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THE IMPACT OF INFLATION ON THE POOR

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DISCUSSION PAPERS

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ABSTRACT

In this study an attempt is made to assess the impact of inflationary processes such as those experienced in the United States during the last 20 years on the economic well-being of the poor. In order to get a comprehensive picture of such an impact three types of possible effects are examined in some detail: effects of expenditure patterns, effects related to the sources of income, and effects due to the nature of assets held by the poor.

In looking at expenditure patterns, the authors construct a Poor Price Index (PPI) and compare its movements with those of the Consumer Price Index. The comparison suggests that price rises have hurt the poor less than the non-poor. On the income side, several types of evidence indicate that the benefits of tight labor markets which normally accompany inflationary pressures are very important to the poor. Simple regressions relating the incidence of poverty to unemployment, median family income and price rises indicate that the gains to the poor from tight labor markets go beyond those strictly related to lower unemployment. It seems that the poor gain relatively more than other groups probably because of increases in hours worked and narrowing of wage differentials. Public transfer payments, second only to wages and salaries as income sources for the poor, are found to have risen more than enough to offset the rise in the Consumer Price Index--though the position of Social Security benefits is somewhat unclear. The assets of the poor are found to be small in total value and of the total a very small proportion is vulnerable to inflation. Thus negative wealth effects of inflation are extremely small.

The relevance of the general policy conclusions discussed in the summary section of this report are not limited to a given economic situation; nor are the issues to which the entire paper is addressed. However, the authors have attached a postscript in which the findings in the paper are related to the current public controversy.

In the postscript, Hollister and Palmer point out that it is useful to inquire about the impact on the poor of inflation, on the one hand, and of anti-inflationary policies on the other. As is indicated in the paper, while the "tax of inflation" does not fall heavily on the poor, it is clear that the "tax of unemployment" which is likely to result from anti-inflationary policies does indeed fall very heavily on the poor. Further, it is suggested that continued tight labor markets are of central importance to the effectiveness of public and private training and employment programs. A rise in unemployment of even one per cent could wipe out a substantial portion of the

gains from such training programs. It is pointed out that as a nation we have had very little experience with a long period with unemployment rates below four per cent and it is possible that with continued tight labor markets private industry would learn how to absorb marginal workers more effectively and a reduction in inflationary pressures could well result.

The authors question whether, having spent a good deal of the past 20 years finding out about the relationship between high levels of unemployment and the price level--at great cost to the poor in terms of unemployment--we cannot as a nation afford to spend more time finding out about the relationship between very low levels of unemployment and the price level. At the very least, it is argued, we should stop pretending that we are stopping inflation to help the poor; this study indicates that the cure for inflation is likely to impose a far heavier burden on the poor than does inflation itself.

SECTION I

Introduction

The objective of this study is quite simple: to determine how the processes associated with what is generally known as inflation affect the economic well-being of a particular subgroup of the United States population, the poor. We will be concerned here with both the technical problems of determining the impact of inflation on the poor and with the relevance of the findings to questions of public policy.

Despite the fact that much of the rhetoric in public discussions about the evils of inflation is focused on particular subgroups of the population--the aged and the poor[1]--the formal economic literature on the distribution of the effects of inflationary processes is rather thin. Such literature as there is tends to focus on only one or two types of inflationary impacts rather than on trying to assess the overall impact on the economic well-being of a particular group.[2] In this paper we attempt to be more comprehensive by seeking to determine the impact of inflationary processes on the economic well-being of the poor in three broad areas: expenditure effects, income effects and wealth effects. In the first area, we examine how the impact of inflation on the poor is conditioned by the ways in which they (and other groups) spend their income; in the second, we examine the way in which inflationary effects are reflected in the sources of income of the poor; and in the third, we estimate the way in which the assets held by the

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[1] For two recent examples see: "The Dreadful Economic Choice that Faces Mr. Nixon" by Edwin L. Dale, Jr., *New York Times Magazine*, November 24, 1968 and "How Inflation Hits Hardest at the Poor" by E. A. Robert, Jr., *The National Observer*, March 3, 1969.

[2] See, for example, G. L. Bach and A. Ando "Redistributional Effects of Inflation" *Review of Economics and Statistics*, February 1957, Tibor and Anne Scitovsky in *Inflation, Growth and Income*, Research Studies for the Commission on Money and Credit, Prentice-Hall, 1963.

poor might create inflationary effects on their economic well-being. How this simple framework for assessment of distributional effects is derived from formal utility theory is illustrated in Appendix A, where we also point out some recent developments in the economic literature which show promise of the creation of more sophisticated welfare indicators according to which distributional impacts might be measured.

Our concern in this report is only with that group of the population whose incomes and family characteristics are such that they would be designated as poor according to the official (Social Security Administration) poverty lines.[3] We have not attempted to determine the total impact of inflation on other groups, though, of course, our framework for analysis would be applicable for other population groups as well.

In the next section, we examine the expenditures of the poor, develop special price indexes for various groups of the poor and compare them with the Consumer Price Index. In Section III we review the various sources of income of the poor and attempt to determine how the major sources of income have behaved in various inflationary periods. Section IV is devoted to an examination of the distribution of such wealth as the poor hold among various types of assets and an attempt to estimate the extent to which "wealth effects" might be created for this group during periods in which the price level is rising. In the final section a number of policy considerations are drawn together which we feel follow from the findings of the previous sections.

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[3]For a description of the poverty lines and their rationale, see Mollie Orshansky, "Counting the Poor: Another Look of the Poverty Profile," *Social Security Bulletin*, January, 1965, and "Who's Who Among the Poor: A Demographic View of Poverty," *Social Security Bulletin*, July, 1965.

SECTION II

The Poor Man's Price Index

The major indication that inflationary processes are underway is generally taken to be a substantial rise in the Consumer Price Index (CPI) which is designed to reflect the pattern of expenditures of a "typical family." It seems curious, therefore, that discussions of the effects of inflation on various parts of the population have rarely included any careful examination of the expenditure patterns of particular groups and the way in which differences among these expenditure patterns might generate relative differences in inflationary impacts. Obviously, any given change in prices of various products will have different effects on the amount of consumption (or real income) of groups to the extent that they spend their incomes on quite different combinations of goods and services.

It seems reasonable to expect that the expenditure patterns of the poor would be somewhat different from those of the "typical family" used as the basis for the CPI. We, therefore, have attempted to construct a Poor Man's Price Index (PPI) which would reflect the expenditure patterns of the poor and would allow us to compare the extent to which price changes, had expenditure effects on the poor which, in various periods, differed from those reflected in the CPI.

As a first approximation to a PPI, we simply reweighted the broad categories of the CPI using as weights the expenditure pattern for an urban family of five with money income after taxes of $1,000 to $3,600 in 1960-61. The results of this first approximation are reported in Table 1.

While the results are interesting, we do not pause here to comment because this first approximation has at least two shortcomings. The first is that the weights used are for broad categories of goods and

TABLE 1. FIRST APPROXIMATION OF POOR PRICE INDEX, PER CENT CHANGE IN INDEXES

	Inflationary Period					*Expenditure Weights of Poor*	*Expenditure Weights of Urban Family of Five With After-Tax Income of $7,500 - $10,000*
	1940-43	*1945-48*	*1950-52*	*1956-58*	*1965-67*		
Poor Price Index	21.6	30.5	10.2	6.1	5.9		
CPI	23.6	33.6	10.4	6.3	5.8		
Food	42.9	51.0	13.2	7.6	5.9	32.0	26.5
Housing	8.3	18.2	8.1	4.9	5.3	32.3	26.1
Clothes	27.5	35.5	7.9	2.2	6.7	10.8	12.0
Transportation	12.1	29.2	13.4	9.2	4.3	6.7	14.1
Medical	8.3	8.3	21.4	10.5	11.8	4.7	6.1
Personal	26.3	24.4	10.6	7.2	5.1	3.7	2.8
Reading, Recreation	17.3	15.6	3.5	7.9	4.3	4.8	7.3
Miscellaneous	5.5	17.2	9.7	4.2	6.1	5.1	5.2

it has been argued[4] that more disaggregated expenditure data would yield considerable differences in price relatives within the broad categories. Second, the group in the $1,000-$3,600 income range includes some individuals who are only "temporarily poor" (i.e., whose incomes are low for a year or two but whose expenditures are related to their past and anticipated higher incomes), and excludes those with larger family size who have higher income but still fall below the official poverty standard. A better estimate of the expenditure patterns of the poor would be obtained if the "temporarily poor" could be removed and the large-family-poor included.

In Table 2 is presented a tabulation drawn from the Survey of Consumer Expenditures, 1960-61, (hereafter referred to as the SCE) which indicates the degree to which families, defined as poor according to their income, had levels of expenditure exceeding the poverty line relevant to their family size. We include data for those families with incomes just above the poverty line as well, in order to give some indication of the extent to which drawing a sharp distinction right at the poverty threshold may distort the picture.

This table is of some interest beyond the concerns of this paper, in that it would seem to suggest that as much as 22 per cent of the groups defined as poor on an income basis have expenditures exceeding the official poverty level.[5] (Of course, this should be somewhat offset by those whose income exceeds the poverty standards but who continue to hold expenditures below poverty standard level--those we could to some extent call the "temporarily non-poor." Table 3 facilitates the comparison of those two groups.)

Using the combination of expenditure and income levels as applied to the relevant poverty standard, we have tried to separate out a group which would have expenditure patterns most closely representative of

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[4]See, for example "Cost of Living Indexes for Special Classes of Consumers," E. M. Snyder in *The Price Statistics of the Federal Government*, NBER 73, General Series, 1961.

[5]For an attempt to develop a poverty measure that takes into account the fact that low current income may reflect only temporary poverty, see W. L. Hansen and B. Weisbrod, "An Income-Net Worth Approach to Measuring Economic Welfare," *American Economic Review*, December, 1968.

TABLE 2. UNIT* INCOME AND EXPENDITURES IN RELATION TO POVERTY STANDARDS

Income Poverty Line	*Total Expenditures/Poverty Line Percentage of Raw Total* 0-100	100-120	120-140	140-160	160-300	
0 - 1.0	78.6	9.5	4.5	3.1	4.3	100
1.0 - 1.1	35.6	31.5	16.0	8.6	8.3	100
1.1 - 1.2	28.8	32.5	15.9	9.6	13.2	100
1.2 - 2.0	8.5	8.8	22.8	19.3	40.6	100

*Consumer units: families and unrelated individuals.

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Survey of Consumer Expenditures*, 1960-61.

TABLE 3. DISTRIBUTION OF CONSUMER UNITS BY INCOME AND EXPENDITURES

Income Poverty Line	*Total Expenditures/Poverty Line Per Cent of Total* 0-100	100-300	*Subtotal*
0 - 1.0	26.3	7.1	33.4
1.0 - 2.0	8.6	58.0	66.6
Subtotal	34.9	65.1	100.0

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Survey of Consumer Expenditures*, 1960-61.

those of the "longer term poor." This group with incomes and expenditures below the poverty line, is labelled "poor" in our tables. The group labelled "near-poor" includes those with incomes up to 1.2 times the poverty line and expenditures up to 1.6 times the poverty line. For these groups we have examined expenditure patterns. We used these new estimates to derive a refined set of weights for the broad categories of the price index which we used in the first approximation. The results of this second approximation are reported in Table 4.[6]

First note that in Table 4 several different indexes are reported. The Aged-Poor Index is for a sub-set of the poor including those families with heads 65 and over and unrelated individuals 65 and over, whose income and expenditures fall below the poverty line for their family size. The Near-Poor Index is based on the expenditure patterns of the group of near-poor as defined in the previous paragraph. The Wealthy Index is based on the expenditure patterns of units with incomes of $10,000 and above.

Comparisons of the Near-Poor and Wealthy Index with both the CPI and PPI makes it possible to get some idea of relative differences in expenditure effects of price level changes for groups at different income levels. The CPI is based upon the expenditure patterns of urban wage and salary earning units with income below $10,000 (income limit was revised upward after 1961). Thus the CPI group includes many poor units. If we wish to get some indication of how expenditure effects of price levels changes are altering the relative position of the poor, it is useful to remember that the gap between the CPI and the PPI will tend

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[6]The source of the price series is the U.S. Department of Labor, Bureau of Labor Statistics, *Handbook of Labor Statistics, 1968*. One difficulty was presented by the fact that price series were listed for Recreation and Reading (combined). We simply applied the Recreation and Reading Index to the three weights from the SCE for which we had separate data. A glance at the expenditure weights on Table 3 will suffice to demonstrate that with the exception of the wealthy price index this procedure could make little difference relative to any other arbitrary one.

TABLE 4. SECOND APPROXIMATION POOR PRICE INDEXES

	Year												*Expenditure Weight*			
	1947	*1948*	*1950*	*1952*	*1956*	*1958*	*1960*	*1964*	*1965*	*1966*	*1967*	*1967**	*Poor*	*Aged Poor*	*Near Poor*	*Wealthy*
Consumer Price Index	77.8	83.8	83.8	92.5	94.7	100.7	103.1	108.1	109.9	113.1	116.3					
Poor Price Index	77.4	83.1	83.9	92.4	94.8	100.8	102.9	108.2	110.0	113.7	116.6	116.3				
Aged Poor Price Index	76.6	82.3	83.4	91.9	94.8	100.8	103.1	108.4	110.3	114.1	117.1	116.3				
Near Poor Price Index	77.1	80.6	83.8	92.2	94.7	100.6	103.1	108.4	110.2	113.8	116.8					
Wealthy Price Index**	76.5	82.2	83.9	92.0	94.5	100.6	103.4	108.9	110.6	113.8	117.0					
Food	81.3	88.2	85.8	97.1	94.7	101.9	101.4	106.4	108.8	114.2	115.2		.349	.344	.317	.219
Alcoholic Beverages	75.4	78.9	82.6	96.6	97.1	99.6	102.1	104.7	105.8	107.7	109.9		.007	.004	.010	.018
Tobacco	73.0	76.3	80.0	86.6	94.1	99.7	107.1	114.8	120.2	126.1	130.9		.023	.016	.021	.013
Housing	74.5	79.8	83.2	89.9	95.5	100.2	103.1	107.2	108.5	111.1	114.3		.356	.422	.339	.278
Clothing	89.2	95.0	90.1	97.2	97.8	99.8	102.2	105.7	106.8	109.6	114.0		.078	.036	.087	.118
Transportation	64.3	71.6	79.0	89.6	91.3	99.7	103.8	109.3	111.1	112.7	115.9		.051	.033	.074	.160
Medical	65.7	69.8	73.4	81.1	91.8	100.1	108.1	119.4	122.3	127.7	136.7		.058	.086	.066	.062
Personal Care	76.2	79.1	78.9	87.3	93.7	100.4	104.1	109.2	109.9	112.2	115.5		.033	.025	.032	.027
Recreation***	82.5	86.7	89.3	92.4	93.4	100.8	104.9	114.1	115.2	117.1	120.1		.023	.013	.027	.048
Reading***	82.5	86.7	89.3	92.4	93.4	100.8	104.9	114.1	115.2	117.1	120.1		.008	.011	.008	.009
Education***	82.5	86.7	89.3	92.4	93.4	100.8	104.9	114.1	115.2	117.1	120.1		.003	.0003	.005	.020
Miscellaneous	75.4	78.9	82.6	90.6	95.8	101.8	103.8	108.8	111.8	114.9	118.2		.011	.010	.014	.029

*Adjusted for Medicare

**Incomes of $10,000 + in 1960

***Reading and Recreation Index Used.

Source: Year data from: U.S. Department of Labor, Bureau of Labor Statistics, *Handbook of Labor Statistics, 1968*; and Expenditure Weight data from: U.S. Department of Labor, Bureau of Labor Statistics, *Survey of Consumer Expenditures*, 1960-61.

to under-represent any relative changes since the poor units are averaged into the CPI base.[7]

The picture that emerges from this second approximation is one which leaves the PPI generally very close to the CPI. The Aged-Poor Index is more consistently above the CPI and this difference began to widen after 1965. This gap between the Aged-Price Index and the CPI led us to make a rough adjustment in this index to account for the effects of Medicare[8] on the Aged-Poor Index. The Medicare adjustment reduced the Aged-Poor Index back to the CPI level. In line with the change in the Aged-Index we adjusted the PPI to account for the influence of the aged sub-set of this group on the overall weights. This adjustment brought the PPI down by a lesser extent but still to the level of the CPI (the results of these adjustments are reported in Table 4 in the column headed 1967*).

The process of making these adjustments brought to light a further consideration. It turns out that the aged are a considerable portion of the poor as we have defined them by income and expenditure. This suggests that if a Non-Aged Poor Index had been constructed it would have fallen below the CPI in most years since the Aged-Poor segment is pulling the PPI up. Second, besides highlighting the importance of age differences in this group, it raises some questions about the relation of the SCE sample to the officially defined poverty population, since both the poor and near-poor seem to contain substantially higher percentages of aged units. Third, the Medicare adjustment does not take into account the possible effects of Medicaid on the non-aged

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[7]It should be noted that the CPI from 1947 to 1958 is the Bureau of Labor Statistics series and reflects adjustments made by the BLS for shifting expenditure weights over that period. Since we could only estimate expenditure weights for the other indexes on the SCE of 1960-61 those indexes are fixed weight indexes. Thus in the 1947-1958 period comparisons between the CPI and other indexes are subject to bias due to differences in weighting procedures. We return to this point later.

[8]For this approximation we simply followed S. Waldman in *Social Security Bulletin*, June 1967, p. 11, and cut the medical series weight by 40 per cent to approximate effects of Medicare.

segment of the poor group, and in this sense may represent a conservative estimate of the effects of this important social legislation.

We have been able to move beyond this second approximation of the PPI by carrying out some further refinements. For all categories except food, the SCE provides a more detailed breakdown of expenditure categories than that used in Table 4. Wherever these disaggregated weights were compatible with detailed price series in the *1968 Handbook of Labor Statistics*, we utilized the information to construct a better price index for the poor.[9] These final disaggregated price indexes are reported in Table 5. The difference between the disaggregated PPI (column 3, Table 5) and the second approximation of the PPI (Table 4) is quite striking. The effect of disaggregating in order to take into account detailed differences in expenditure patterns within the broader categories was to reduce the PPI almost two full points (in 1967) below the value reported in Table 4. This reduction occurs even without the Medicare adjustment taken into account. It appears to us that the primary reason for this drop is the exceedingly high index for hospitalized illness (200 in 1967) and the disparity between food-prepared-at-home and the food-away-from-home price indexes (112 versus 129 in 1967). Since the poor spend a lower portion of income on hospitalized illness and a smaller portion of their food budget on meals eaten away from home, the impact of rises in these detailed indexes is considerably smaller for them.

In the last two rows of Table 5 we have made an adjustment for the impact of Medicare on the Aged-Poor Price Index. The substantial benefits of this legislation in protecting the aged poor from expenditure effects due to rising medical costs is reflected in the fact that the Medicare adjustment lowered their estimated price index by .7 points in 1967.

The fact that the disaggregated indexes for the poor are lower seems to cast some doubt on the theory sometimes proposed[10] that a more detailed

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[9] When price information was not available to correspond with a detailed expenditure weight we applied the price index of the broader category (i.e., food, housing, etc.) to the detailed expenditure weight.

[10] E. M. Snyder, op. cit.

TABLE 5. DISAGGREGATED PRICE INDEXES FOR THE POOR

Year	*CPI*	*All Poor*	*Aged Poor*	*Rural Non-Aged Poor*	*Rural Aged Poor*	*Urban Non-Aged Poor*	*Urban White Poor*	*Urban Non-White Poor*
1953	93.2	93.8	93.2	94.3	93.7	93.7	93.4	93.8
1954	93.6	94.3	93.9	94.3	93.9	94.2	94.0	94.3
1955	93.3	94.1	94.0	93.7	93.6	93.9	93.8	94.1
1956	94.7	95.4	95.2	94.9	94.9	95.1	95.1	95.4
1957	98.0	98.2	98.0	97.9	97.9	97.9	98.0	98.1
1958	100.7	100.9	100.7	100.7	100.8	100.6	100.7	100.7
1959	101.5	101.4	101.2	101.3	101.3	101.1	101.3	101.2
1960	103.1	102.9	102.7	102.6	.02.7	102.6	102.9	102.7
1961	104.2	103.9	103.8	103.5	103.7	103.6	103.8	103.7
1962	105.4	104.9	104.7	104.5	104.5	104.7	104.8	104.6
1963	106.7	106.4	106.0	105.9	105.8	106.1	106.2	106.0
1964	108.1	107.5	107.1	107.0	107.0	107.2	107.4	107.1
1965	109.9	109.1	108.8	108.7	108.6	108.9	109.1	108.7
1966	113.1	112.5	112.0	112.1	112.0	112.2	112.4	112.0
1967	116.3	114.7	114.2	114.6	114.3	114.7	114.9	114.3
1966*			111.8		111.2			
1967*			113.5		112.4			

*Adjusted for Medicare

calculation of a price index for the poor will yield a greater negative impact of inflation on the poor (because, it is argued, of the inability of the poor, as compared to the wealthy, to substitute for items within a broad expenditure category, assuming differential price increases of these detailed items, due to the fact that they are putting a greater proportion of their money into "necessities"). This argument, however, would seem to be most applicable (if valid) within the food-prepared-at-home category, and since we do not have a breakdown of expenditures here we cannot assess the validity of it. We can only point out that the disaggregation we were able to accomplish seemed to reduce the estimates of the impact of inflation on the poor rather than raise them.

In Table 5 are also shown indexes estimated for the poor group further sub-divided by location, age and race.

Even with our most refined results, we are forced to use a fixed set of weights for all periods for all the PPI's. Thus, our index up to 1960 is a Paasche Index and after 1960 it is a Laspeyre Index and as such is only an approximation to the appropriate "true index" for the group in these years.[11] The CPI is adjusted by the BLS for the 1950-60 period to reflect shifting expenditure weights with a rising income over the period (after 1960 this is possible only to the extent that they raise the upper income cut-off for units included in the base--they do not have new expenditure pattern data after 1960). We can probably say that using the fixed weight PPI to compare with the shifted weight CPI in the 1950-60 period tended to reduce the differences between the indexes in that period since the CPI procedure takes account of the lower levels of average income in the earlier period whereas the fixed-weight PPI does not.

It should be noted that we have been unable to make any estimates of price indexes for the poor which would take into account the elements of the contemporary controversy over whether the "poor pay more." That controversy is concerned with the question of whether, or to what extent, the poor pay higher <u>prices</u> for any given good or set of goods. In

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[11] For a discussion of price indexes see N. Leviatan and D. Patinkin, "On the Economic Theory of Price Indexes," *Economic Development and Cultural Change*, 1961.

constructing our PPI, we have used the same price series that have been used for the CPI. This was necessary since we have no conclusive data on the prices the poor actually pay and, above all, no time-series data on such prices. It is important to be clear, however, about the fact that this shortcoming would bias our conclusions only under special circumstances. It must be recalled that we are investigating the effects of price changes, thus the "poor pay more" phenomenon will only affect our results if the prices they pay are not only higher in level, but rise faster than the prices paid for the same goods in outlets used by the non-poor, i.e., only if the gap between what the poor pay for a given set of goods and what the non-poor pay increases as the general price level increases.

Our final, disaggregated PPI estimates indicate that the expenditure effects of the type of inflation we have experienced since World War II have not been, in general, adverse for the poor. There is some indication that, particularly in the 1960's, the expenditure effects of rising price levels have fallen less heavily on the poor than on other income groups.

It should be noted that rises in a general price index, such as the CPI, can be generated by a different set of factors in different periods and as a result the pattern of rises in detailed categories of prices can vary from one inflationary period to another. Although our evidence seems to indicate that this has not happened in the United States post-World War II period, it is conceivable that an inflation could be generated which would cause greater rises in those price categories in which the poor spend a greater portion of their income. It is conceivable that the distributional effects of inflation (on the expenditure as well as other sides) could differ substantially according to the differential forces generating the inflation. Just as the character of inflations may differ so the policies for dealing with them should be expected to differ accordingly. We should certainly want to ask what are the distributional effects of the particular inflation faced at a given time; what are the forces generating the inflation and what policies are available to deal with these forces; most importantly, what are the distributional effects which the policies we select are likely to generate? We will return to these policy considerations. We can close

this section by saying that as far as the expenditure effects of recent inflations are concerned, the poor have not clearly been hurt the most by price rises and it may well be that their relative position has been improved.

SECTION III:

Income of the Poor

We turn now to an examination of the sources of income of the poor. Though we must necessarily proceed in this piecemeal fashion--considering first expenditure effects, then income effects and finally wealth effects--we urge the reader to bear in mind that the inflationary process generates all these effects simultaneously. And, in assessing the impact of inflation or the policies adopted to contain inflation, we need to take into account these simultaneous effects in order to determine the net effect on the economic well-being of the group--in this case, the poor.

Our first step in this section is to examine the relative importance of various types of income for the poverty population. In Table 6 is shown a profile of the income sources of the poor and the near-poor (as defined in the previous section), based upon data from the 1960-61 SCE. Since there are likely to be significant differences in the relative importance in various types of income for the aged, as opposed to the non-aged units, there is a separation, for both the poor and the near-poor, of aged and non-aged units reported in Table 6.

Briefly, Table 6 yields these significant observations:

i) Wage and salary income is very important to the non-aged poor, as we would expect. Approximately three-fourths of the units report income from this source, and they are highly dependent upon it.

ii) Wage and salary income is also important to the aged-poor; one-fifth of them report income from this source. Among the near-poor this fraction is one-fourth, implying that those units with incomes just above the poverty line derive considerably more income from wages and salaries than those below the line. This, undoubtedly, is a primary factor in their being above the line.

TABLE 6. INCOME SOURCES OF VARIOUS (CONSUMER UNITS--FAMILIES AND UNRELATED INDIVIDUALS) GROUPS, 1960

	POOR									*NEAR-POOR*								
	Aged			*Non-Aged*			*Total*			*Aged*			*Non-Aged*			*Total*		
	1	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*
Frequency (000's)	2,959			3,558			6,517			4,470			7,088			11,557		
Total Money Income before Personal Taxes (Mean for all)	$1,176			$1,885			$1,643			$1,366			$2,938			$2,331		
Wages and Salary	19.9	$454	7.7	74.3	$1689	66.7	49.6	$1465	44.3	22.5	$ 517	8.5	77.2	$2140	56.3	56.1	$1888	45.4
Self Employment	5.0	421	1.8	10.2	955	5.2	7.9	800	3.8	7.1	340	1.8	17.6	2358	14.1	13.6	1949	11.3
Rent, Roomers	16.6	334	4.7	6.9	176	.6	11.3	281	1.9	19.9	371	5.4	10.7	295	1.1	14.2	336	2.1
Int., Dividends, Prof. from stocks, Bonds, & Owned not Operated Business	21.6	140	2.6	5.5	83	.2	12.8	127	1.0	29.4	173	3.7	11.2	1183	4.5	18.3	554	4.3
Public Employment Social Security	73.8	905	58.5	29.6	748	10.9	49.7	854	25.8	79.3	1021	59.2	27.2	751	7.0	47.4	926	18.8
Priv. Pen., Ret. Annuities & Trust Funds	3.6	420	1.3	1.0	306	.2	2.2	391	.6	5.9	492	2.1	1.3	3000	1.4	3.1	1159	1.5
Pub. Soc. Ass't. Private Relief	20.5	822	14.3	23.7	1203	7.4	22.3	1044	14.1	15.7	796	9.2	15.5	1155	6.1	15.6	1015	6.8
Rect. of Cash Gifts	27.3	153	3.6	21.9	156	1.8	24.3	154	2.3	24.3	166	2.9	22.4	496	3.8	23.2	362	3.6

Continued

TABLE 6. Continued

	POOR									*NEAR-POOR*								
	Aged			*Non-Aged*			*Total*			*Aged*			*Non-Aged*			*Total*		
	1	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*
Military Allotments, Pensions, Etc.	5.0	842	3.6	6.7	901	3.2	5.9	878	3.2	7.9	860	4.9	7.3	793	2.0	7.5	820	2.7
Other Money Income	13.0	184	2.0	17.5	398	3.7	15.4	316	3.0	12.2	239	2.1	19.1	589	3.8	16.4	489	3.4

1 Per cent of those units reporting non-zero income from source.

2 Mean of source of those units reporting non-zero from source

3 Per cent of total mean income from source for all units.

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Survey of Consumer Expenditures*, 1960-61.

iii) Various forms of public assistance are the most important income source to the aged-poor; nearly 95 per cent of the units report income in this category. For the non-aged this is the second most important source, although lagging far behind wages and salaries.

iv) Contrary to popular belief, only a small percentage of the aged poor (about 10%) receive money from pensions, annuities and other forms of fixed valued income. The data also suggest that the actual amounts accruing annually in this category are much less than 10 per cent of the mean income of the aged-poor.

These results lead us to conclude that undue emphasis has been placed on the prevalence of aged-poor persons living primarily on income of a fixed-value, and thus having their purchasing power seriously erroded by inflation. (The case of public assistance income is somewhat different. See Section B below.) The important primary role of wage and salary income for the poor needs to be stressed, as does the secondary role of public transfer income. Accordingly, we now turn to the experience of the poor with regard to these major income sources.

A. Wage and Salary Income of the Poor

The area of wage and salary income is one of the most frustrating faced in this study. In looking at the regressions reported in Section 1 below (and the piecemeal evidence to follow in Appendix C), it seems to us that there are unquestionably considerable gains to the poor in terms of wage and salary income during periods of tighter labor markets which usually accompany inflationary periods (in post-World War II America). However, it has proven difficult to obtain data that will permit us to pin down with a high degree of precision the magnitude of such gains. Therefore, at the moment, we can only present the configuration of evidence that we have at hand. This is an area of the study that warrants considerably more attention since there will soon be available far richer data then we have so far utilized. But, before we proceed to the evidence below, some other remarks are in order.

There have been a few articles written by economists which discuss the harmful effects of unemployment upon the poor, and imply that a mild rate of inflation may be a small price to pay for the benefits

of a tight labor market.[12] These authors mention some considerations other than the more obvious ones which we are attempting to measure that bear upon the importance of lower unemployment rates for the poor. For this reason they should be borne in mind as strengthening the thrust of the evidence that we will present below. Specifically, we refer to their arguments concerning:

i) The dependence on a tight labor market of the success of the myriad of training and hiring programs aimed at the "marginal worker" and the "hard-core unemployed." We trust that this point need not be emphasized. Any analysis of the post-World War II American economy would tend to underestimate the effect of a low unemployment rate on the poor because there has never been such a massive effort on the part of government and private industry to utilize special programs to facilitate their participation in the labor market.

ii) The damaging effects of a fluctuating unemployment rate upon the poor. Again, an examination of historical data might result in an underestimation of future harm, if the unemployment rate were to fluctuate more often than in the past. And we are in danger of promoting such cyclical movements if we apply fiscal and monetary brakes every time a mild inflation occurs. To quote Harry Johnson: "fluctuations in the unemployment rate. . . leave a residue of poverty that is not compensated for by periods of high demand for labor. Specifically, there are two major groups of victims of cyclically heavy unemployment: the youthful entrants to the labor force, whose failure to find work permanently impairs their future earnings because they miss the opportunity to obtain the on-the-job training necessary to fit them for higher-paying employment later in their careers, and the older workers, who find it difficult to become re-employed, or re-employed in as high-paying jobs, in the subsequent period of cyclically high employment. For both groups, cyclical unemployment not only increases the current incidence of poverty, but increases the future incidence of poverty."[13]

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[12]The most eloquent of these is perhaps "Unemployment and Poverty" by Harry G. Johnson, a paper presented at West Virginia University Conference on *Poverty Amidst Affluence*, May 3-7, 1965. See also Scitovsky, op. cit., in "Inflation, Growth, and Employment," Commission on Money and Credit, and "On improving the Economic Status of the Negro," James Tobin, in the *Daedalus* issue on *The Negro American*, 1965.

[13]Harry G. Johnson, op. cit.

iii) The psychological consequences of unemployment. We are concerned in this paper with measuring the economic effects of unemployment on the poor. Although unquantifiable, the psychic harm is considerable, and is ultimately a primary concern of society.

AGGREGATE TIME SERIES REGRESSIONS: As a first step in exploring the income side of the inflationary impact question, we ran some crude regressions to see if we could find any gross relationships between the incidence of poverty and changes in the CPI.

The first regression which we tried on data for 1947-1966 was:

$$\%P = a + b_1 T + b_2 U + b_3 \%CPI$$

where %P = % of population below poverty lines (SSA standard in constant dollars).
U = unemployment rate
%CPI = % change in the CPI

The results were:

$$\%P = 31.01 - .9117\% + .5749U - .0715\%CPI$$

SE = (1.13) (.04) (.21) (.10)

t = 27.5 -23.2 2.76 -.71

$R^2 = .97$

d.w. = .7859

The Durbin-Watson statistic indicated serial correlation of the residuals. In a simple attempt to remove serial correlation we took first differences and got:

$$D\%P = -.8539 + .6676DU - .1238D\%CPI$$

SE = (.183) (.159) (.058)

t = -4.65 4.19 -2.12

$R^2 = .69$

d.w. = 2.3514

As can be readily seen, the % CPI coefficient was statistically significant and negative. Three important points should be noted about this result.

i) If inflationary processes had adverse affects on the incomes of the poor, one would expect the price-index term in this regression to be positive by the following logic. The poverty lines used to determine the incidence of poverty were deflated (i.e., in constant dollars). Therefore, for the poor to be "hurt" by inflation (for the incidence of poverty to increase) we would expect to find during inflationary periods the incomes of the poor (after allowing for the linear effects of a general time trend and changes in the level of unemployment) rising less than the price level--thus an increase in the incidence of poverty--and the coefficient on the % CPI term being consequently positive.

ii) Even if the price term had not been statistically different from zero, one could not thereby infer that the poor were hurt by inflation. The price term could have failed to be significant for a completely different reason--namely, that the tighter labor markets associated with rising prices were already adequately represented by the unemployment term. To the extent that tighter labor markets can only be attained with higher percentage price changes, in other words, the poor should be willing to tolerate those rising prices (offset by rising incomes).

iii) The first two points highlight the third. The fact that the coefficient price term is both negative in sign and statistically significant indicates that, even after the direct effects of a lower unemployment rate had been taken into account, the secondary effects of tighter labor markets--through higher participation rates, more full-time employment, narrowing of wage differentials, an increase in the share going to labor (any of which might have been picked up by the price-index term)--may be important in raising the incomes of the poor significantly.[14]

We decided to run an even more stringent test of the effects of the inflationary process on the incidence of poverty by replacing the time trend variable with median family income. Now, to the extent that tighter labor markets result in higher labor force participation rates, and reduced part-time (or increased over-time) employment, which are broadly shared across all income classes, the median family income term

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[14] We were further encouraged by the fact that Charles Metcalf obtained similar price level effects in his work on income distributions. See his "The Size Distribution of Personal Income in an Econometric Model of the United States," Ph.D. Thesis, M.I.T., 1968.

should help to pick up these effects. Thus the median family income term and the unemployment term would be likely to pick up even more of the effects of tighter labor markets than did the time trend and unemployment variables combined.

Once again--and even more so in this case--it should be noted that even if the price term failed to have significance, one would not conclude that on the income side inflation was neutral or detrimental with respect to the incidence of poverty; an insignificant price term could reflect simply a positive relation of price rises with rises in median income, and through rises in median income, a negative relation with the incidence of poverty. Once again, a prior hypothesis of an adverse impact of inflation on the incidence of poverty would lead to a prediction of a positive coefficient on the price term. The results of the regressions with median family income in place of the time trend were:

$$\%P = 54.22 - .0041M + .0214U - .0978\%CPI$$

$$SE = (1.733)\ (.0002)\ \ (.2146)\ \ (.1068)$$

where M = Median family income

$$t = 31.28 - 21.987\ \ .099 - .915$$

$$R^2 = .97$$

d.w. = .5088

Due to the Durkin-Watson value we again took first differences.

$$D\%P = -.0038DM + .1798DU - .1318D\%CPI$$

$$SE = (.0005)\ \ (.1424)\ \ (.0440)$$

$$t = -7.09\ \ 1.263\ \ -2.996$$

$$R^2 = .87$$

d.w. = 1.66

It would seem on this basis, even when the change in median income picks up any general indications of tightness in labor markets, a higher rate of change in the price level is associated with further reductions in the incidence of poverty. The poverty reducing effects of tighter labor markets associated with higher per cent changes in the CPI survive even this more stringent test. We find these results quite compelling.

We should hasten to add, however, that we are aware of the weaknesses inherent in this approach which focuses upon gross aggregate relationships within a single regression equation framework. We mention here just three potentially serious shortcomings. First, a potentially important aggregation error exists since there are subgroups within the poverty population (e.g., aged and female-headed families) whose response to the tighter labor market variables may be quite different from those indicated by the aggregate figures. (However, it is not clear, *a priori*, whether having lower labor force participation, they benefit less or, on the contrary, being marginal workers in looser labor markets they get relatively greater benefits when markets are extraordinarily tight.) Second, such a single equation relationship is implicitly a reduced form of an unspecified set of structural economic relationships. Without specification of the entire structure we must be cautious in our interpretation of the meaning of the observed coefficients. Third, (but related to the second point) we have specified a linear relationship between the incidence of poverty and the other variables. It may well be that this is not a proper specification, i.e., one or more of the independent variables are, in fact, related to the incidence measure in a non-linear fashion. If this were the case, then the price index term could simply be picking up some of the non-linear effects of other variables. In order to check on this possibility we have experimented with other functional forms for the regression equations. The results of these explorations are discussed in Appendix C; it is sufficient to report here that while in one case the results with alternative functional forms were somewhat weaker with respect to the price index term, in no case did they contradict (i.e., a significant positive coefficient) the results reported above and in most cases they yielded similar results.

In spite of these potential weaknesses, we feel the regression results reported above are quite important. At a minimum they do provide certain simple results. The fact that the price index term is not positive serves to reject, at least on this level, the idea that during inflationary periods price level rises outstrip rises in income of the poor. Even if the price index term were co-linear with median family income, and/or the employment rate, it would seem to characterize the important benefits to the poor of tighter labor markets. And if the direction of the economy is such that the benefits of tighter

labor markets are only attained with higher rises in prices, than the fact that the benefits to the poor do occur must be kept clearly in focus. Finally, it seems possible that, at least in the post-World War II period in the United States, in periods of tight labor markets which characterize the inflationary process, the poor gain not only through decreased unemployment but also through some narrowing of wage differentials or relative increases in hours worked and that these are the types of gains which are reflected in the results we obtained with the price index term.

It may be helpful to appraise these results in a somewhat different light. Instead of asking the question "Does inflation hurt the poor?" we might ask the question "Will a policy to stop inflation be helpful for the poor?" Is there anything in these results which suggests that the poor would gain from a reduction in inflationary pressure? The answer is no. If the results have any validity they suggest that a policy to reduce inflation, especially if coupled with even a "slight" rise in unemployment, could result in very serious losses for the poor. We will explore this point of view in more detail later in the paper.

STUDIES OF SPECIFIC LABOR FORCE EFFECTS. Having examined some broad aggregate relationships, we now wish to review some studies of the specific form labor force effects on wage and salary income might take.

It is useful to divide the means by which wage and salary gains can be made by the poor (or any other group) into two broad types: changes in labor force status and increased remuneration for those already employed. Gains due to changes in labor force status can be separated into several categories:

a. Increased labor force participation;
b. Reduction in unemployment for those already in the labor force;
c. Changes in part-time employment status for those already employed.

The responsiveness of labor force participation rates (LFPR) of various subgroups of the population to the overall unemployment rate is a subject which has recently received considerable attention in the economic literature.[15] The significant differences in this sensitivity that exist

[15] See, for example the works of Bowen and Finegan, Cain, Mincer, Strand, and Dernburg, Tella, and Barth.

among people seem to be explained by differences in sex, age, employment status of other family members, and income. The studies that deal explicitly with income as an independent variable and thus permit the focus to be on the poor are few in number and the findings are the subject of considerable controversy.[16] For example, some of the gross evidence suggests that the LFPR of poor males are negatively related with the unemployment rate more strongly than are those for non-poor males, i.e., lower unemployment brings greater labor force participation for poor males. However, a similar gross result originally found for female workers was later overturned by more refined analysis. Thus it is well to be cautious about accepting any firm conclusions on these questions at this time.

We need to be clear about the relevance of these labor force participation questions to the issues we are addressing in this report. There is no question but that with tightening of labor markets the labor force participation rates of the poor (and most other groups) are likely to increase. Since the unemployment rate is the ratio of the number unemployed to the total in the labor force this sensitivity of the LFPR means that the decline in the unemployment rate is likely to understate the actual gains in numbers of employed from these groups. However, in the regression in the previous section these gains in employment would be picked up by the unemployment term since they are correlated with the unemployment rate. The question of the relative sensitivity to LFPR of the poor, as opposed to the non-poor, relates to two points of interest in this paper. First, the fact that, in the second set of regressions reported above, the price term was significantly negative even after the inclusion of a median family income term in the regression is suggestive of relatively greater gains for the poor than for the non-poor from tight labor market situations that are characterized by rising

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[16]The only two studies familiar to us that attempt to focus explicitly on the poor are Parker and Shaw, "Labor Force Participation Within Metropolitan Areas," *Southern Economic Journal*, 1968, and Mooney, "Urban Poverty and Labor Force Participation," *AER*, March, 1967. Cain and Mincer have challenged the validity of Mooney's findings in a comment that will appear in a forthcoming *AER* issue.

price levels. A higher sensitivity of LFPR for the poor would suggest that a given reduction in unemployment would understate the gains in employment more for the poor than the non-poor. Relatively greater LFPR sensitivity would seem to be commensurate with the suggestion of relative (as well as absolute) gains for the poor which emerged from the second set of regressions. However, this is only one possible explanation of the relative gains (others being relatively greater reduction in unemployment or relatively greater movement from part-time to full time or relative greater increases in wages) and in light of the controversy noted above, it should be regarded as one of the less likely explanations. The second point on relative LFPR sensitivity has to do with the study by Mooney and Metcalf discussed in the following paragraphs. They assume greater LFPR sensitivity in order to obtain their results (although we should note that they make other assumptions, adjustments in which could counterbalance any error which might prove to result from this relative LFPR sensitivity assumption).

Let us consider, then, the Mooney and Metcalf study.[17] In their work, carried out for the Office of Economic Opportunity, they attempted to construct some estimates of the change in poverty status for the population as a whole which would result from a given change in the overall unemployment rate. Essentially this study provides estimates for the gains to the poor from changes in their labor force status associated with a reduction in unemployment.

They made use of the cross-section LFPR's of Bowen and Finegan[18] for the various population subgroups of the poor in 1964 as profiled by Orshansky.[19] Two critical assumptions were necessary in this study, one of which, in light of the above discussion, should make us cautious about putting much weight on the results. That assumption is that the

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[17] C. E. Metcalf and J. D. Mooney, "Aggregate Demand Model," unpublished working paper for the OEO, 1965.

[18] W. G. Bowen and T. A. Finegan, "Labor Force Participation and Unemployment," in A. M. Ross, editor, *Employment Policy and the Labor Market*, Berkeley, 1965, pp. 115-161.

[19] Mollie Orshansky, "Counting the Poor: Another Look at the Poverty Profile," *Social Security Bulletin*, January, 1965, pp. 1-29.

LFPR's for the poor are the same in all cohorts as for the population at large, but with their sensitivity increased by 25 per cent. The other one is that the unemployment within each population subgroup of the poor would fall proportionately to the national rate. In order to estimate the number of people removed from poverty they simply attributed the same incidence of poverty that existed at the higher unemployment rates for the various units classified by labor force status to the new distribution of units resulting from the lower unemployment rates. Their results are displayed in Tables 7 and 8.

Assuming that the decline in part-time employment all flows into full-time employment, they estimate that in moving from a 5.4 to a 3.5 per cent national unemployment rate there would be an increase in full-time employment of 1,042,000 for the poor. Similarly, if the move were from 4.5 per cent to 3.5 per cent, the gain would be 518,000. These gains in employment translate into 1,811,000 and 958,000 (respectively) people moved out of poverty. While the precise size of these quantities is questionable, we believe that the order of magnitude is reasonable primarily because it compares favorably with the estimates of the impact of a change in the unemployment rate which emerged from our first set of regressions in the previous section.

The Mooney and Metcalf study provides estimates of gains due to changes in labor force status associated with tighter labor markets. We noted above that there were possible gains beyond those due only to changes in labor force status. For that reason we now focus our attention on wage and salary increases to the already-working poor due to increased remuneration during times of low unemployment and inflationary pressures. This particular method of improving their income status is important to the poor for two reasons: first, because wage and salary earnings play a crucial role in the overall income picture of the poor (see Table 6); and second, although the benefits to many of the poor (through labor force status changes) which occur with a movement to lower unemployment are striking, the poor already-employed (see Table 9 for percentages already employed) must depend on the effects on remuneration of a continuing tight labor market for gains in their real wages.

In light of the result reported in the previous section we would expect to find that poor workers have at least held their own, or even gained, during times of mild inflation. We define "holding their own" as realizing wage increases that keep the real value of their wage

TABLE 7. LABOR FORCE STATUS OF THE POOR AT NATIONAL UNEMPLOYMENT RATES OF 5.4%, 4.5%

Categories	*Total Population*	*5.4% Unemployment Rate*				
		Employment Status	*Full-Time Employment*	*Part-Time Employment*	*Unemployed*	*Labor Force*
Male Heads of Families	5,222	3,154	1,781	1,373	324 (9.3)[b]	3,478 (66.6)[a]
Female Heads of Families	1,958	574	143	431	76 (11.7)[b]	650 (33.2)[a]
Unrelated Individuals (Male)	1,441		232	333	114 (16.8)[b]	679 (47.1)[a]
Unrelated Individuals (Female)	3,474		190	738	90 (8.9)[b]	1,018 (29.3)[a]
Wives and Non-Wives (Female) in Families headed by a Male	6,338	1,152			217 (15.9)[b]	1,369 (21.6)[a]
Males (Non-Heads) in Houses Headed by a Male	1,450	451			126 (21.8)[b]	577 (40.2)[a]
Females (Non-Heads) in Houses Headed by a Female	860	186			33 (15.1)[b]	219 (25.5)[a]
Males (Non-Heads) in Families Headed by a Female	750	226			107 (32.0)[b]	333 (44.4)[a]

[a]Labor force participation rates in percentages.

[b]Unemployment rates in percentages.

Source: Metcalf and Mooney, "Aggregate Demand Model," unpublished OEO paper.

AND 3.5% (In Thousands of Persons)

4.5% Unemployment Rate					*3.5% Unemployment Rate*				
Employment Status	*Full-Time Employment*	*Part-Time Employment*	*Unemployed*	*Labor Force*	*Employment Status*	*Full-Time Employment*	*Part-Time Employment*	*Unemployed*	*Labor Force*
3,243	1,966	1,277	272 (7.7)[b]	3,514 (67.3)[a]	3,343	2,175	1,168	213 (5.9)[b]	3,556 (68.1)[a]
603	180	423	65 (9.8)[b]	668 (33.9)[a]	635	220	415	52 (7.6)[b]	687 (34.7)[a]
	282	314	96 (14.0)[b]	692 (47.8)[a]		338	292	76 (10.9)[b]	706 (48.6)[a]
	243	726	77 (7.4)[b]	1,046 (30.1)[a]		304	713	63 (5.8)[b]	1,080 (31.1)[a]
1,234			188 (13.2)[b]	1,422 (12.4)[a]	1,330			152 (10.3)[b]	1,482 (23.4)[a]
499			110 (18.1)[b]	609 (42.0)[a]	544			88 (13.9)[b]	632 (43.6)[a]
196			28 (12.6)[b]	224 (26.0)[a]	200			23 (9.8)[b]	231 (26.9)[a]
252			92 (26.7)[b]	344 (45.8)[a]	284			74 (20.6)[b]	358 (47.7)[a]

TABLE 8. REDUCTIONS IN POVERTY STATUS OF FAMILIES AND UNRELATED INDIVIDUALS WHEN THE NATIONAL UNEMPLOYMENT RATES FALL FROM 5.4 TO 3.5

	Total Population (March 1964) at 5.4% (Unemployment Rate)	*Change to 4.5% (Unemployment Rate)*	*Change to 3.5% (Unemployment Rate)*
Members of Male-Headed Families	22,100,000	-612,000[(a)]	-1,302,000
Members of Female-Headed Families	7,600,000	-160,000	- 341,000
Unrelated Individuals (Females)	3,500,000	- 47,000	- 95,000
Unrelated Individuals (Males)	1,400,000	- 34,000	- 73,000
Totals	34,600,000	-853,000	-1,811,000

[(a)]This means that 612,000 people (including heads and children) would be moved above the poverty line.

Source: Metcalf and Mooney, "Aggregate Demand Model," unpublished OEO paper.

TABLE 9. PER CENT OF TOTAL POOR (1964)

Employment and Work Experience of Head	*Families (7,180,000)*	*Unrelated Individuals (11,182,000)*
Not in labor force	42.5	65.4
Unemployed	5.6	4.2
Employed	51.9	30.4
Worked in 1963	64.3	36.2
Full time jobs	50.0	23.6
Part time jobs	14.3	12.7
Did not work in 1963	35.7	63.8
Number of Earners		
None	27.5	
One	45.7	
Two or more	26.8	

Source: Current Population Survey, 1964.

income in line with the generally rising standard of living as reflected in the growth rate of median income. Rises in the real wage and salary income of the already-employed poor could occur either because of rises in the general wage level in those industries in which they are concentrated or because wage differentials within industries have narrowed in their favor (alternatively one could look at wage levels and differentials classified along occupational rather than industrial lines). Since most of the theories of wage determination relevant to this study are couched in terms of relative wages, we focus on this latter aspect.

Minsky[20] and others have argued both that: (i) wage differentials tend to narrow in tighter labor markets, and (ii) as the overall unemployment rate drops, the preponderance of unemployment rates in those occupations with a heavy concentration of poor drop disproportionately more. This means that the poor wage earners are aided relatively more by both the initial drop in unemployment and the continued operation of the economy at the lower rate. The point with regard to those benefits resulting from a change in labor force status is unlikely to be contested. However, we must examine the question of narrowing wage differentials as caused by a drop in the unemployment rate and by a continued tight labor market. Reder[21] points out that it is one thing to propose that occupational wage differentials narrow as the unemployment rate decreases and quite a different matter to stipulate that these differentials will continue to narrow with the unemployment level constant at the lower level. His theory is briefly this. In a period of excess demand the supply of skilled workers can be augmented by lowering hiring requirements and by substituting less skilled for more skilled workers. However, this procedure cannot be used to increase the supply of the unskilled. Faced with a relatively inelastic supply of unskilled, the competition for labor during a rapid expansion leads to proportionately larger wage increases for the unskilled than for the skilled. Thus, the former proposal

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[20]Hyman Minsky, "Tight Full Employment: Lets Heat Up the Economy," in *Poverty American Style*, Herman P. Miller, ed., California 1966, pp. 294-300.

[21]M. W. Reder, "A Theory of Occupational Wage Differentials," *American Economic Review*, Vol. 45, December, 1955.

regarding the narrowing of wage differentials is consistent with Reder's theory, while the latter need not be. In fact this former proposition seems to be borne out by the post-World War II American experience, although some economists will put more emphasis on institutional factors as causal than they will on the elements of Reder's theory.[22]

There are also some schools of thought which rely upon institutional factors to maintain that a mild inflation tends to narrow relative wage differentials even though there need not be any particular excess demand in the labor market. Perlman argues that "...under conditions of a wage and price inflation, with much smaller rises in real income, conditions that have prevailed since the end of World War II, there is a powerful tendency for wage increases to be distributed in such a way that narrows the percentage skill differential."[23] This is primarily because under such conditions labor is more interested in wage levels than wage structure, and across the board wage increases of an equal amount to all workers decrease the relative wage differentials. In any event, most models of wage determination, be they primarily institutional or not, predict a narrowing of relative wage differentials in times of falling unemployment, and, at worst, non-widening relative differentials in labor markets with a constant low rate of unemployment and mild inflation.

In Appendix D we report some simple exercises in which relationships between changes in the unemployment rate or changes in the price level and changes in the distribution of income within industry or occupation groups were examined. The results of these exercises are far from conclusive, but the pattern that emerges seems to lend support to the results of the previous section and to conform with the studies discussed in this section.

In sum, then, we can say that studies of the specific labor force effects of tight labor markets associated with inflationary processes lend support to the results which were obtained in the previous examination of aggregate relationships between the incidence of poverty and

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[22]Martin Segal, "Occupational Wage Differentials in Major Cities During the 1950's," *Human Resources in the Urban Economy*, Marc Perlman, ed., *Resources for the Future*, 1963.

[23]Richard Perlman, "Forces Widening Occupational Differentials," *Review of Economics and Statistics*, Vol. XL, p. 112.

rising price levels. The tighter labor markets which are associated with inflationary processes seem to provide both absolute and relative gains in income for the poor as a result of improved labor force status and a probable narrowing of wage differentials in favor of the poor worker.

B. Transfer Income

It is clear from Table 6 above that public transfer payments of various types are second only to wages and salaries as a source of income for the poor.

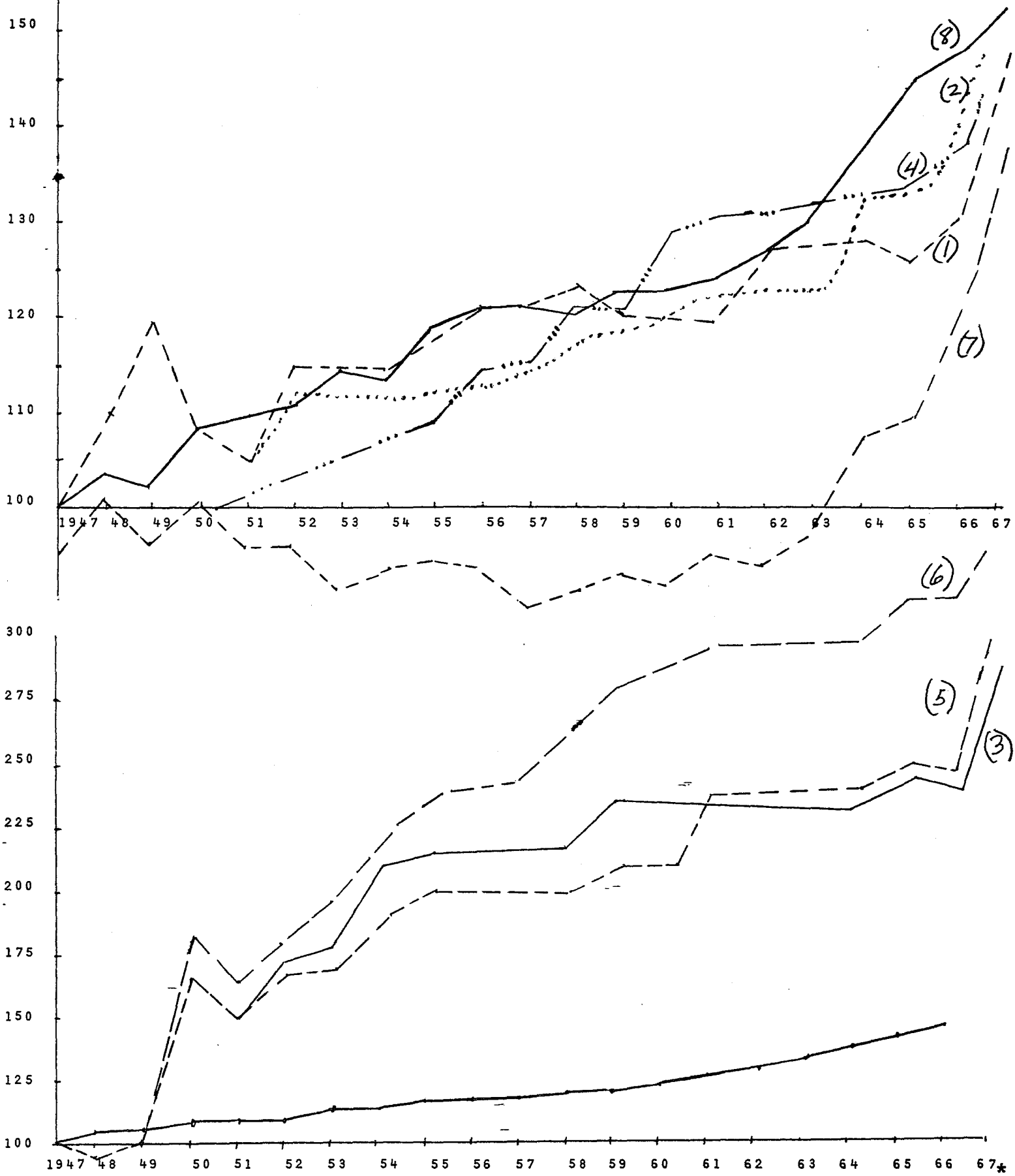
In order to get an idea of how public transfer sources of income behave over the long term and in inflationary periods we have graphed, in Figure 1, indexes of average payments for various types of public transfers for the period 1947-1966 in constant prices (reported in Table 10). We have also graphed an index of disposable income per capita deflated by the CPI as a rough indicator of changes in the general standard of living level.

Deterioration of real income from a given source occurs only when the slope of a portion of the curve for that source in Figure 1 is actually negative. With the exception of General Assistance, there are very few negatively sloped portions on any of the curves (except for the 1950-51 period). Thus there have been surprisingly few cases in which even for a given year rises in public transfer payments have lagged behind rises in the price level.

It is noteworthy that the long-term trend in payments, as represented by the overall slope of the curves is positive, and since these are all constant dollar figures, this means that in the long term the real value of these monthly payments has been increasing. In addition, many of the slopes of the average monthly payments curves are as great as, or greater than, that of the disposable income per capita curve, indicating that in the longer term these payments have been a force working toward the raising of the relative income position of the recipients. To be sure, rises in particular types of payments do lag behind price index changes in particular years and thus some recipient groups are hurt in those years, but these lags seem to be much less widespread and long lasting than is generally supposed and are offset by other

Figure 1

INDEXES OF VARIOUS FORMS OF PUBLIC ASSISTANCE
AND PER CAPITA DISPOSABLE INCOME



( ) explanation of numbers appears in Table 14 - heavy line is disposable income/capita

* reflects the recent passage of Social Security Bill resulting in across the board 13% rise.

TABLE 10. VARIOUS FORMS OF PUBLIC ASSISTANCE--1966 DOLLARS

Year	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1947	52.50	25.85	34.95		29.58	70.76	29.87	1,513
1948	57.40	28.55	34.65		27.81	67.23	30.24	1,567
1949	62.35	30.25	36.25		28.29	68.54	28.90	1,547
1950	56.70	27.45	57.75	28.03	49.28	126.77	30.04	1,646
1951	55.40	27.35	52.45		45.00	117.25	28.63	1,657
1952	60.20	28.90	60.75		49.65	129.32	28.43	1,678
1953	59.95	28.45	62.60		49.49	135.40	26.68	1,726
1954	59.95	28.60	72.80		56.02	157.91	27.65	1,714
1955	61.40	28.85	75.95	30.30	58.93	163.83	28.19	1,795
1956	63.50	29.55	75.20	32.15	56.62	167.79	27.91	1,839
1957	64.25	29.40	74.75	32.40			26.11	1,844
1958	64.80	30.35	75.30	34.25	58.13	169.90	26.94	1,831
1959	63.55	30.60	81.60	33.76	62.94	197.25	27.81	1,881
1960	65.05	31.30	81.75	36.16	63.47	206.80	27.34	1,883
1961	63.20	32.30	83.05	36.84	70.74	206.34	28.50	1,909
1962	66.75	31.75	82.60	36.98	70.51	204.05	28.14	1,958
1963	66.95	31.65	81.95	37.40	70.91	204.05	29.10	2,013
1964	67.10	33.20	81.75	37.76	71.30	203.07	32.03	2,123
1965	65.20	33.95	86.70	38.31	75.12	226.39	32.60	2,232
1966	68.05	36.25	84.35	39.76	74.30	221.90	36.20	2,317

1. Old age assistance per recipient--average monthly payment.
2. Aid to families with dependent children--average monthly payment.
3. Average monthly retired workers' benefit under OASDHI.
4. Unemployment insurance--state summary--average monthly for total unemployed.
5. Survival families--aged widow only--average monthly payment.
6. Survival families--widow with two children--average monthly payment.
7. General assistance per recipient.
8. Per capita disposable income (1958 dollars).

periods in which payment levels increase considerably more than the price index.

It is also worth noting that in attempting to assess the effects of changes in the price level on the economic well-being of recipients of public transfer payments care must be taken in selecting the standard upon which such an assessment is based. In evaluating the effects of price level changes over a given period it certainly is not enough to look at a single year to see whether the payment rose in that year by as much as the price index--this would seem to be far too rigorous a standard. It has often been the practice to make an assessment by looking at the value of the payment at the end of the period, deflating it by the price index rise over the period and then comparing it to the value at the beginning of the period. We would argue that even this is a somewhat biased standard for it weights very heavily the position at the end of the period and ignores what may have transpired at other points in the period. A more general standard for the longer period effects would be one which cumulates the real income gains and the real income losses for each year over the whole period. While there are some years in which the price level rises while the money amount of the transfer payment remains constant, there are other years in which the money value of the payment rises by considerably more than the price index rises. Thus a standard which balances years of real income gains (rise in money payment above rise in prices) against those of real income loss (rise in money payment less than rise in price levels) would more accurately reflect the real income of the recipients.

With respect to most of the types of transfer payments reported in Table 10 and Figure 1 this choice among standards of assessment is not of crucial importance. As we have already noted, for most of the payments there were even very few single years in which there was real income deterioration of the payment due to price level rises and in most cases long period rises have not only exceeded price level rises but have exceeded rises in per capita disposable income.

However, for one type of payment, the data presented in Table 10 and Figure 1 could be seriously misleading. It has been pointed out[24]

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[24]Waldman, "OASDI Benefits, Prices and Wages: A Comparison" and "OASDI Benefits, Prices and Wages: 1966 Experience" *Social Security Bulletin,* August, 1966 and June, 1967.

that in the case of Social Security (OASDI) changes in average monthly payments do not reflect changes in the level of the benefits actually received by particular groups of retirees. The increases in average monthly benefits reflect primarily the higher benefit levels for new retirees with higher past earnings records. Once drawing Social Security, the retiree only receives increases in benefits through specific amendments in the Social Security legislation. In recent years there have been such amendments raising benefits by approximately 7 per cent in 1959, 7 per cent in 1965 and 13 per cent in 1968. Thus, while by 1968 a pre-1959 retiree had received benefit increase sufficient to offset increases in the CPI, there were a number of interim years in which he suffered real income losses. Even the 1968 increases, although sufficient to keep up with rises in the price index, were not sufficient to keep this income source in line with the increases in disposable income per capita over this period for such a retiree. On the other hand, a 1964 retiree would have had benefit increases more than enough to offset price increases in all but one year and his position relative to disposable income per capita would probably be about the same by the end of 1968 as it was in 1964.[25] Moreover, as noted above, in order to get an overall assessment for a given period for a given retiree cohort one would have to cumulate the yearly real income gains and loss for this source. An example of such a cumulation is given in Appendix E. To make a precise estimate of the net overall effect of amendments raising benefit levels, of changes in the price index and of growth in disposable income per capita on the relative position of Social Security recipients as a group, it would be necessary to take account of the distribution of retirees according to the year of retirement, their survival rates, the cumulative

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[25] We should note, of course, the relevance of our discussion of price indexes in Section II of this paper. Our Aged-Poor Index differs from that calculated by Waldman (ibid, June 1967, p. 10), in that we calculate an index taking account of age, income, expenditure and family size. Our Aged-Poor Index in Table 5 is considerably below the CPI in 1967 even before the adjustment for Medicare is made. With the Medicare adjustment there is even more substantial difference. The Aged-Poor Index results suggest that the relative position (however measured) of poor Social Security recipients is less affected by rises in prices than has previously been suggested.

value of each cohort survivors' yearly real gains and real losses from this source. We do not have the information such an assessment would require and it is not clear to us, on the face of it, what the outcome of such an assessment would be.

We would conclude on the basis of the evidence provided in Table 10 and Figure 1 that, in general, public transfer payments have more than kept pace with rises in the price level (though with respect to Social Security we must reserve our judgment on the issue). It is important to be clear about the fact that regardless of the historical relationship between transfer payments and the price level, public transfer payments are policy variables. If our objective is to protect low income transfer recipients from the effects of inflation in the short term, a policy decision can be made to do so quite readily. Legislation can simply be passed to tie the payment levels for the transfer payments to the appropriate sort of price index. In fact, in terms of policy we can, if we wish, go even further and offset the effects of price increases on other sources of income by raising transfer payments by some multiple of the changes in the price index. We will return to these considerations later in the paper.

SECTION IV

Assets and Wealth Effects

In this part of the paper we attempt to estimate the extent to which the economic well-being of the poor might be diminished by negative "wealth effects" created by rising price levels. The common picture, conjured up in public debate, of those hurt by inflation is one of a family living on a meager, fixed income derived from accumulated assets. It is useful in this light to evaluate the magnitude and distribution of various types of assets held by the poor.

For the poor, asset incomes which would be adversely affected by inflation have a fixed monetary value: for example, cash, checking and savings deposits, life insurance, fixed value pensions and bonds. In general, assets with variable monetary value such as stocks, automobiles and housing would be assumed to rise in money value as the price level rises. Balancing any deterioration in the real value of fixed value assets during inflation would be the real value gains which accrue to individuals who have debts which are fixed in monetary value.

On the basis of data drawn from the *Survey of Financial Characteristics of 1961* (SFC) we were able to examine the distribution of assets for the poor (defined in terms of current income in relation to the Social Security Administration poverty lines and excluding those with net worth greater than $50,000). In Table 11, we present the data on the distribution of net worth of poor families. Not surprisingly, the distribution is quite skewed; the median value of net worth is less than half the mean. For this reason we concentrate on median values of assets as most representative for the population. We also present in Table 11 the median values for various age and race categories. In general, as would be expected, the poor have relatively low net worth. Not all of even this low net worth is vulnerable to inflation.

TABLE 11. NET WORTH OF FAMILIES WITH INCOME BELOW THE POVERTY LINE (AND NET WORTH BELOW $50,000) 1961

DISTRIBUTION

Net Worth	*Negative*	*0-999*	*1,000-4,999*	*5,000-9,999*	*10,000-19,999*	*20,000-49,999*	*Mean*	*Median*
Per Cent	12.3	26.5	22.5	19.3	13.0	6.4	$5,845	$2,594

MEDIAN VALUES BY AGE AND RACE OF HEAD

Non-Aged White	2,356
Non-Aged Non-White	1,474
Aged White	5,083
Aged Non-White	5,014
All Poor	2,434

Source: SFC, 1961.

In order to assess more directly the potential "wealth effects" of inflation, we segregated the assets of the poor into fixed value and non-fixed value categories and estimated the median and means for each category. These are reported in Table 12. We also netted, for each observation in the SCF data tape, fixed value assets against fixed value claims and then found the median and mean of the resultant net distribution. These values are reported in Table 12 in the category "Amount Vulnerable to Inflation."

Now in order to get an idea of what the order of magnitude of potential "wealth effects" might be, let us pose a simple example. Let us make the very generous assumption that the poor were able to realize a ten per cent return on the value of their assets. If we focus on the median values in Table 12 we see that the amount of assets vulnerable to inflation is estimated at $366 for non-aged headed families and $501 for families with aged heads. A ten per cent yield on these assets would amount to $37 a year for non-aged family heads and $50 a year for aged heads. Comparing this to the estimated yearly income for these units reported in Table 12 we find that the amount of yearly income from

assets, assuming a ten per cent yield, which is subject to negative "wealth effects" due to rising price levels is about three per cent of annual income for families with non-aged heads and about 5 per cent for families with aged heads.

TABLE 12. VALUE OF TYPES OF ASSETS FOR FAMILIES WITH INCOME BELOW THE POVERTY LINE (AND NET WORTH BELOW $50,000) IN 1961

	Median Values			*Mean Values*		
	Non-Aged Head	*Aged Head*	*All Heads*	*Non-Aged Heads*	*Aged Heads*	*All Heads*
Net Worth	1,823	5,121	2,434	5,539	6,418	5,845
Fixed Value Assets	790	607	743	2,932	2,224	2,686
Non-Fixed Value Assets	317	2,384	611	3,516	4,570	3,883
Fixed Value Claims	58	17	23	910	376	724
Amount Vulnerable to Inflation	366	501	422	2,023	1,849	1,962
Income	1,336	1,059	1,164	1,660	1,149	1,482

Source: SFC, 1961.

Note that this does not mean a three to five per cent decline in real income, this is the amount of income which is vulnerable. In order to get the actual reduction in real income due to inflation we multiply these percentages by the percentage rise in the price level. We can make the example extreme again by assuming a high (in United States terms) rate of inflation, say five per cent. A five per cent rate of inflation would, according to our estimates, generate negative "wealth effects" for the poor amounting to about one-sixth of one per cent of annual income for families with non-aged heads and one-fourth of one per cent of annual income for families with aged heads.

To be sure these very small estimates of the "wealth effects" of inflation on the poor are based upon the median values as most representative. There are undoubtedly many individuals whose situation more specifically accords with the classical picture of a small income from fixed value assets (the skewness of the assets distributions suggested by the considerable difference between medians and means and the relationship among the medians of the various categories of assets would seem to suggest such subgroups may exist). We must therefore be careful not to give the impression that substantial negative "wealth effects" could not exist for individual families. However, we must not err in the other direction and let the possibility of these individual cases stand as indicative of the situation of the entire poor population. Contrary to the impression given by the usual public discourse our evidence indicates most poor families and even most poor aged families do not receive substantial portions of their income from fixed value assets which are vulnerable to inflationary erosion in real value. In making policy decisions which will affect the broad group of the poverty population, it must be remembered that as a whole the poor are likely to suffer very little from inflationary negative "wealth effects." Even these small losses must be balanced against the other effects of inflation on this group--the "expenditure" and "income effects"--in order to arrive at an overall assessment of the impact of inflation--or the impact of anti-inflationary policies--on the poor. We attempt such an overall assessment in the next and summary section.

SECTION V

Summary and Conclusions

Our objective has been to assess the impact on the economic well-being of the poor of inflationary processes such as those experienced in the United States in the last twenty years. A comprehensive assessment of such an impact must take account of possible effects due to expenditure patterns characteristics, effects related to the sources of income and effects related to the character of assets held by the poor.

Since we have noted a number of weaknesses in our data and procedures at several points in the paper we will not repeat these reservations here but simply summarize our results, however tentative they may be.

On the expenditure side, we examined past movements of several "Poor Price Index" measures (based on weights derived from the expenditure patterns of poor families) relative to the CPI. The comparison suggests that the "expenditure effects" of price rises hurt the poor less than the non-poor; the relative real income of the poor improves as a result of the expenditure effects of general price rises.

With respect to income, it is quite clear that the beneficial effects of tight labor markets which normally accompany inflationary pressures are very important to the poor. The results of some simple regressions relating broad aggregate measures of poverty, unemployment, and price rises indicated that a drop of one per cent in the unemployment rate would remove a million to a million and a half people from poverty that would not have been removed otherwise. This estimate coincides with those of another study reviewed. The regressions provide some further suggestions that the gains to the poor from the tight labor markets associated with inflation go beyond those strictly related to lower unemployment. Both the regressions and some other studies reviewed suggest that during such inflationary periods the poor gain relatively more than other groups, probably because of movements from

part-time to full-time employment and because of a narrowing of wage differentials between the employed poor and the non-poor.

The income source which ranks second in importance for the poor behind income from wages and salaries is income from public transfer payments. Historically, average public transfer payments have risen more than enough to offset the rise in the CPI, and, in most cases, have risen faster than disposable income per capita (the exact position of Social Security benefits is rather unclear, however). Moreover, it was pointed out that regardless of what has occurred historically policy decisions tying payments to price indexes could be readily made and thereby specifically prevent erosion of the real value of such transfer payments.

An examination of the assets of the poor showed them to be small in total value and the proportion vulnerable to inflation to be a small portion of these small assets. The potential negative "wealth effects" due to rising price levels were estimated to be very, very limited for the poor as a whole and even for the aged poor as a group.

It seems clear then that on both the expenditure side and on the income and asset side, the relative position of the poor is likely to improve during periods of inflationary pressure similar to those experienced during the past twenty years. With the exception of two years (one of only slight price rise, 1953-54, and one of substantial price rise, 1957-58), disposable income per capital has risen faster than the price level. Thus we may generally conclude that since the relative position of the poor seems to improve during inflationary periods and overall there are real income gains per capita during such periods, the poor as a whole must be gaining both absolutely and relatively in economic well-being during periods in which inflationary processes operate.

Thus far we have summarized the findings of this paper based on an examination of the evidence from the past twenty years. At several points in the paper we have mentioned some general policy considerations which seemed related to this evidence. We would like to attempt to put these considerations in a more coherent form here.

As has been noted repeatedly above, the public discussion of inflation and the policy issues related to it have been pervaded by the general presumption that the poor are hurt by inflation. At the very least, our

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evidence makes clear that this has been a presumption and not a proven fact; we feel the evidence indicates that the presumption should be that the poor are not hurt by inflation.

One might conjecture that the idea that the poor are hurt by inflation has gained currency because of a tendency to generalize from piecemeal considerations and isolated cases. If the money incomes of the poor are fixed then price rises will cause a deterioration in their economic well-being, but one must go the next step and consider whether the same process which generates the rise in prices is not likely to generate rises in the income of the poor as great or greater than the rises in prices. Similarly, though there are some poor families living on incomes from fixed value assets or pensions vulnerable to inflation it should not be concluded that the majority of the poor are in this circumstance.

Both of these considerations are particularly important when the use of policy instruments with a broad impact is being considered, e.g., fiscal and monetary policy. With respect to the first consideration, it might be concluded that the policy instrument (reduced aggregate demand or tighter money) might be adequate to stop rising prices but is it not likely to generate also processes which will reduce the incomes of the poor, perhaps by more than the reduction in price rises? Regarding the second consideration, if there are special situations of inequity within a subgroup of the population then one should try not to use broad policies to deal with those relatively isolated cases. More particularistic policies can usually be found to deal with particular circumstances. For example, as we suggested above, if it should happen to be a subgroup of the poor receiving a particular type of transfer payment whose incomes are deteriorated by inflation then it makes little sense to use fiscal and monetary policy in order to stop inflation for their benefit alone (this example may seem ludicrous, but we suggest that a careful examination of much of the arguments about anti-inflationary policies reduce to this sort of reasoning). It seems eminently sensible instead to make a policy decision to raise automatically their transfer payments to keep pace with the price rises.

For these reasons, it is important, when assessing the impact of economic phenomenon like inflation, to try to be comprehensive, to try to weigh all the likely losses and all the probable gains in the balance. This kind of balance in assessment is necessary not only in the sense of determining the impact of inflation but also in estimating the losses and gains from anti-inflationary policies. It is not enough to inquire whether the inflationary processes create some inequities; one must also ask whether the cures proposed do not create even greater inequities.

We want to be clear that the tenor of our arguments should not be taken to be one of advocating a purposeful policy of generating strong inflation. We merely wish to attempt to correct what has struck us as an extraordinary imbalance in the public and academic discussion of these issues. The presumption that inflation necessarily hurts the poor simply is not supported by evidence on the recent United States experience. The possibility that the economic well-being of the poor improves as a result of the processes generally associated with inflation should at least be seriously entertained by those concerned with the policy making process. If, given the imperfect policy instruments at hand and the structure of the economy, we must err in keeping the economy in perfect balance should we not at least seriously consider whether it is better to err on the side of inflation?

Postscript

In the main body of this paper our objective has been to discuss general issues whose relevance is not limited to the current economic situation. This postscript is attached in order to highlight some points which follow from the discussion in this paper and have, in our view, particular relevance to the present public controversy about inflation.

For some time it has been common to talk about inflation as a tax. Given people's money income, a rise in prices reduces their real income in a fashion quite similar to the reduction in real disposable income which occurs when there is an increase in taxes; this is the sense of the "expenditure effects" discussed in Section II of this paper. Our study indicates that the "tax of inflation" has fallen relatively less heavily on the poor. The incidence of the "tax of inflation" is not clear and we have not tried to assess its impact on other population groups.

If we are going to talk about the "tax of inflation," it might be useful also to talk about the "tax" imposed by unemployment. If, through government policy, we can adjust aggregate demand so as to foster more or less inflation, and more or less unemployment, then it seems reasonable to think of unemployment as a cost of government policy, a "tax" imposed through unemployment. We might ask therefore on whom does the "tax of unemployment" fall? It falls very heavily on the poor. Surely if middle or upper income people were asked if <u>they</u> themselves were willing to bear the "tax of unemployment" in order to remove the "tax of inflation," they would answer, resoundingly, "no!" It is very clear that the "tax of unemployment" is a very inequitable tax; it is not clear that the "tax of inflation" falls extraordinarily heavily on <u>any</u> population group, its impact may be spread rather broadly across the population.

Many people have talked about the necessity to have a "slight rise in unemployment" or even a "slight recession" in order to halt the current inflation. They sometimes point to "slight recessions" in the past

which have "shaken out" the inflationary factors in the economic structure. We would like to point out that there is a tendency to define a recession solely in terms of what happens to the rate of growth of output. In these terms the recession of 1957-58 looks "slight" and short-lived--the rate of growth of output returned to a normal level in the next year. But a recession could also be defined in terms of the unemployment rate and on those grounds the 1957-58 recession was substantial and lasted nearly eight years--unemployment rates did not return to their 1957 levels until late in 1965.

In the past few years we have seen increasing emphasis put upon public and private training and hiring programs for the poor. These are important programs but their effectiveness is highly dependent on the existence of tight labor markets which provide the incentives to employers to undertake extraordinary efforts in behalf of the poor. We have certainly accumulated enough information to indicate that in the past employers have had little experience in employing the hard-core poor; the stories about the special problems of these types of employees and the special efforts employers have had to make to learn how to deal with these problems are adequate evidence that employers have not in the past learned on their own how to train marginal workers. It seems evident that if every time some inflationary pressure appears, a rise in unemployment is going to be generated to halt it, employers are not going to feel that the pains of training and learning to deal with marginal workers are worthwhile. Thus, even a "slight rise in unemployment" is likely to seriously threaten these manpower training programs which have been so painfully launched. Just to get an idea of how important a "slight rise" in unemployment is, if we take the estimates from our regressions (which are commensurate with the Mooney and Metcalf results) a "slight rise" of one per cent in the unemployment rate is likely to put one and a half million people into poverty who would not otherwise have been there. The National Alliance of Businessmen's JOBS program for hiring the hard-core poor has as a three year goal 500,000 jobs. Thus, if for every job three persons are lifted out of poverty, it would seem that a one per cent rise in unemployment would wipe out the entire gains of the three year JOBS program.

We would like to suggest that a long term commitment to tight labor markets, even in the face of some inflation, may be a key to the development on the part of private sector employers of effective programs to cope with training and employment problems of the hard-core poor. While there is no hard evidence yet, there are some reasons to hope--and certainly sufficient grounds to explore the possibilities--that with a clear, national commitment to a long term policy of tight markets even the hard-core poor can be effectively absorbed into the private sector labor force without excessively high costs in terms of training or lower productivity. In the past we have really only tightened labor markets down to near the three per cent level for short periods of time. It is not surprising therefore that employers do not have much experience in training marginal workers; they have had little incentive to learn how to do so. By the same token, it is not surprising that they find the hard-core poor have only slight and highly variable job experience and are therefore more difficult to deal with. With continued tight labor markets we should expect improved performance on both sides; the employer will have improved his training skills and the workers will have overcome that initial difficult experience of adjustment to regular employment.

Furthermore, the European experience in the early 1960's of absorbing immigrant workers into the employed labor force without greatly lowered productivity is promising. The evidence on this experience is very sketchy but it does suggest that large numbers of difficult-to-train workers can be rapidly converted into effective workers. In the early 1960's, Germany was recruiting over 100,000 foreign workers annually. These workers were largely unskilled and had major language problems and yet seemed to have been absorbed rather rapidly with relatively short periods of training. Labor productivity in Germany continued to grow.** Switzerland has absorbed foreign workers to such an extent that they make up nearly one third of her labor force. It is hard to*

**See C. P. Kindleberger, Europe's Postwar Growth: The Role of Labor Supply, p. 186-191.*

***Kindleberger, Ibid, Figure II-1, p. 29.*

believe that the problems of absorbing unskilled foreign workers speaking a different language are less difficult than those of dealing with the hard-core poor. The United States equivalent of the German absorption of 100 thousand marginal workers a year would be roughly 300 thousand per year, about twice the annual rate set as a goal of the JOBS program. We repeat, however, that if every time markets begin to really tighten and prices rise, the government uses fiscal and monetary policy to cause labor markets to slacken, then employers will take slack markets as the norm and will not feel it worthwhile to invest their time and money in learning to make effective workers out of those on the margins of the labor force.

Much of the public policy discussion centers on arguments about the character of the relationship between the level of unemployment and rises in the price level (one form or another of the Phillips curve). We have a considerable amount of experience with the relationship between price level rises and unemployment rates above four per cent, but we have very little experience with the relationship at levels well below four per cent. Yet many of these who engage in the public policy arguments talk as if they knew what the relationship at levels of three per cent and below are. We have suggested some reasons why one might expect that with continued unemployment at three per cent or below more effective absorption of marginal workers would begin to occur. If this does occur, then over the longer term lower levels of unemployment can be maintained without productivity losses and, therefore, one would expect, with less inflationary pressure; if marginal workers can become effective workers inflationary pressures are reduced.

It is hard to believe that as a nation we cannot afford to explore the relationship between lower levels of unemployment and changes in price levels over a longer period of time rather than to continue to make policy on the basis of unsubstantiated conjectures--on either side--about the nature of the relationship. We have spent a great deal of time, in the last two decades, exploring the relationship between high levels of unemployment and price level changes and we have imposed a very heavy cost upon the poor in order to carry out that exploration. Can we really show clearly that we cannot afford the cost (which has never been very well specified) of finding out about how the relationship

*between unemployment and the price level works at low levels of unemployment? And whatever the costs, is it not legitimate to ask groups other than the poor to bear the costs for awhile so that we can have sounder grounds for making these important social and economic decisions? Should we not consider whether, if higher unemployment is regarded as absolutely necessary, some means might be found to redistribute the burdens of such a policy.**

In closing, it is our hope that we have made the facts sufficiently clear in this paper so that if national policy makers decide that they will not explore further, but will allow unemployment to rise in hopes of stopping inflation, they will at least no longer be able to claim that they are trying to stop inflation in order to protect the poor. If any such policy is made, let it be done with the explicit recognition that, far from helping the poor, it imposes on them a very special and heavy burden.

**For example, if a negative income tax were in existence, rising unemployment would require higher transfer payments and perhaps with the costs thus made more explicit the policy would be examined more carefully.*

APPENDIXES

APPENDIX A

Utility Theory and Indexes of Economic Well-Being

There is of course a whole body of literature devoted to the discussion of the proper way to evaluate changes in the well-being of groups resulting from changes in prices, i.e., literature on cost-of-living indexes. But this discussion has been largely carried out in terms of situations in which it is assumed that money incomes are not changing at the same time as prices.[A-1] For the purposes of examining the impact of inflation it would be desirable to have some standard of living indicator which took into account both income and price differences. There has been sporadic theoretical discussion of such a welfare indicator for some time.[A-2] It is only recently, to our knowledge, that any attempt has been made to build empirically upon this insight.[A-3] Although at this stage we draw upon this more formal theory for only the most rudimentary and simplistic guidance, we review it very briefly and indicate those aspects which might be explored more deeply.

In the classical utility theory, in which the consumer maximizes his utility subject to a budget constraint characterized by a set of prices and his income, we derive a set of demand relations for the consumer as a function of his income and the prices he faces. If these demand functions are then substituted back into the utility function we have what is called the indirect utility function, giving the maximum attainable utility for the consumer as a function of income and prices.

$U = U(q(y,p)) = U^*(y,p)$ where y = income

$p = (p_1,\ldots,p_n)'$ prices

$q(y,p) = (q_1(y,n),\ldots,q_n(y,p))$ demand function

Now, if it were possible to specify the form and estimate the parameters of the indirect utility function (and aggregate over the individuals in the group) we would of course have the welfare indicator we seek. Unless we are willing to assume a form for the utility function (or the indirect utility function itself), we cannot use this procedure. We can, however, draw some rough guidance from examination of this ideal measure.

First, note the following definitions:

$U^*_y = \partial U^*/_{\partial y}$ $\qquad$ $U^*_p = \partial U/_{\partial P}$

$U^*_y = U'_q q_y$ $\qquad$ $U^*_p = U'_q Q_p$

where $q_y = (\partial q1/_{\partial y}\ldots, \partial q_n/_{qy})'$ an nxl vector of the income slopes of the demand functions

$$Q_p = \begin{pmatrix} \partial q_1/\partial p_1 \ldots, \partial q_n/\partial p_n \\ \partial q_n/\partial p_1 \ldots \partial q_n/\partial p_n \end{pmatrix}$$ an nxn matrix of the price slopes of the demand functions

from the first order, conditions for maximizing the utility function

$U_q = \lambda p$, therefore, $U^*_y = \lambda p' q_y$ $\qquad$ $U^*_p = \lambda p' Q_p$

where λ is the Lagrangian multiplier of the budget constraint, the marginal utility of income.

Using the classical restrictions on the complete set of demand functions, the Engel aggregation, $p'q_y = 1$, and the Cournot aggregation $p'Qp = -q'$

where $q = (q_1,\ldots,q_n)'$ quantities of of goods i

$$U^*_y = \lambda\, U^*_p = -\lambda q$$

The total differential of the indirect utility function then is

$$du^* = U^*_y\, dy + U^*_p\, dp = \lambda(dy - q'dp)$$

This gives us the ideal indicator for changes in welfare with small changes in income and prices. From this formal statement we derive several useful reminders. First, one is to appraise the effect on well-being of inflation it is important to take account of both changes in income (the dy) and the pattern of changes in prices (the dp). Second, when looking at price change effects on groups at different levels of real income, it is important to take account of the differences in the pattern of their expenditures; that is the q_is with which the price changes should be weighted will be different. Similarly, as has been discussed at length in the literature on cost-of-living indexes, if the changes in prices being accounted are not small then the infinitesimal approximation, q'dp, (as embodied in the Laspeyer index) will over-estimate the effect of price increases since it will not allow for substitution, i.e., changes in q' taken to minimize the impact of -q'dp. Finally, all changes in income and prices are multiplied by the marginal utility of income, λ. If λ changes with the level of income, then an ideal welfare index will have to take this into account in indicating impacts at different levels of "real income."

We have already utilized the first two of these reminders in developing our work as reported in the main body of the paper. On the last two points we can only at present indicate directions which might be followed

in order to capitalize on the insights provided by the indirect utility function formulation.

Taking the last point relating to λ first, some current developments relating to Frisch's suggestion of using a function related to λ as an indicator of welfare [A-4] deserve some attention. Frisch has suggested that the income elasticity of the marginal utility of income,

$$\eta_{\lambda y} = (\partial\lambda/\partial y)(y/\lambda) = \lambda_y \lambda^{-1} Y$$

which he called "money flexibility," might be used as a welfare indicator. Goldberger points out that if one assumes a Stone-Geary utility function,

$$U = \sum_i B_i \log (q_i - Y_i) \qquad 0<B_i<1 \qquad \sum_i B_i = 1 \qquad 0 \leq Y_i$$

defined only for $0<(q_i Y_i)$

then the reciprocal of the $\eta\lambda y$ which is called the supernumerary ratio, has an interesting interpretation. The supernumerary ratio,

$$\frac{1}{\eta_{\lambda y}} = (y - p'\gamma)/y \qquad \gamma = (\gamma_1, \cdots \gamma_n)'$$

might be looked upon as the ratio of income above "subsistance" to total income if we interpret the p'r as a "subsistence" expenditure. Goldberger has also shown that if one assumes the directly additive utility function and the marginal budget shares of expenditure categories are constant (independent of income and prices) then the utility function is necessarily of the Stone-Geary type.[A-5] This suggests that attempts to obtain measures of marginal budget shares may provide some interesting results.

Following this line further, a recent note by Betancourt [A-6] indicates how to implement Frisch's suggestion that $\eta\lambda y$ might be estimated from labor supply functions using cross-section data. Other points may be drawn from Betancourt's note. First, he reminds us that the proper specification of the utility function should include the labor-leisure choice. Second,

however, the fact that his empirical results are equivocal particularly at the low income range, warns us that the poverty population we are interested in may be operating in a region in which the Stone-Geary function is undefined, i.e., $y<p'r$.

FOOTNOTES APPENDIX A

A-1 N. Liviatan and D. Patinkin, "On the Economic Theory of Price Indexes" Economic Development and Cultural Change, 1961.

A-2 In this and much of the following discussion of the formal utility theory we draw heavily upon A.S. Goldberger "Functional Form and Utility: A Review of Consumer Demand Theory," 1967 (mimeo) S.F.M.P. 6703 S.S.R.I., University of Wisconsin.

A-3 In "The Iso-Prop Index: an approach to the determination of differential poverty income thresholds," Journal of Human Resources, Winter, 1967, H. Watts uses a method of normalization on expenditure patterns to establish an index of equivalent welfare levels for low income groups in different geographic regions.

A-4 See, Goldberg, op.cit. p. 36 for a fuller description of these developments.

A-5 "Directly additive utility and constant marginal budget shares" (mimeo) S.F.M.P. 6705, S.S.R.I., University of Wisconsin, 1967.

A-6 R. Betancourt "The Estimation of Price Elasticities From Cross-section Data Under Additive Preferences." 1968 S.S.R.I., S.F.M.P., 6826 University of Wisconsin (mimeo).

APPENDIX B

Adjustment of Aged-Poor Price Indexes for the Impact of Medicare

The effects of Medicare provisions began to appear in June, 1966. Private per capita health expenditures on various types of services were estimated for the fiscal years 1966 and 1967 in "Personal Health Care Expenditures of the Aged and Non-Aged, Fiscal Years 1966 and 1967" by D. Rici, Anderson, and Cooper, *Research and Statistical Note No. 11,* Social Security Administration, Dept. of H.E.W. June 1968. From Table 2 of that publication it was possible to estimate the decline from fiscal year 1966 to fiscal year 1967 in private per capita expenditures for those 65 and over. These figures indicated an approximate decline in private per capita expenditures of 80 per cent for hospital care and 31 per cent for private per capita physician's service. These effects were taken into account by changing the expenditure weights for these two categories in the aged price indexes in the following fashion:

$$\frac{(A.P.I. - W_H I_H - W_p I_p) + (1-.8)\, W_H I_H + (1-.31)\, W_p I_p = A.P.I.'}{1-.8W_H-.31W_p}$$

where: A.P.I. is the original aged price index

A.P.I.' is the aged price index adjusted for Medicare effects

W_H is the expenditure weight for hospital care in the original index.

W_p is the expenditure weight for physician's services in the original index.

Effectively, this procedure reduces the weights for hospital care and

physician's services and then redistributes the weight on all other categories according to their original relative values.

This procedure is used to calculate the index for 1967. Since Medicare became effective in the middle of calendar year 1966, we adjusted in 1966 index by using the same adjustment procedure on the original 1966 index and then averaging the adjusted index and the original index - on the grounds that it represented half a year without Medicare effects and half a year with Medicare effects.

In using the data for all persons over 65 given in Table 2 of the S.S.A. Research and Statistics Note, we have, of course, ignored any differences in the relative percentage reduction of private expenditures at different income levels. We have no grounds for conjecturing as to the direction of bias which might thereby be introduced.

APPENDIX C

Specification of the Form of the Relationship between the Poverty Rate and Aggregate Income, Unemployment and Price Variables

For each of the two types of regressions (without and with median income) reported in the main body of the paper we have run regressions in alternative semi-log and double-log forms. The results were as follows (all cases are reported in just differences since evidence of serial correlation appeared in all cases in the un-differenced forms):

A.1 $D\%P = -.8539 + .6676\ DU - .1238\ D\%CPI$

t (-4.65) (4.19) (-2.12)

$R^2 = .69$

d.w. = 2.3514

A.2. $D\%P = -0.8511 + 3.2034\ DlogU - 0.1193\ D\%\ CPI$

t (-4.68) (4.26) (-2.05)

$R^2 = .6939$

d.w. = 2.1394

A.3. $Dlog\%P = -0.0378 + 0.1278\ Dlog\ U - 0.0039\ D\%CPI$

t (-5.02) (+4.11) (-1.62)

$R^2 = .6569$

d.w. = 1.9717

B.1. $D\%P = .0038DM + .1798\ DU - .1318\ D\%CPI$

t (-7.09) (1.26) (2.99)

$R^2 = .87$

d.w. = 1.66

B.2. $D\%P = -.29.205\ DlogM + 0.616\ DlogU - 0.1341\ D\%PCPI$

t (-7.88) (+0.96) (-3.29)

$R^2 = .89$

d.w. = 1.83

B.3. $DlogP = -1.2537\ DlogM + 0.0172\ DlogU - 0.0045\ D\%CPI$

t (-7.67) (+0.61) (-2.49)

$R^2 = .87$

d.w. = 1.596

Looking first at the regressions A1 - A3, in every case the price term coefficient had a negative sign, indicating the effect of price level rises is to reduce the poverty rate. Only in the double log form of the regression did the price term fail to be significant (according to the t test) at the 5 per cent level of significance. Even in this case, as we noted in the main body of the paper, the results still do not support the view that inflationary processes are harmful to the poor.

Turning to the more stringent test, as represented in regressions B1 - B3, we find that regardless of the functional form selected, the price term has a significant negative coefficient.

Thus, in general, the effect of price level rises in reducing the poverty rate shows up under several different specifications of the functional form of the regression equation.

The review of the results with these various functional forms indicates that the general results we reported are not very sensitive to the choice among functional form. It might be useful, however, to comment briefly on some of the previous discussions about the choice of functional form in relations of this type.

There has been only a very limited discussion in the economics literature of possible rationales for a choice of functional form relating the poverty rate to aggregate variables like income and unemployment.[A-7] It should be noted, first of all, that these discussions were focussed on the objective of projecting the poverty rate over ten to twenty years and this is not our objective here. Thus to some extent the inadequacy of these discussions from our point of view is partly a reflection of a difference of objectives. The projection results seemed sensitive to the choice of functional form. Our results do not seem to be sensitive to this choice.

The approach generally suggested in these discussions has been to relate the poverty rate to some characterization of the income distribution as a whole. This seems quite natural since the poverty rate can be thought of as determined by the relation of the official poverty thresholds to the tail-end of the income distribution. A full exploration of this approach, however, requires at least two steps: first, the selection of a functional form with relatively few parameters which will adequately represent changes in the income distribution and, second, a specification of the way in which the aggregate variables of interest (some aggregate measure of income, unemployment, and in our case, prices) are related to the parameters of the income distribution. The discussions to date can be faulted partially with respect to the first step,[A-8] and more substantially with respect to the second step.

One of the parameters in the functional form of income distribution which has generally been selected (the log-normal distribution) is median income and this would therefore seem a natural measure to be used for

general income growth. However, the relationship between median income as a parameter of the income distribution is clearly non-linear, both in its natural form and in logarithmic or semi-logarithmic transformations of the two variables (median income and the poverty rate). Thus for on simple, single equation regression analysis resort must be made to some linearized approximation of the non-linear relationship between the two variables and choice between such approximations must be based upon some relatively crude empirical criterion (overall goodness of fit or "relative stability" of observed coefficients). It can be seen, therefore, that even for the median income variable alone, which seems to rise most naturally out of the approach through a specification of the income distribution, the choice of functional form is ambiguous and to be settled on empirical rather than theoretical grounds.

When one considers variables for unemployment (and prices) the problem of theoretical specification becomes even more complicated. Which of the parameters of the income distribution does unemployment affect; is the relationship to the parameters linear or nonlinear; how does this translate through the specification of the relation of the poverty rate to income distribution parameters?[A-9] In past discussions, the practice has been simply to add in the unemployment variable in the same form as the median income variable. Once again, theory has not been utilized to provide a clear choice among functional forms.

The purpose of this brief review of previous discussions of this problem of functional form has been not to denigrate those efforts--we would be foolish to do so since we have no theoretically superior specification to offer--but simply to indicate that thus far no purely

theoretical grounds have been established for choice among functional forms. In the end, the choice among forms has been a matter of "empirical rather than theoretical justification." With this background, we have felt justified in simply exploring empirically several alternative specifications.

FOOTNOTES APPENDIX C

A-7 See L. Galloway "The Foundations of the 'War on Poverty'" Am. Econ Rev. March 1965; R. Math "Comparisons of Alternative Methods of Projecting the Poverty Rate" Institute for Defense Analysis Research Paper p-276, Jan. 1966 (mimeo).; H. Aaron "The Foundations of the War on Poverty Reexamined" Am Econ. Rev. Dec. 1967

A-8 For a discussion of the relative merits of various functional forms as representations of the income distribution see C. Metcalf op.cit. Chap. II.

A-9 Muth op.cit does present some indirect estimates which reflect some attempt to address these questions.

APPENDIX D

Simple Correlations Between Income Shares, Unemployment and Price Variables

We have performed one simple exercise which has encouraged us to pursue the question of wage differentials further as well as support the arguments put forth in the paper concerning increased labor force participation. In Tables D-1, D-2, D-3, we present the simple correlations between the share of total income going to the first fifth (and in some categories the second and third fifths and various combinations) and the change in the Consumer Price Index. Also included are the simple correlations of these shares with the unemployment rate, as well as the level of income in 1964 at the upper boundary of that fifth's cutoff. We presume that fluctuation in total income over the years will primarily reflect changes in wage and salary earnings due to the causes outlined in this paper.

The results are quite interesting. Note that (Table D-1) for the families' share of lowest fifth, (the cutoff income which is roughly that of the poverty threshold for an average-sized poor family) there is a positive correlation of the share of total income with the price index and a weaker negative correlation of the share of total income with the unemployment rate. This pattern holds up for sub-groupings of families with the one exception of those families with head not in the labor force. For unrelated individuals, the extremely low fifth, the simple correlations with the price index are positive, but for the combined two-fifths they are negative.

In Tables D-2 and D-3, where households are classified by occupation and industry of head, there is a preponderance of positive correlations of the price index and negative correlations with the unemployment rate. These should be considered in conjunction with Tables D-4 and D-5, which display the percentage distribution of the poor and near-poor by the industry and occupation of the head of the unit as reported in the 1960-61 SCE. A rough indication of relative importance is provided by the distribution of poor in relation to the category correlations. In the industry groupings, it is really only in the services that there is a heavy weighting of the poor and a somewhat equivocal outcome with respect to the correlation with the price index. In the occupational groupings, service workers and craftsmen and foremen have relatively heavy weightings for the poor and negative correlations with the price index, but the income shares of other heavily weighted groups have large positive correlations with the price index.

TABLE D-1 PERCENT OF AGGREGATE INCOME ACCRUING TO LOWER QUINTILES OF FAMILIES AND UNRELATED INDIVIDUALS CORRELATED WITH THE CHANGE IN THE CONSUMER PRICE INDEX AND UNEMPLOYMENT RATE

	Quintiles	Dollar cut-off (64)	ΔCPI	% Unemployed
Total Families	1/5	3288	.395	-.176
White	1/5	3610	.477	-.138
Non-white	1/5	1866	.096	-.713
	2/5	3155	.434	-.177
	1/5 + 2/5		.248	-.617
Head employed	1/5	3288	.279	-.115
Head unemployed	1/5	2511	.368	-.056
Head not in LF	1/5	1622	.073	.175
	2/5	2573	.043	.162
	1/5 + 2/5		.012	.170
Unrelated individual, total	1/5	760	.281	.112
	2/5	1433	-.458	-.126
	1/5 + 2/5		-.242	-.050
White	1/5	812	.109	.185
	2/5	1484	-.251	-.053
	1/5 + 2/5		-.362	.025
Non-white	1/5	54	.484	-.227
	2/5	1128	-.337	.077
	1/5 + 2/5		-.058	-.049

TABLE D-2 PERCENT OF AGGREGATE FAMILY INCOME ACCRUING TO LOWER QUINTILES OF FAMILIES BY INDUSTRY 1960-61 (HEADS OF HOUSEHOLDS OR UNRELATED INDIVIDUAL)

	Quintiles	Dollar cut-off (64)	ΔCPI	% Unemployed
Agriculture, forestry, fisheries	1/5	1543	.134	.050
	2/5	2577	-.007	.282
	1/5 + 2/5		.051	.196
Mining	1/5	4800	.336	-.330
Construction	1/5	4085	.105	-.214
Manufacturing	1/5	5284	.418	-.299
Transportation communications, etc.	1/5	5209	.023	-.327
Wholesale	1/5	4998	.170	-.499
Retail	1/5	3738	.126	-.126
Finance, insurance, etc.	1/5	5296	.028	-.025
Business and repair services	1/5	4152	.242	-.300
Personal services	1/5	2328	-.150	-.111
Entertainment, recreation	1/5	4070	.495	-.161
Professional, related services	1/5	4808	.173	-.021
Public Administration	1/5	5709	-.141	.279

TABLE D-3 PERCENT OF AGGREGATE FAMILY INCOME ACCRUING TO LOWER QUINTILES OF FAMILIES BY OCCUPATION OF HEAD CORRELATED WITH THE CHANGE IN THE CONSUMER PRICE INDEX AND UNEMPLOYMENT RATE

	Quintiles	Dollar cut-off (64)	ΔCPI	% Unemployed
Farmers and farm managers	1/5	1538	.181	-.033
	2/5	2670	.051	.158
	1/5 + 2/5		-.362	.035
Clerical and kindred	1/5	5012	-.217	.289
Sales	1/5	5217	.347	-.389
Craftsmen, foremen, etc.	1/5	5339	-.050	-.141
Operatives and kindred	1/5	4296	.473	-.585
Private household	1/5	1050	.642	-.102
	2/5	2033	.217	-.149
	3/5	2875	.341	-.186
	1/5 + 2/5		.460	-.143
	1/5 + 2/5 + 3/5		.455	-.176
Service (ex-household)	1/5	3221	-.177	-.134
Farm laborers	1/5	1361	.171	.095
	2/5	2124	-.122	.435
	3/5	2993	-.428	.461
	1/5 + 2/5		.017	.319
	1/5 + 2/5 + 3/5		-.230	.470
Laborers (ex-farm and mine)	1/5	2969	.362	-.282

TABLE D-4 PERCENT DISTRIBUTION OF POOR AND NEAR-POOR EARNERS BY OCCUPATION IN 1960-61 (HEADS OF HOUSEHOLDS AND UNRELATED INDIVIDUALS)

Wage and Salary Earners	Poor (4,373,977)		Near-Poor (7,540,686)	
Professional and technical	.69		1.71	
Managers and officials	.69		1.16	
Except farm		.69		1.00
Farm	--			.16
Clerical and sales	2.60		2.31	
Clerical		1.56		.02
Sales		1.04		2.29
Skilled and semi-skilled	17.36		22.58	
Craftsmen, foremen, etc.		6.45		8.21
Operatives and kindred		10.91		14.37
Unskilled	32.74		30.92	
Service (ex-household)		7.45		9.19
Household		7.65		6.50
Laborers (ex-farm)		11.56		10.45
Farm laborers		6.08		4.78
Members of armed forces	--		--	
Enlisted		--		.22
Commissioned		--		--
Occupation not reported	.08		.05	
Self Employed				
Professional and technical			.05	
Proprietors	8.56		11.95	
Farm		6.14		6.72
Non-farm		2.42		5.23
Not working, not retired	37.27		26.88	
Family business without pay			.07	

TABLE D-5 PERCENT DISTRIBUTION OF POOR AND NEAR-POOR EARNERS BY INDUSTRY IN 1960-61 (HEADS OF HOUSEHOLDS AND UNRELATED INDIVIDUALS)

	Poor (4,373,977)	Near-Poor (7,540,686)
Not reported	37.95	27.48
Agriculture and fishing	13.16	12.76
Mining	1.25	1.46
Construction	6.77	7.97
Manufacturing	10.47	14.18
Transportation etc.	3.04	3.72
Trade	9.11	11.49
Finance	0.63	1.15
Service	16.29	17.55
Public Administration	1.33	2.25

APPENDIX E

Assessment of the Net Effects of Price Level Rises and Benefit Adjustments for Social Security Recipients

Since a Social Security recipient's benefits are fixed in money terms at the point of retirement, rises in prices may be expected to reduce the real value of income from this source. However, as noted in the main body of the paper, there have been periodic legislative increases in benefits across the board for all current recipients. It is, of course, difficult to guess what the benefit increases made by Congress would have been in the absence of price rises; but it seems reasonable to assume that benefit increases were at least partly motivated by a desire to minimize the impact of price rises on real income from Social Security benefits.

In Table E-1 there is shown the changes in prices and benefits as they affected two groups of retirees--those retiring in 1959 and those retiring in 1958. This table makes it clear that the net effect of price and benefit increases varies greatly with both the choice of particular retiree groups and the choice of years. The problem of which standard to adopt thus becomes very important. For example, if we chose the 1959 retiree and the year 1966 as the standard, we would conclude that the real value of his Social Security benefits in that year came to 4.6 per cent less than it would have if there had been neither price nor benefit rises after his retirement. For the 1958 retiree, and using 1965 as the standard, we would have concluded the real value of benefits was 4.1 per cent higher than it would have been without benefit or price increases.

TABLE E-1 CHANGES IN PRICES AND BUDGETS AS THEY AFFECT THOSE RETIRING IN 1958 AND THOSE RETIRING IN 1959

	Cummulative rise in C.P.I. since retirement	Cummulative increase in benefits since retirement	Net Effect in this year of increases in prices and benefits
	(1)	(2)	(3) = (2) - (1)
		1959 Retiree	
1959	----	---	----
60	.016	---	-.016
61	.027	---	-.027
62	.039	---	-.039
63	.052	---	-.052
64	.066	---	-.066
65	.084	.07	-.014
66	.116	.07	-.046
67	.148	.07	-.078
68	.197	.20	+.003
		TOTAL	**-.335**
		1958 Retiree	
1959	-.015	.07	+.055
60	-.031	.07	+.039
61	-.042	.07	+.028
62	-.054	.07	+.016
63	-.067	.07	+.003
64	-.081	.07	-.011
65	-.099	.14	+.041
66	-.131	.14	+.009
67	-.163	.14	-.023
68	-.212	.27	+.058
		TOTAL	+.215

The proper way to assess the net effect on any given retiree group in our judgment, is to take the average net effect over the given period of time. For example, taking the ten year period 1959 to 1968 we would assess the impact on the 1959 retiree as follows:

1. Column (3) gives the net impact in each year. Since one assumes the income will be spent in that year, it seems reasonable to take this as the loss (or gain) in real value to the retiree.
2. Since both price and benefit increases proceed quite unevenly, the real value loss (or gain) will vary from year to year. Thus, in order to talk about the normal impact it would seem reasonable to average the yearly real value losses over the ten year period.
3. To get the average real value loss, we simply take the sum of the column 3 values (in the case of the 1959 retiree, this equals .335) and divide by the number of years in the period, 10. Thus for 1959 retiree the impact of price and benefit increases combined was an average yearly loss of real value of 3.4 per cent of his Social Security benefits.

If we assess the experience of the 1958 retiree, the result is different. In this case, dividing the total of column 3 by ten gives an average yearly gain in real value of 2.2 per cent as the net effect of price and benefit increases. The difference in the experience of these two groups is, of course, due to the fact that the 1958 retiree had the benefit of a 7 per cent increase the year after he retired and it took six years for prices to catch up with this benefit rise. In each of these six years the real value of his benefits was higher than the real value

of the benefits owed to him at the year of his retirement.

The net effect will differ, in this fashion, from one retiree group to another, depending on the timing of their retirement relative to price net benefit increases. In order to assess the impact for the entire group of Social Security recipients it would be necessary, as we have stated in the main body of the paper, to have information on the size of each retiree cohort and their survival rates.