths of 6.1 and 4.1 per cent. On a per exemption basis it would appear then that, for 1969 in contrast to 1965, the lowest and the fourth income fifths suffered a loss in the redistribution of purchasing power on capital gains account.

At the end of 1969, the distribution in shares of net capital gains was slightly changed from that of 1961. The share accruing to the highest income fifth stood at 80.4 per cent as of 1969, down from 81.6 per cent for 1961. Although an erosion in share did occur over this interval, it was the smallest decrease among other income sources in which this

upper income group experienced a loss in relative share over the same period. The inflationary experience of 1965-69 appears, however, to have allowed this group to realize a smaller degree of loss in share than that of the stable price period.

The final income source to be studied in this chapter, before merging all income sources for a final analysis, is that of net rental income. Theoretically, the expected consequences of inflation on this income source would be that rents would lag in inflation thus falling in relative share of aggregate factor income. At an aggregate level this does not seem to be the case when rental net income is examined in this chapter. As of 1961, net rental income comprised .85 per cent of the total income of the sources analyzed in this study. This figure dropped to .58 per cent as of 1965 which translates into a 9.11 per cent annual compound rate of decline in share over the 1961-65 period. As of 1969, net rental income was .44 per cent of the total of the eight income sources. This translates into a 6.67 per cent annual compound rate of decline in share during the inflationary period as opposed to 9.11 per cent during the period of relative price stability.

The same phenomena obtains when rental income is viewed on a per exemption basis rather than at the aggregate, relative share level. As Table 6-16 shows, the average real per exemption value of rental income, taken over all tax returns, decreased 16.7 per cent between 1961 and 1965 as opposed to a 6.3 per cent decrease between 1965 and 1969.

Table 6-16. Distribution of rental net income by fifths of the population of exemptions:^a 1961, 1965, and 1969

	Change in percent share					
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	19.29%	21.33%	18.14%	+2.04	-3.19	-1.15
Second fifth	13.50	14.16	17.70	+ .66	+3.54	+4.20
Third fifth	9.37	8.91	12.74	- .46	+3.83	+3.37
Fourth fifth	9.57	6.98	8.65	- .62	- .30	- .92
Highest fifth	48.27	46.24	42.77	-1.62	-3.88	-5.50

	Real per exemption value (1967 dollars)			Percentage change in real per exemption value		
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	\$245	\$249	\$219	1.6%	-12.1%	-10.6%
Second fifth	163	141	157	-13.5	11.4	- 3.7
Third fifth	99	71	98	-28.3	38.0	- 1.0
Fourth fifth	81	61	52	-24.7	-14.8	-35.8
Highest fifth	273	211	177	-22.7	-16.1	-35.2
Average (all returns)	192	160	150	-16.7	- 6.3	-21.9

	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Percentage change in aggregate real value of net rental income	-12.5%	- 5.7%	-17.5%
Percentage change in number of reporting returns	7.6	4.1	12.1
Percentage change in number of exemptions reporting rental income for:			
Lowest fifth	- 4.7	- 8.9	-13.2
Second fifth	6.7	5.3	12.3
Third fifth	15.4	- 2.4	12.6
Fourth fifth	8.8	7.3	16.7
Highest fifth	9.3	3.2	12.8
All returns	5.2	.3	5.6

^aSource: U.S. Treasury Department (28, 30, 33).

As Table 6-16 shows, the relatively stable price period of 1961-65 witnessed a shift in relative percent shares toward the lowest two income fifths. Over this interval, the lowest income fifth realized 2.04 points increase in percent share of net rental income while the second lowest income fifth gained .66 points in percent share. The loss of the highest income fifth, 1.62 points in percent share, was greater than the loss in share of both the third and fourth income groups combined.

A different redistribution emerges, however, when net rental income is examined on a per exemption basis. Between 1961 and 1965, an actual decline occurred in the number of exemptions in the lowest income fifth participating in this income source. The approximate 4.7 per cent decrease in the number of exemptions in this income strata resulted in a 1.6 per cent increase in real per exemption value for the lowest income fifth over 1961-65. All other income groups suffered real declines in real per exemption value of rental income over this period with the third highest income group having the largest relative decline--28.3 per cent between 1961 and 1965.

The changed climate of profitability in the rents sector, resulting in real valued losses for the four highest income groups during 1961-65, is also apparent in terms of aggregate profits and returns. As shown in Tables 6-17 and 6-18, between 1961 and 1965 there was a considerable increase in both aggregate rental losses as a percentage of aggregate profit and number of returns reporting rental losses as a percentage of returns reporting profit. The increase in the ratios under both measures

Table 6-17. Aggregate rental loss as a percentage of aggregate rental profit by fifths of the population of exemptions:^a
1961, 1965, and 1969

	1961	1965	1969
Lowest fifth	17.0%	23.7%	30.8%
Second fifth	23.5	36.6	33.0
Third fifth	32.1	48.9	41.2
Fourth fifth	37.4	50.5	59.2
Highest fifth	20.1	33.2	43.4
All returns	23.3	35.8	41.5

^aSource: U.S. Treasury Department (28, 30, 33).

Table 6-18. Returns reporting rental loss as a percentage of returns reporting rental profit by fifths of the population of exemptions:^a 1961, 1965, and 1969

	1961	1965	1969
Lowest fifth	23.6%	25.4%	30.3%
Second fifth	44.5	56.3	51.8
Third fifth	58.3	70.6	81.2
Fourth fifth	63.0	74.3	82.5
Highest fifth	51.8	64.3	71.4
All returns	45.8	55.1	60.7

^aSource: U.S. Treasury Department (28, 30, 33).

during 1961-65 represented a turn for the worse during this interval for each of the income fifths.

In summary, the 1961-65 period of relative price stability was accompanied by a considerable real valued loss in the rental income sector for all but the lowest fifth in the income distribution.

The performance of rents during the 1965-69 inflationary interval appears to have somewhat improved relative to the 1961-65 period when, theoretically, just the opposite would have been expected. As during the previous period, the highest income fifth again experienced the largest loss in relative share of rental net income. During this period, this group lost 3.88 points in percent share of rental income, more than twice the loss that occurred during the previous four year period.

Unlike 1961-65, the lowest income fifth experienced a considerable loss in share between 1965 and 1969. As Table 6-16 shows, the lowest income group lost 3.19 points in percent share over this period. However, as may be noted in the same table, there was also an actual 8.9 per cent decline in the number of exemptions participating in this income source between 1965 and 1969. This decrease was almost twice as great as that of the prior four year period.

As Tables 6-17 and 6-18 show, there was generally a continued decline in the profitability in the rents sector between 1965 and 1969, in terms of loss to profit ratios measured in dollars or returns. Interestingly, this was not, however, the case for the second and third lowest income groups in respect to aggregate profit performance. As

Table 6-17 shows, the ratio of rental loss as a percentage of rental profit actually declined for these two groups between 1965 and 1969. For the second lowest income group, this measure stood at 33.0 per cent as of 1969 in contrast to 36.6 per cent for 1965, while the third lowest income fifth displayed ratios of 41.2 per cent for 1969 as opposed to 48.9 per cent for 1965.

The income behavior of these two income fifths may also be visualized by noting the change in share for these two groups in Table 6-16. Between 1965 and 1969, the second and third lowest income fifths display respective increases of 3.54 and 3.83 points in percent share of net rental income. These same gains persist when rental income is analyzed on a per exemption basis. Using this measure, the second and third lowest income fifths display respective increases in real per exemption value of 11.4 and 38.0 per cent between 1965 and 1969.

All other income groups experienced actual declines in real per exemption value of rental income between 1965 and 1969. However, the exodus of rental income participants in the lowest income fifth, between 1965 and 1969, allowed this group to post the lowest actual loss--12.1 per cent over this period.

During the inflationary period then, the rental income sector experienced a lower rate of loss in the aggregate real value of this income source than that of the previous period of relative price stability. This lower rate of loss was also accompanied by a much lower rate of increase in the number of returns reporting activity in this income source.

Consequently, the inflationary interval produced actual real gains for certain income fifths, unlike the previous four year period of relatively stable prices. The 1965-69 period of inflation, it appears, resulted in a redistribution of rental income toward the second and third highest income fifths to the extent that the lowest income fifth lost the gains of the previous period while the top two groups in the income distribution continued to experience substantial erosions in purchasing power.

The final income analysis is based on the summation of the eight income sources previously studied in this chapter. The aggregate net income figures from each source, accruing to each income fifth, are summed across all sources for each income fifth such that this final analysis is based on the total net income received by each fifth.

Although the analysis of this chapter is in real terms, each income fifth is also exhibited in nominal or money terms in Table 6-19 to facilitate the identification of these respective groups on that basis. The values in Table 6-19 reflect average per exemption money income, over all sources for each income fifth, multiplied by four to characterize a family of this size.

Between 1961 and 1965, as Table 6-20 shows, the real value of the total of the eight income sources increased 23.9 per cent. Over the four year period of inflation, this same income total increased only 22.5 per cent. However, the change in real value of total income between 1961 and 1965 was accompanied by a 7.6 per cent increase in the number of exemptions participating in this income. During the inflationary interval, the number of exemptions increased 8.1 per cent.

Table 6-19. Mean money income values:^a family of four

	1961	1965	1969
Lowest fifth	\$ 2,566	\$ 3,236	\$ 4,199
Second fifth	4,889	6,245	8,094
Third fifth	6,577	8,002	10,321
Fourth fifth	7,860	9,628	13,277
Highest fifth	14,841	17,535	22,957
All returns	7,347	8,928	11,762

^aSource: U.S. Treasury Department (28, 30, 33).

The consequence of these changes become apparent when an examination is made of the changes in average real per exemption values over the two periods. The average real per exemption value of total income, taken over all tax returns, increased 15.2 per cent between 1961 and 1965 but increased only 13.4 per cent over the 1965-69 period. In other words, the average tax exemption enjoyed an approximate 3.6 per cent compound annual rate of increase in total real income between 1961 and 1965 as opposed to roughly a 3.2 per cent annual compound increase over the inflationary interval.

Moving from the broad aggregates, the redistributive effects that occurred between groups are suggested by the changes in relative shares over the periods in question. As Table 6-20 shows, between 1961 and 1965, a trend toward greater equality of distribution occurred in so far as the highest income fifth exhibited the only loss, minus 1.12

Table 6-20. Distribution of the total income from the selected income sources:^a 1961, 1965, and 1969

	Change in percent share					
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	6.99%	7.25%	7.13%	+ .26	- .12	+ .14
Second fifth	13.31	13.99	13.76	+ .68	- .23	+ .45
Third fifth	17.90	17.92	17.55	+ .02	- .37	- .35
Fourth fifth	21.40	21.56	22.56	+ .16	+1.00	+1.16
Highest fifth	40.40	39.28	39.00	-1.12	- .28	-1.40

	Real per exemption value (1967 dollars)			Percentage change in real per exemption value		
	<u>1961</u>	<u>1965</u>	<u>1969</u>	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Lowest fifth	\$ 716	\$ 856	\$ 956	19.6%	11.7%	33.5%
Second fifth	1,364	1,652	1,837	21.1	11.2	34.7
Third fifth	1,835	2,117	2,350	15.4	11.0	28.1
Fourth fifth	2,193	2,547	3,023	16.1	18.7	37.9
Highest fifth	4,140	4,639	5,225	12.1	12.7	26.3
Average (all returns)	2,050	2,362	2,678	15.2	13.4	30.6

	<u>1961-65</u>	<u>1965-69</u>	<u>1961-69</u>
Percentage change in aggregate real value of total income	23.9 %	22.5 %	51.9%
Percentage change in number of reporting returns	10.0	12.2	23.4
Percentage change in number of exemptions	7.6	8.1	16.2

^aSource: U.S. Treasury Department (28, 30, 33).

points in percent share of aggregate income. And, the two lowest income fifths realized the largest relative increases in percent share. On a per exemption basis, the second income fifth realized the greatest increase in real per exemption value of 21.1 per cent between 1961 and 1965. This increase translates into a 4.9 per cent annual compound rate of change. The lowest income fifth followed closely with a 4.6 per cent compound annual increase in real per exemption value over 1961-65. The real per exemption value increase of the highest income fifth approximated only a 2.9 per cent compound rate of change over this period in contrast to the 3.6 per cent rate exhibited by the average over all returns.

The inflationary interval yields a redistribution quite different than that of the prior period. Between 1965 and 1969, the redistribution in per cent shares was exclusively in favor of the fourth income fifth. As Table 6-20 shows, this group gained an entire point in percent share over 1965-69. The largest loss in share over this period was experienced by the third fifth in the income distribution. The highest income group continued to show a loss in share but now, however, the two lowest income fifths also displayed a loss. The loss in share was especially harsh in respect to the lowest income fifth as this group lost almost one-half the gain realized between 1961 and 1965. The loss by the third income fifth did, however, eliminate this group's gain of the prior period.

Viewed on a per exemption basis, the effects of inflation appear to have redistributed purchasing power exclusively toward the fourth

income group. The 18.7 per cent increase in real per exemption value of total income for this group between 1965 and 1969 is equivalent to a 4.4 per cent annual compound rate of growth. This was the only income group to actually fare better during the inflationary interval as the annual rate of growth in per exemption value was only 3.8 per cent for this group during the period of relative price stability.

The purchasing power losses of the first, second, and highest income fifths were remarkably close when measured in terms of real per exemption value of total income. The real value changes displayed in Table 6-20 for these groups between 1965 and 1969 translate into compound annual rates of change of 2.8 per cent for the two lowest income fifths and 3.0 per cent for the highest income fifth. The real change in per exemption value for the third income fifth between 1965 and 1969 yields the lowest rate of increase, roughly a 2.4 per cent annual compound rate.

To measure the degree of harshness that the inflationary redistribution might have had on the different income groups, it would be very interesting to get an estimate of the annual erosion or appreciation that may have occurred in the real per exemption value of income for each income fifth.

An estimate of this nature is attempted in this study. To do this, a comparison of actual real per exemption value to an assigned real per exemption value of total income was made for each income fifth for each year. The assigned real per exemption values of total income were

derived by assuming that no changes occurred in relative income shares over selected time periods. The difference between the actual and assigned real per exemption values, for each year over the selected time periods, represent the gain or loss that each income fifth would have experienced had there been no redistribution in relative income shares. The yearly gains or losses resulting from the above calculations were then summed over each selected interval of study. These cumulative gains and losses for each fifth were expressed in terms of annual compound rates of change relative to the real per exemption value of total income displayed by each income fifth at the beginning of each selected time period. These annual rates of gain or loss are shown in Table 6-21.

As an example of the estimation process described above, the 1961-65 period may be used as an illustration. First, the actual annual compound rate of change in real per exemption value for each income fifth was used to run a series of annual per exemption values over the time period in which this actual growth rate obtained. This series of annual values would then represent the actual real per exemption values for each year for each income fifth.

Next, the compound annual rate of change in real per exemption value for all returns (3.59 per cent between 1961 and 1965) was used to run a series of annual per exemption values for each income fifth over the same period. This series of assigned yearly values would represent an unchanged income distribution as it is based upon the annual growth rate in per exemption value for returns taken as a whole.

Table 6-21. Annual compound rates of real gain or loss in purchasing power based upon real per exemption value of each income fifth at beginning of selected periods^a

	1961-65	1965-69	1961-69
Lowest fifth	+2.51%	-1.00%	+1.08%
Second fifth	+3.35	-1.33	+1.97
Third fifth	+ .06	-1.45	-1.37
Fourth fifth	+ .56	+3.05	+3.09
Highest fifth	-1.97	- .45	-2.51

^aSource: U.S. Treasury Department (28, 30, 33).

The difference between the actual and assigned values in each year then represents the gain or loss that each fifth would have experienced had there been no actual redistribution or change in relative income shares. The assigned and unchanged relative share for each income group is that share actually realized at the beginning of each of the selected time periods of Table 6-21. Taking the 1961-65 period as an example, the lowest income fifth accounted for 6.99 per cent of aggregate taxable income in 1961. Had this group's relative share remained the same over the 1961-65 period, the value of real per exemption total income would have increased approximately 3.59 per cent annually from the 1961 base of \$716. The total value of this five year income series would have then been roughly \$3,846. The actual annual growth rate in per exemption value for this group was, however, approximately 4.55 per cent over the

1961-65 period. Based upon the \$716 per exemption value of 1961, the growth rate actually achieved would result in a five year income series with a total value of approximately \$3,921. The difference between the actual real per exemption value (\$3,921) and the assigned value (\$3,846) suggests that the lowest income fifth would have realized roughly \$75 less in total five year real per exemption income had no change occurred in relative income shares. Thus, the approximate \$75 advantage realized by the lowest income fifth over 1961-65 is equivalent to a 2.51 per cent compound annual rate of gain based upon the real per exemption value of total income for this group at the start of the 1961-65 period. This is the fashion in which the various rates of change are predicated in Table 6-21.

For the relatively stable price period of 1961-65, the largest rate of purchasing power gain, based upon the level of real per exemption income as of 1961, accrued to the second highest fifth in the income distribution. The income redistribution that transpired over this period allowed this income group to realize, as Table 6-21 shows, an approximate 3.35 per cent compound rate of appreciation in real per exemption income over and above what this group would have realized had no redistribution in income shares occurred between 1961 and 1965. In other words, the total value of the five year series of real per exemption value was roughly \$193 higher than it would have been had this group's percentage share in aggregate income remained the same as that obtaining in 1961.

The lowest income fifth exhibits the second largest rate of gain, 2.51 per cent, on real per exemption base income over the 1961-65 period. In real dollar terms, this rate of appreciation in purchasing power allowed this group to realize, as stated earlier, a five year real income series that was approximately \$75 higher than that which would have obtained in the absence of any redistribution in relative income shares. The modest rates of annual appreciation in purchasing power for the third and fourth income groups of .06 per cent and .56 per cent, respectively, are equivalent to roughly \$5 and \$50 respective real gains over the entire five year income series.

As Table 6-21 shows, the highest fifth in the income distribution suffered an approximate 1.97 per cent annual erosion in purchasing power when real per exemption income for 1961 is used as the base. In terms of absolute amounts, the annual rate of erosion in purchasing power is equivalent to a five year real per exemption income series that would have been approximately \$318 higher than that actually achieved, given the redistribution in aggregate income shares that actually occurred.

The annual rates of gain or loss in purchasing power found in the second column of Table 6-21 are based on actual real per exemption income as of 1965 for each income fifth. Secondly, these rates are the result of comparing actual versus assigned real per exemption incomes using the relative income shares that each income fifth actually obtained in 1965.

On this basis, the fourth highest income group exhibits the only gain over the inflationary interval--approximately 3.05 per cent

annually based upon real per exemption income for this income group in 1965. Essentially, the change in income shares that occurred between 1965 and 1969 allowed this income fifth to realize a total five year real income series roughly \$326 higher than what it would have been if this group's relative income share had remained at the 1965 level. The approximate \$326 redistribution of total income exclusively toward the fourth highest income group is obviously the purchasing power loss shared by the other fifths in the income distribution.

In terms of absolute amounts of real income loss, the third highest income group realized the largest loss. This group received roughly \$120 less over the 1961-65 period than it would have if no change in relative shares had taken place. Based upon this group's real per exemption income of \$2,117 for 1965, this five year amount of real loss is equivalent to a 1.45 per cent annual rate of erosion in purchasing power of 1965 real income over the inflationary interval.

The second highest loss in the divergence between actual and assigned real income over 1965-69 was that of the second lowest fifth in the income distribution. Had this group's relative share in total income not changed between 1965 and 1969, the total real value of five years of income would have been approximately \$86 higher. Using 1965 real per exemption income of \$1,652 as a base, the real valued loss translates into an approximate 1.33 per cent annual rate of loss in the purchasing power of 1965 real income.

Had relative income shares remained constant at 1965 levels, the lowest income fifth would have captured a total five year real income series that would have been approximately \$34 greater in total over the 1965-69 inflationary interval. Although the absolute amount of this loss appears small when it is realized that this is the cumulative value over a five year period, in terms of 1965 base period purchasing power this loss is, nevertheless, equivalent to a 1.00 per cent annual rate of erosion.

The results of the body of this study suggest that purchasing power on earned income account was redistributed from both the lower and highest income groups during the 1965-69 inflationary interval. However, the degree to which this redistribution was relatively mild or harsh can only be assessed by appealing to the differential rates of change in base period purchasing power as suggested in Table 6-21 for the respective groups in the aggregate income distribution.

CHAPTER VII. WEALTH EFFECTS OF INFLATION

The preceeding chapter focused upon the effects of inflation on income sources by fifths of the population in the income distribution. Next in order is an attempt to assess the effects of inflation on the wealth position of economic units. Unfortunately, data on wealth positions that have been periodically published by various sources are non-uniform and relatively uncomparable and wealth data by income fifths were unavailable as of this writing. However, a treatment of inflation and wealth will be made on two fronts using the most pertinent data yet available. First, an examination is made as to the degree in which the public has reacted to protect themselves from inflation by adjusting their relative holdings of assets and debts. Secondly, an assessment is made of the redistribution in the purchasing power of wealth between income groups.

It would appear, as suggested in Table 7-1, that in the aggregate the public has done little in the way of protecting themselves from inflation. Between 1936 and 1969, households increased their relative holdings of monetary or fixed priced assets. These assets (money, bonds, and other fixed value claims) because they are fixed in nominal amount are reduced in purchasing power terms when the level of prices is rising in general. Nevertheless, households held roughly 32 per cent of assets in this form in 1969 as opposed to approximately 30 per cent in 1930. The purchasing power of variable priced assets (stocks, homes, and other real estate for example) is somewhat preserved during inflation because

Table 7-1. Assets and debts of households:^a 1939-1969

	Total assets (\$ billions)	Percentage of total assets		
		Monetary or fixed-price assets	Variable-price assets	Debts
1939	\$ 429	30%	70%	11%
1949	984	33	67	9
1969	3,364	32	68	12

^aSource: Bach (7).

these claims are not fixed in nominal or money terms. However, the vulnerability to inflation is increased to the extent that the public decreases their holdings of variable priced claims relative to holdings of fixed price or monetary assets. If it is assumed that variable priced assets rise enough in value to offset the rise in the level of prices then households net vulnerability to inflation can be measured by the difference between monetary assets and debts. Households appear to have, however, decreased their vulnerability to inflation in respect to their debt positions. During inflation, purchasing power is transferred from creditors to debtors as the majority of debt claims are fixed price obligations. As Table 7-1 shows, debts as a percentage of total assets stood at 12 per cent in 1969, up from 9 per cent as of 1949.

Protection from inflation as of 1969 had increased little from 1930 in terms of net vulnerability (percentage monetary assets - percentage debts). By this measure approximately 19 per cent of total assets were vulnerable to inflation 1939 as opposed to 20 per cent as of 1969. Since 1940, households decreased the amount of assets subject to erosion by decreasing net vulnerability from 24 per cent to 20 per cent. To the extent that this 4 per cent reduction can be considered small, it appears that the inflationary interval of 1965-69 was not widely anticipated by households in general.

The second wealth analysis is that of the relative asset/debt holdings of various income classes. The data used in this analysis are taken from Bach (7) of which some is based upon unpublished data from the University of Michigan Survey Research Center. Bach acknowledges that the data in this sample account for roughly only one half of total households assets, \$1,622, as opposed to his figure of \$3,364 (Table 7-1) (7). Bach also asserts that the Survey Research Center data he utilized understate monetary or fixed price assets relatively much more than variable priced assets. Indeed, the Survey data for all households show monetary assets of 16 per cent of total assets for 1969 (Table 7-2), opposed to a figure of 32 per cent in Table 7-1. It would also appear that the percentage of debts to total assets in the Survey data of 21 per cent for all households is considerably in excess of the 12 per cent figure specified for this data in Table 7-1.

Despite these inconsistencies in these two sources of data, the Survey data, nevertheless, are an attempt toward distributing wealth

Table 7-2. Assets and debts of households:^a 1969

	Percent of all households	Total assets (\$ billions)	<u>Percentage of total assets</u>		
			Monetary assets	Variable- price assets	Debts
<hr/>					
By 1968 pre- tax money income:					
Under \$3,000	17%	\$ 92	20%	80%	8%
3,000 - 4,999	14	119	20	80	15
5,000 - 9,999	33	350	18	82	23
10,000 - 14,999	24	420	14	86	29
15,000 - 24,999	9	359	12	88	21
25,000 - 49,999	2	177	14	86	18
50,000 and over	0.4	105	18	82	10
All households	100	1,622	16	84	21

^aSource: Bach (7).

data along income class lines. Of the seven income classes specified in Table 7-2, both the two lowest income groups, 31 per cent of all households, and the highest income group, .4 per cent of all households, were exposed to inflation to the extent that holdings of monetary assets were in excess of the debt obligations of these households. Assuming again that variable price assets rise sufficiently in value to offset inflation, these income groups would then be vulnerable to inflation on that component of net worth defined as monetary assets minus liabilities.

The \$5,000 to \$50,000 income groups of Table 7-2 would appear to be the gainers on wealth redistribution account as these groups all have debts in excess of monetary assets. The largest net debt position of this group is that of the \$10,000 to \$15,000 income group, 24 per cent of all households, as debts exceed monetary assets in the amount of 15 per cent of total assets. Essentially then, purchasing power in the form of the wealth effects of inflation was transferred from the lowest 31 per cent and the top .4 per cent of all households to the remaining approximate 69 per cent of households.

In effort to assess the magnitude of the inflationary wealth effects, an estimate was made of the wealth transfer of each income group relative to group total income for 1969. Using the 1969 income source data of the previous chapter, a total 1969 money income was imputed to each income class specified in Table 7-3. The net income from the eight income sources of the Statistics of Income series data was distributed over percentages of exemptions using the same relative percentage distribution as that of the per cent of household distribution in Table 7-3. The resulting income distribution is specified in Table 7-3 for 1969 money income. As Table 7-3 shows, the ratio of vulnerable assets to income is highest for the top .4 per cent of all households and is nearly as great for the lowest 17 per cent of households in the income class distribution. The negative ratios in the array represent those households who are net debtors in the monetary assets/debt comparison. The most highly levered income group by this measure is again then,

Table 7-3. Asset vulnerability positions by households:^a 1969

Percent of households	1969 income (\$ billions)	Vulnerable assets (\$ billions)	Ratio of: <u>Vulnerable assets</u> income	Ratio of: Gain/loss on vulnerable assets at 5% inflation <u>income</u>
Lowest 17%	\$ 33.6	\$11.0	.33	.016
Next 14%	51.7	5.9	.11	.005
Next 33%	172.5	- 17.5	-.10	-.004
Next 24%	171.9	- 63.0	-.37	-.017
Highest 12%	171.1	- 31.0	-.18	-.009
Top 0.4%	24.3	8.4	.35	.017

^aSources: Bach (7); U.S. Treasury Department (33).

the 24 per cent of households found in the \$10,000 to \$15,000 money income group.

As a rough assessment of the loss in purchasing power relative to income, ratios are presented in Table 7-3 based upon a hypothetical inflation rate of 5 per cent and the consequent loss in value on the stock of vulnerable assets relative to income. Viewed in this fashion, the top .4 per cent of households exhibit the greatest loss of approximately 1.7 per cent of 1969 money income.

The degree of vulnerability of the lowest 17 per cent in the income distribution is revealed as the wealth effect loss of this group is roughly 1.6 per cent of this group's imputed money income. The next highest 14 per cent household income group posts a loss of about .5 per cent of 1969 income, a loss less than one-half that of the lowest income tier. The \$10,000 to \$15,000 household income group is the major recipient in the wealth redistribution as this group's gain would be a yield of about 1.7 per cent of 1969 money income as a result of 5% inflation.

In summary, the wealth effects of inflation would appear to be that purchasing power is redistributed toward the middle income groups. The bottom 31 per cent and top .4 per cent of money income households would experience the loss in purchasing power to the middle and upper income households.

CHAPTER VIII. SUMMARY AND CONCLUSIONS

The objective of this research was directed toward making an independent observation of a recent inflationary experience in order to assess the redistributive impact of inflation.

The first facet of this research was directed at an overview of the 1957-72 interval that was characteristic of various degrees of price level experience. At this aggregate level, an examination of functional income shares yields findings that do not fit the theoretically expected consequences of inflation. Over this period certain trends in the distribution of income shares continued to persist with or without inflation. The share going to wages experienced a continual updrift over the entire interval of study and, in fact, appeared to have increased in share at a more rapid rate during intervals of relatively more rapid increase in the general level of prices. The business sector appears to have exhibited the opposite performance. Both the incorporated and unincorporated business sectors showed actual reductions in relative income shares during relatively inflationary intervals. The only averse theoretical behavior in interest income share was the component of interest income that was paid by the business sector. This interest income component displayed a continual increase in relative share over the entire interval of study, failing to lag as theoretically expected during times of inflation.

At this highly aggregative level then, this study yields results that generally coincide with the findings of Ando and Bach (6) in their

investigation of earlier periods of varied price level experience. Essentially, at an aggregate level, this study would serve to support Bach and Ando in concluding that the forces of inflation are relatively mild or that the effects of inflation are sufficiently anticipated and, when taken into account, the expected consequences fail to appear.

In effort to move from a highly aggregative level, the next portion of this study focused upon the major income component of wages and salaries. The wage behavior of 102 occupational categories was analyzed to detect which occupational groups, if any, experienced a loss in real earnings during a period of inflation. Only an approximate six per cent of the occupational classes in this survey exhibited real earnings losses over the inflationary interval between 1965 and 1970. And, even these particular occupational descriptions were able to post real earnings increases when viewed over a wider time spectrum inclusive of varied price level experience.

As all of the occupational descriptions revealed real earnings increases over the wider time intervals, this study then focused upon relative earnings changes between the occupational categories. The major findings of this analysis were that lower paying occupations generally realized relatively lower earnings increases during periods of both relative price stability and inflation. Consequently, higher paying occupations fared relatively better over these same time intervals with certain occupational groups exhibiting even better performance during inflation. These findings then would suggest that a continued widening of wage

differentials persisted throughout both periods of different price level experience.

The next major portion of this study was then directed toward an examination of the actual redistributions of income from selected sources over periods of both relative price stability and inflation. Some very interesting findings emerged from this examination of income redistribution between income population fifths. Of particular interest is the fact that a marked exodus of business proprietors occurred for the three lowest income fifths during the period of relative price stability transpiring between 1961 and 1965. This exodus also occurred in respect to the two lowest income fifths for the partnership income sector over this same time period. This continued reduction in entrepreneurs also continued to persist for the lowest income fifth over the inflationary 1965-69 interval. The only other income sector displaying a decrease in income participants was that of rental income and this decrease was confined to the lowest income fifth exclusively during periods of relative price stability and inflation.

Despite these structural changes that appear to have shifted economic participants into different income sectors, the redistributions of total income appears to have been somewhat mild. The 1961-65 period of relative price stability resulted in a more equal distribution of aggregate income as the lower income fifths were the primary beneficiaries of the increased level of economic activity occurring over this period. The inflationary interval between 1965 and 1969 resulted in a redistribution

of total income entirely toward the fourth highest income fifth. Consequently, the lower income groups lost a portion of the modest gains of the stable price period such that they ended up slightly better off than at the beginning of the period of this study.

An examination of the wealth positions of selected income groups suggests that redistributions of purchasing power on net worth account would be directed toward middle income groups. This middle income segment comprising roughly 68 per cent of surveyed households would be able to gain on net worth account through inflation as the debt obligations of all these respective groups are in excess of their holdings of monetary assets.

When both the income and wealth effects are taken together, the results of this study are supported to some degree by that of Budd and Seiders (9) in that inflation would redistribute purchasing power from both the lower and highest income groups toward groups in the middle of the income distribution. Although in this study only the fourth highest income fifth gained in income redistribution through inflation, the second and third highest income fifths would generally benefit from the wealth effects of inflation. Consequently, this suggests that primarily the highest and lowest income fifths appear to have suffered the consequences of inflation. However, the results of this study suggest somewhat mild or modest losses for these two groups in respect to the redistributive impact of inflation.

BIBLIOGRAPHY

1. Alchian, A. A.; and Kessel, R. A., "The Meaning and Validity of the Inflation Induced Lag of Wages Behind Prices." American Economic Review 50 (March 1969): 43-66.
2. Alchian, A. A.; and Kessel, R. A., "Effects of Inflation." Journal of Political Economy 70 (December 1962): 521-37.
3. American Association of University Professors. Bulletin. 47 (June 1961).
4. _____. Bulletin. 51 (June 1965).
5. _____. Bulletin. 56 (Summer 1969).
6. Ando, Albert,; and Bach, G. L., "The Redistributonal Effects of Inflation." Review of Economics and Statistics 39 (February 1957): 1-13.
7. Bach, G. L. The New Inflation. Providence: Brown University Press, 1972.
8. Bresciani-Turroni, C. The Economics of Inflation. London: George Allen and Unwin, 1937.
9. Budd, E. C.; and Seiders, D. F., "The Impact of Inflation on the Distribution of Income and Wealth." American Economic Review 61 (May 1971): 128-38.
10. Conard, J. W., "The Causes and Consequences of Inflation." In Inflation, Growth, and Employment, pp. 1-19. Englewood Cliffs: Prentice-Hall, 1964.
11. Fisher, Irving. The Purchasing Power of Money. New York: Macmillan Co., 1922.
12. _____. The Theory of Interest. New York: Macmillan Co., 1930.
13. Goldsmith, Raymond. A Study of Saving in the United States. Princeton: Princeton University Press, 1955.
14. Hamilton, E. J., "Profit Inflation and the Industrial Revolution, 1751-1800." Quarterly Journal of Economics 56 (February 1942): 256-73.

15. Hollister, R. G.; and Palmer, J. L., "The Impact of Inflation on the Poor," Discussion Paper 40-69, Institute for Research on Poverty. University of Wisconsin, 1969.
16. Metcalf, C. E., "Micro Aspects of Macro Performance--Discussion." American Economic Review 61 (May 1971): 150-51.
17. Mitchell, W. C. Gold Prices and Wages Under the Greenback Standard. Berkeley: University of California Press, 1908.
18. Palmer, J. L., "Micro Aspects of Macro Performance--Discussion," American Economic Review 61 (May 1971): 151-52.
19. U.S. Bureau of the Census. Current Population Series--Consumer Income, February, 1963. Washington, D.C.: Government Printing Office, 1963.
20. _____. Current Population Series--Consumer Income, January, 1967. Washington, D.C.: Government Printing Office, 1967.
21. _____. Current Population Series--Consumer Income, December, 1970. Washington, D.C.: Government Printing Office, 1970.
22. U.S. Department of Commerce. Survey of Current Business, July, 1962. Washington, D.C.: Government Printing Office, 1962.
23. _____. Survey of Current Business, July, 1966. Washington, D.C.: Government Printing Office, 1966.
24. _____. Survey of Current Business, July, 1972. Washington, D.C.: Government Printing Office, 1972.
25. U.S. Department of Labor. Handbook of Labor Statistics, 1971. Washington, D.C.: Government Printing Office, 1971.
26. U.S. Treasury Department - Internal Revenue Service. Statistics of Income - Individual Income Tax Returns, 1957. Washington, D.C.: Government Printing Office, 1957.
27. _____. Statistics of Income - Individual Income Tax Returns, 1958. Washington, D.C.: Government Printing Office, 1958.
28. _____. Statistics of Income - Individual Income Tax Returns, 1961. Washington, D.C.: Government Printing Office, 1961.

29. U.S. Treasury Department - Internal Revenue Service. Statistics of Income - Individual Income Tax Returns, 1963. Washington, D.C.: Government Printing Office, 1963.
30. _____. Statistics of Income - Individual Income Tax Returns, 1965. Washington, D.C.: Government Printing Office, 1965.
31. _____. Statistics of Income - Individual Income Tax Returns, 1966. Washington, D.C.: Government Printing Office, 1966.
32. _____. Statistics of Income - Individual Income Tax Returns, 1967. Washington, D.C.: Government Printing Office, 1967.
33. _____. Statistics of Income - Individual Income Tax Returns, 1969. Washington, D.C.: Government Printing Office, 1969.
34. U.S. Treasury Department - Internal Revenue Service. Statistics of Income - Sole Proprietorships, 1961. Washington, D.C.: Government Printing Office, 1961.
35. _____. Statistics of Income - Sole Proprietorships, 1962. Washington, D.C.: Government Printing Office, 1962.

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