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RECENT PATTERNS IN DOWNWARD INCOME MOBILITY: SINKING BOATS IN A RISING TIDE

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ABSTRACT. This paper employs four measures of downward income mobility and 1984–1986 PSID data to examine the extent and possible causes of downward mobility. Despite modest economic growth during this period, a substantial number of Americans experienced downward income mobility, roughly 5% to 20%. The majority of the downwardly mobile initially lived with a nonelderly, Caucasian, male, less-educated, working household head. Logit analysis indicates that the following factors significantly increase the odds of downward income mobility: Male headship; minority headship; family dissolution; nest-leaving; and having a head who works in mining, construction, manufacturing, transportation, trade, or farming. The following factors significantly lower the odds of downward income mobility: Retaining the same household head; having a college-educated head; having a head who works in a professional, technical, or operative occupation; and having a head in the finance, insurance, and real estate industry.

INTRODUCTION

Americans have generally assumed that their economic status would “naturally” increase over time. From World War II until the early 1970s upward mobility was indeed a realistic expectation: Wages grew by 2.5% to 3% annually and real median family income doubled (Levy, 1987). Furthermore, families throughout the income distribution enjoyed these gains.¹ Since 1973, however, real wage growth has slowed to the point of stagnation and family income has grown more unequal. In the 1980s the growth in the inequality of wages, earnings, and family income accelerated (Levy and Murnane, 1992; Karoly, 1993). These trends have begun to make their mark on Americans’ sense of economic well-being. Academics and the popular press express concern that the middle class is disappearing (e.g., Thurow, 1987 and Strobel, 1993) and that the “American Dream” is vanishing (e.g., Dentzer, 1991). The prospects for upward income mobility seem to be dimming and Americans have begun to fear downward mobility. Did the changes in the growth and the dispersion of wages, earnings, and family income

merely slow the pace of upward mobility or have many Americans actually become downwardly mobile?

On a personal level, downward income mobility inflicts both material and psychological hardship (Ehrenreich, 1989; Newman, 1988). On a policy level, many of the downwardly mobile become eligible for government assistance, increasing the claims on strained public resources. More importantly, the downwardly mobile reduce their consumption, savings, and investment. Such cuts by a significant proportion of the population could dampen overall economic growth.

During the seventies and eighties economists and sociologists conducted many studies of poverty, but relatively few of the broader problem of downward income mobility. Duncan (1988) and Burkhauser and Duncan (1989) present the only detailed analyses of downward income mobility. Both studies identify an individual as downwardly mobile if their family income-to-needs ratio fell by 50% or more at least once during the decade of analysis. Duncan and Burkhauser examine the relationship between downward mobility and age, gender, and "life events" (e.g., divorce and unemployment).

The present study also uses large drops in the income-to-needs ratio to identify the downwardly mobile. We also examine the connection between downward income mobility and many of the same factors considered by the earlier research, for example changes in family composition. In this sense, this paper updates the work of Burkhauser and Duncan. However, this study also expands upon their work. In addition to large drops in the income-to-needs ratio, we also use drops down the quintile distribution of real family income to measure downward mobility. Furthermore, this paper expands the analysis of the factors associated with downward income mobility to include race, education, region, occupation and industry.

The previous studies cover more years and thus include the effects of the business cycle. We examine downward mobility over a short time period, 1984 to 1986. This shorter period controls for business cycle effects by focusing on one part of a cycle: An upturn. Many have considered whether a rising tide will lift all boats, we instead examine whether a rising tide keeps boats from sinking.

The paper is organized as follows. Section I reviews the literature on downward income mobility. The second section describes the data and

methodology. The next section reviews the recent trends in the distribution of wages, earnings, and family income. These trends may suggest which groups are likely to be downwardly mobile. Section IV examines the characteristics of the downwardly mobile and contrasts them with the characteristics of the entire sample. Section V reports the frequency, or risk, of downward income mobility overall and then by demographic groups. The sixth section presents Logit analysis of the factors which significantly influence the likelihood of downward income mobility.

The results show that a substantial minority of Americans, roughly 5% to 20% depending on the specific measure, were downwardly mobile during the period 1984–1986 even though the economy experienced modest growth. The majority of the downwardly mobile lived in 1984 households headed by a nonelderly, Caucasian, married, working man. Individuals living in households whose head was male, a minority, unemployed, lacked a college education, or became the head of the household during the sample period face higher risks of downward income mobility.

I. LITERATURE REVIEW

Duncan *et al.* (1984) spend one chapter examining family income mobility over the period 1971–1978. They find substantial mobility throughout the quintile distribution of family income. Of particular interest, 31.3% of the sample individuals dropped at least one quintile and 11.3% dropped two or more quintiles over the sample period. Duncan (1988) examines downward mobility in terms of drops of 50% or more in the real family income-to-needs ratio at least once during the period 1969–1979. He finds that approximately one-third of the sample individuals were downwardly mobile during this decade (Table I).

Duncan (1988) focuses on eight major “life events” as likely causes of downward income mobility. Downward mobility was most frequently associated with: (1) becoming a household head or wife; (2) a decrease in hours worked by other family members; and (3) the household head becoming unemployed. Downward mobility was more frequent among those in the retirement and “nest leaving” cohorts. Lastly, the risk for

TABLE I
Summary of previous findings

Study	Study Period	Downward Mobility Measure	Percent Downwardly Mobile
Duncan, Smeeding, Rodgers (1991)	1967-79	Movement to a lower class (3 classes)	29.7% of upper fell to middle
			6.2% of middle fell to lower
Duncan (1988)	1969-79	Drops in real family income-to-needs ratio of 50% or more	33%
Duncan <i>et al.</i> (1984)	1971-78	Movement down the quintile distribution of real family income	31.3% dropped at least 1 quintile
			11.3% dropped at least 2 quintiles
Burkhauser and Duncan (1989)	1974-83	Drops in real family income-to-needs ratio of 50% or more	25%
Duncan, Smeeding, Rodgers (1991)	1980-86	Movement to a lower class (3 classes)	27.1% of upper fell to middle
			8.5% of middle fell to lower

women was either the same or higher than that of men in all age cohorts.

Burkauser and Duncan (1989) use the same measure to examine life-cycle patterns of downward income mobility during the period 1974-1983. They find that from age 26 to 65 women face a higher risk of downward mobility than do men. The risk for women is highest (34%) for the age 46 to 55 cohort. Men in the age 66 and older cohort face the highest male risk (31%).

The authors also find that the link between downward mobility and family composition changes is stronger for women than for men. Divorce, death of a spouse, and the birth of a child seem most strongly associated with women's downward mobility. Labor market events,

however, appear to have similar impacts on both genders. Downward mobility is most strongly associated with the head's unemployment for the 26 to 45 years old cohort and loss of hours due to retirement or disability for the 46 to 65 years old cohort.

The most recent study which examines downward income mobility does so within the context of overall class mobility. Duncan, Smeeding, and Rodgers (1991) examine movement between three classes over the periods 1967–1979 and 1980–1986. They define the upper class as individuals whose real family income-to-needs ratio is at least 6. The lower class is defined by a ratio of 2 or less. The middle class has income-to-needs ratios between 2 and 6. Drops from the upper class and drops from middle class constitute downward mobility in this study.

The authors find that drops from the upper to the middle class became less frequent in the eighties than in the earlier period. However, drops from the middle to the lower class became more frequent. Younger families were more likely to drop from the upper to the middle class. African-Americans and female-headed households were more likely to fall from the middle class.

II. DATA AND METHODOLOGY

The data consist of persons present in the 1984 through 1987 interviewing waves of the Panel Study of Income Dynamics (PSID). The 1986 and 1984 interviewing waves contain demographic information for 1986 and 1984 respectively. The 1987 and 1985 interviewing waves contain information on income in the years 1986 and 1984 respectively. Each observation is weighted by the 1987 individual probability weight.²

The analysis uses four measures of downward income mobility. Drops of one-third or more and drops of one-half or more in the real family income-to-needs ratio identify persons as absolutely downwardly mobile.³ Drops of at least one quintile and drops of two or more quintiles in the distribution of real family income identify persons as relatively downwardly mobile.⁴

Note that downward income mobility in terms of any of these four measures does not necessarily imply poverty. Furthermore, absolute

and relative downward mobility may be driven by different forces. For example, assuming family size remains constant, if the mean of the family income distribution shifts downward, but the variance remains the same, we would observe absolute, but not relative downward mobility.

Because family composition often changes the unit of analysis is the individual. To determine if an individual is downwardly mobile in the absolute sense, for example, we look at the real family income-to-needs ratio of the family of which the person was a member in 1984 and compare that to the ratio of the family of which the person is a member in 1986.

III. RECENT TRENDS IN WAGES, EARNINGS, AND FAMILY INCOME

Labor income accounts for the majority of family income, thus adverse changes in the labor market will contribute to downward mobility. Duncan, Smeeding, and Rodgers (1991) find that male earnings in particular play a major role in all class transitions. During the eighties the distribution of wages and earnings changed in ways likely to contribute to the downward income mobility of various groups.

The growth in median wages for all workers began slowing in 1973 and has been fairly stagnate ever since. Juhn, Murphy, and Pierce (1990) report that the average weekly male wage actually fell by about 5% from 1970 to 1987. Also troubling is the acceleration of the growth in wage inequality, especially among men (Levy and Michel, 1991; Katz and Murphy, 1992). During the eighties low-wage male workers saw their average wage fall faster than other men's and faced increased unemployment. The college education premium grew rapidly, leaving less-educated men with diminished opportunities in comparison (Levy and Murnane, 1992; Katz and Murphy, 1992; Bound and Johnson, 1992; Burtless, 1990). Furthermore, the wages of younger, less-educated workers declined relative to the wages of their older counterparts. These developments suggest that, *ceteris paribus*, younger, less-educated men and their dependents are more likely to be both absolutely and relatively downwardly mobile.

Women's wages have generally increased over the last decade,

closing the male-female wage gap somewhat (Katz and Murphy, 1992; Karoly, 1993). This trend suggests that, *ceteris paribus*, women may be less likely than men to be either absolutely or relatively downwardly mobile. Karoly (1993) also finds that during the 1980s wages for low-wage women declined while the wages of high-wage women increased at a greater rate. Thus, low-wage and less-educated workers of both genders may face a higher risk of both absolute and relative downward income mobility.

The distribution of earnings exhibits similar patterns: Overall stagnation accompanied by accelerating inequality (Karoly, 1993; Levy and Murnane, 1992). Median family income has grown slightly since 1979 and the average family income-to-needs ratio increased by approximately 10% from 1978 to 1988 (Burtless, 1991). Cancian *et al.* (1993) find that the largest portion of the rise in family income results from increased wives' earnings. However, the growth in family income has occurred mostly at the top of the distribution. From 1978 to 1988 the family income-to-needs ratio of those in the 90th percentile rose by about 23% while the ratio of those in the 10th percentile fell by 6.5% (Burtless, 1991).

Increasing family income inequality itself is not a new phenomenon, but its acceleration is (Levy and Michel, 1991; Karoly, 1993). Also new is the failure of family income inequality to diminish during a period of economic recovery. Cancian, Danziger, and Gottschalk (1993) find that the rise in inequality from 1968 to 1989 is due in large part to increased inequality in husbands' earnings. They also report that approximately one-third of the increase in family income inequality results from changes in family headship.

These trends suggest that families towards the bottom of the distribution may be more at risk of absolute downward mobility than are families at the top. In addition, individuals whose family changes headship (through divorce, for example) may be more at risk of both absolute and relative downward mobility.

IV. CHARACTERISTICS OF THE DOWNWARDLY MOBILE

Table II reports the characteristics of the sample and of the absolutely downwardly mobile. The sample contains 264,849 probability weighted

TABLE II
 Characteristics of the absolutely downwardly mobile

	Sample	Income- to-needs fell by > 33%	Income- to-needs fell by > 50%
Gender of 1984 household head:			
Female	19.9%	22.4%	21.1%
Male	80.1%	77.6%	78.9%
Age of 1984 household head:			
64 or younger	88.1%	89.1%	89.4%
65 or older	11.9%	10.9%	10.6%
34 or younger	33.6%	32.8%	33.5%
35 or older	66.4%	67.2%	66.5%
Race of 1984 household head:			
Caucasian	84.3%	77.9%	78.2%
Afro-American	12.2%	16.4%	15.5%
Other	3.5%	5.7%	6.3%
Child (under age 14 in 1984)	19.5%	19.0%	19.8%
Region in 1984:			
Northeast	22.1%	20.1%	19.7%
North Central	28.3%	27.8%	29.0%
South	31.3%	33.8%	32.7%
West	17.8%	17.4%	17.9%
AK, HI	0.3%	0.5%	0.6%
Foreign	0.3%	0.5%	0.0%
Marital Status of 1984 head:			
Married	73.9%	71.1%	72.1%
Single	8.8%	8.0%	10.3%
Widowed	6.2%	8.0%	6.4%
Divorced	8.1%	9.7%	7.9%
Separated	3.1%	3.2%	3.3%
Education Level of 1984 head:			
Didn't finish HS	25.4%	29.2%	31.8%
High school only	20.5%	21.5%	17.7%
HS + training	16.5%	17.5%	19.4%
Some college	18.2%	15.7%	16.3%
College degree	13.5%	10.1%	9.1%
Advanced/professional degree	6.0%	6.0%	5.8%

Table II (Continued)

	Sample	Income- to-needs fell by > 33%	Income- to-needs fell by > 50%
Employment status of 1984 household head:			
Working	75.2%	72.8%	73.7%
Temp. not working	0.8%	1.9%	0.9%
Unemployed	4.0%	5.0%	5.4%
Retired	11.4%	9.7%	8.8%
Keeping house	4.3%	6.3%	5.3%
Disabled	2.7%	2.3%	2.2%
Student	1.1%	1.2%	2.2%
Workfare, jail, other	0.4%	0.8%	1.6%
Change in headship:			
Same head	91.4%	82.2%	78.0%
1984 wife became 1986 head	2.6%	7.4%	10.2%
1984 female head became 1986 wife	2.2%	1.4%	0.9%
1986 head was neither head nor wife in 1984	3.3%	7.3%	10.3%
Institutionalized husband in 1984 returns by 1986	0.6%	1.6%	0.6%

Table reads: In 1984, 19.9% of the sample individuals lived in female-headed households and 80.1% lived in male-headed households. *Of those whose income-to-needs fell by one-third or more*, 22.4% lived in female-headed households and 77.6% lived in male-headed households in 1984.

cases (13,619 unweighted observations). The majority of the absolutely downwardly mobile began the period in households headed by a non-elderly, Caucasian, married man with a high school or less education. Over 70% of the downwardly mobile lived with a household head who was working in 1984, while 4% to 5% lived with an unemployed head. That so many of the downwardly mobile lived with less-educated, working men confirms the severity of the impact of the recent trends in the wages and earnings of unskilled men. The role of family composition changes makes no appearance here — most of the absolutely downwardly mobile lived in households headed by the same person over the sample period. In sum, the majority of the downwardly mobile lived in traditional, working families.

Comparing the characteristics of the sample to the characteristics of the absolutely downwardly mobile shows which groups are disproportionately downwardly mobile. For example, persons living with a household head who did not have a high school degree in 1984 make up 25.4% of the sample, but account for 31.8% of those whose income-to-needs fell by 50% or more. Other groups which appear disproportionately downwardly mobile include those with a 1984 household head who was single or not Caucasian, and those who experienced a change in headship.

Those whose 1984 household head worked are only slightly under-represented among the downwardly mobile, while those whose heads were unemployed, keeping house, or in school are somewhat over-represented. The absolutely downwardly mobile appear to be distributed across regions much as is the general population.

This analysis does reinforce prior findings regarding the role of family composition. Those whose family retained the same head throughout the sample period and those whose 1984 female head married by 1986 are under-represented among the downwardly mobile. Those for whom the 1984 wife became the 1986 head are disproportionately downwardly mobile. Lastly, those persons whose 1986 family was headed by some one other than the 1984 head or wife are also disproportionately downwardly mobile. This last family composition change generally represents children leaving the nest to form their own families.

Table III reports the characteristics of the relatively downwardly mobile. This analysis includes only members of the third quintile in 1984. This restricted sample contains 52,953 probability weighted cases (2,580 unweighted observations). Analysis of quintile drops among all sample members produces questionable, if not misleading, results. For example, in the full sample female-headed households and African-Americans do not appear disproportionately relatively downwardly mobile. This result occurs largely because these groups disproportionately fill the lower quintile and have nowhere to fall.

The characteristics of the relatively downwardly mobile resemble those of the absolutely downwardly mobile with a few exceptions. First, the over-representation of persons whose household head was neither Caucasian nor African-American among those dropping two quintiles

TABLE III
 Characteristics of the relatively downwardly mobile

	Persons in third quintile in 1984	Fell 1 quintile	Fell 2 quintiles
Gender of 1984 household head:			
Female	12.8%	12.8%	20.6%
Male	87.2%	87.2%	79.4%
Age of 1984 household head:			
64 or younger	92.1%	91.5%	87.1%
65 or older	7.9%	8.5%	12.9%
34 or younger	40.5%	35.8%	34.8%
35 or older	59.5%	64.2%	65.2%
Race of 1984 household head:			
Caucasian	87.6%	87.1%	71.1%
Afro-American	9.6%	11.2%	14.9%
Other	2.9%	1.7%	14.0%
Child (under age 14 in 1984)	22.1%	18.0%	16.5%
Region in 1984:			
Northeast	22.7%	21.6%	11.6%
North Central	28.9%	26.4%	31.4%
South	29.3%	33.4%	32.1%
West	18.6%	18.5%	23.7%
AK,HI	0.2%	0.0%	1.1%
Foreign	0.2%	0.0%	0.0%
Marital Status of 1984 head:			
Married	81.2%	81.0%	71.1%
Single	6.8%	5.0%	3.6%
Widowed	3.7%	4.6%	7.4%
Divorced	6.6%	7.0%	15.7%
Separated	1.7%	2.4%	2.2%
Education level of 1984 head:			
Didn't finish HS	19.3%	28.0%	31.7%
High school only	22.9%	31.1%	20.8%
HS + training	20.9%	13.4%	24.3%
Some college	21.0%	20.0%	16.7%
College degree	10.9%	5.5%	1.8%
Advanced/pro- fessional degree	5.0%	1.9%	4.6%

Table III (Continued)

	Persons in third quintile in 1984	Fell 1 quintile	Fell 2 quintiles
Employment status of 1984 household head:			
Working	82.9%	84.4%	76.2%
Temp. not working	1.1%	0.5%	4.6%
Unemployed	1.9%	0.7%	4.3%
Retired	9.9%	11.5%	5.6%
Keeping house	1.0%	0.4%	3.3%
Disabled	2.1%	2.5%	2.1%
Student	0.7%	0.0%	1.3%
Workfare, jail, other	0.4%	0.0%	2.6%
Change in headship:			
Same head	93.7%	91.7%	76.5%
1984 wife became 1986 head	1.2%	2.9%	6.6%
1984 female head became 1986 wife	2.1%	2.5%	0.2%
1986 head was neither head nor wife in 1984	2.8%	2.6%	16.5%
Institutionalized husband in 1984 returns by 1986	0.2%	0.3%	0.2%

Table reads: Of those persons in the third quintile in 1984, 87.2% lived in male-headed households in 1984 and 12.8% lived in female-headed households. *Of those who fell two quintiles*, 79.4% lived in male-headed households and 20.6% in female-headed households in 1984.

appears much more pronounced. Second, the regional distribution of the relatively downwardly mobile does not match the entire sub-sample's distribution as closely. Specifically, individuals living in the Northeast appear under-represented among the relatively downwardly mobile. Persons in the South appear over-represented among those falling one quintile and persons in the West and South appear over-represented among those falling two quintiles. Third, persons whose 1984 head was elderly are not over-represented among the absolutely downwardly mobile, but are among the relatively downwardly mobile.

How do the downwardly mobile differ from the other sample members in quantitative terms? Table IV reports the average charac-

TABLE IV
Comparison of those whose income-to-needs fell 50% or more to those not downwardly mobile by this measure

	Sample average	Downwardly mobile	Not downwardly mobile
Size of 1986 family unit	3.20	2.97	3.21
Change in size of family unit (1984 to 1986)	-0.09	-0.33	-0.07 *
Number of children in 1986 family	1.12	1.10	1.12
Change in number of children	-0.06	-0.06	-0.06
Change in real family income-to-needs	+1.28	-11.8	+2.03 ***
Change in real family income (1984 to 1986)	+\$1,164	-\$31,746	+\$3,073 ***
Change in head's real labor income	-\$31	-\$18,635	+\$1,048 **
Change in wife's real labor income	+\$431	-\$2,894	+\$624 ***
Change in head + wife's real asset income	+\$269	-\$7,326	+\$710 **
Change in real income of other members	+\$2,674	+\$526	+\$2,799 ***
Change in real private transfers	+\$225	+\$295	+\$221
Change in real public transfers	+\$170	+\$253	+\$165

* Statistically significant difference at the 90% level.

** Statistically significant difference at the 95% level.

*** Statistically significant difference at the 99% level.

teristics of those whose real family income-to-needs ratio fell by 50% or more to those not downwardly mobile by this measure.⁵ The average 1986 family size and number of children of the downwardly mobile do not differ significantly from those of the non-downwardly mobile. In

both groups family size and the number of children decreased slightly from 1984 to 1986. Apparently family size and the number of children are not driving downward mobility.

The average financial experience of the two groups differs dramatically. The downwardly mobile enjoyed a higher average income in 1984, \$44 160 versus \$32 560, but then lost an average of \$31 746 by 1986. In contrast, those not downwardly mobile enjoyed a modest average increase of \$3 073 over the period. The average real family income-to-needs ratio of the downwardly mobile fell by nearly 12, while the ratio of the others increased by 2.

The largest factor in the decline of family income for the downwardly mobile is the loss of the household head's labor income. This source of income fell on average by \$18 635 in the downwardly mobile group, accounting for the majority of the total decline in real family income. In contrast, the increase in the head's labor income in the non-downwardly mobile group accounts for only about one-third of the total change in their family income.

The decline in the head and wife's asset income accounts for the second largest drop in the income of the downwardly mobile, averaging \$7 326. In contrast, the asset income of the non-downwardly mobile increased by \$710 on average. Similarly, the labor income of the wife decreased for the downwardly mobile and increased for the others. The income of other family members increased on average for both groups. However, the increase for the downwardly mobile was relatively small.

Both groups received an increase in average public and private transfers from 1984 to 1986. The increase in transfers to the downwardly mobile totaled \$548 on average, hardly enough to compensate for their large income losses. Furthermore, the increase in transfers to the downwardly mobile do not significantly differ from the increase received by those who were not downwardly mobile.

In summary, changes in the household head's labor income appear to drive downward mobility. The large drops in the head's labor income may result from a loss in hours worked, a decrease in wages, or a change to a lower-earning head. The transfer system offered little in the way of compensation to the downwardly mobile, the increase in public assistance received was quite small relative to the average earned income loss.

V. THE EXTENT AND RISKS OF
DOWNWARD INCOME MOBILITY

The previous section explored who the downwardly mobile are and what has happened to their income. We now consider the extent of downward income mobility. Table V reports the overall frequency, or risk, of downward mobility and then the frequency by group. Again, the calculations for relative downward mobility apply only to sample members initially in the third quintile. Eleven percent of the full sample experienced drops of one-third or more in their family income-to-needs ratio, 5.5% experienced drops of one-half or more. Nearly one-fifth dropped a quintile and 5.3% fell two quintiles.⁶

Individuals living in female-headed households face a greater risk of both absolute and relative downward income mobility than do those in male-headed households. In particular, persons in female-headed households are over 1.5 times more likely to drop two quintiles. Those with an elderly 1984 household head appear slightly more at risk of relative downward mobility. Those with a 1984 household head under age 35 appear less likely to suffer either absolute or relative downward mobility.

By racial group, persons whose household head in 1984 was neither African-American nor Caucasian face the greatest risks of absolute downward mobility and of dropping two quintiles.⁷ In fact, their chance of falling two quintiles is over three times greater than that of African-Americans and is six times greater than the risk for Caucasians. Those with African-American heads in 1984 face the highest risk of falling one quintile. Those with a Caucasian head in 1984 face the lowest risk of downward mobility by all four measures. The changes in the distribution of income which occurred over this period seem to have especially hurt racial minorities. Even so, 10% of those with a Caucasian household head experienced drops of one-third or more in their income-to-needs ratio and nearly 20% dropped one quintile.

The frequency of absolute downward mobility does not much vary across the regions of the continental United States.⁸ Regional variation in the risk of relative downward mobility appears somewhat more pronounced. Persons in the South face the greatest risk of dropping one quintile, while those in the North Central region face the lowest.

TABLE V
Frequency of downward mobility

	Full Sample		Restricted Sample	
	Income- to-needs fell by > 33%	Income- to-needs fell by > 50%	Fell one quintile	Fell two quintiles
All persons	11.0%	5.5%	19.2%	5.3%
Gender of 1984 household head:				
Female	12.4%	5.8%	19.2%	8.6%
Male	10.7%	5.4%	19.2%	4.8%
Age of 1984 household head:				
64 or younger	11.2%	4.9%	19.0%	5.0%
65 or older	10.1%	5.6%	20.6%	8.7%
34 or younger	10.8%	5.5%	16.9%	4.6%
35 or older	11.2%	5.5%	20.7%	5.8%
Race of 1984 household head:				
Caucasian	10.2%	5.1%	19.1%	4.3%
Afro-American	14.9%	7.0%	22.5%	8.3%
Other	17.9%	9.9%	11.2%	25.8%
Child (under age 14 in 1984)	10.7%	5.6%	15.6%	4.0%
Region in 1984:				
Northeast	10.0%	4.9%	18.2%	2.7%
North Central	10.8%	5.6%	17.5%	5.8%
South	11.9%	5.7%	21.9%	5.8%
West	10.8%	5.5%	19.0%	6.8%
AK,HI	22.4%	11.9%	0.0%	25.8%
Foreign	19.1%	0.9%	0.0%	0.0%
Marital status of 1984 head:				
Married	10.6%	5.4%	19.1%	4.7%
Single	10.0%	6.4%	14.1%	2.8%
Widowed	14.3%	5.7%	23.7%	10.7%
Divorced	13.3%	5.4%	20.3%	12.7%
Separated	11.5%	5.9%	27.0%	7.0%

Table V (Continued)

	Full Sample		Restricted Sample	
	Income-to-needs fell by > 33%	Income-to-needs fell by > 50%	Fell one quintile	Fell two quintiles
Educational level of 1984 head				
Didn't finish HS	12.5%	6.8%	27.8%	8.9%
High school only	11.5%	4.7%	26.0%	4.9%
HS + training	11.6%	6.4%	12.2%	6.3%
Some college	9.5%	4.9%	18.2%	4.3%
College degree	8.1%	3.6%	9.8%	0.9%
Advanced/professional degree	11.0%	5.2%	7.3%	5.0%
Employment status of 1984 household head				
Working	10.7%	5.4%	19.5%	4.9%
Temp. not working	26.1%	6.3%	8.2%	23.3%
Unemployed	13.8%	7.3%	7.5%	11.9%
Retired	9.4%	4.2%	22.2%	3.0%
Keeping house	16.1%	6.7%	6.6%	16.9%
Disabled	9.4%	4.3%	23.1%	5.5%
Student	12.1%	11.3%	0.0%	9.5%
Workfare, jail, other	22.9%	22.9%	0.0%	34.1%
Change in headship:				
Same head	9.9%	4.7%	18.7%	4.4%
1984 wife became 1986 head	31.6%	21.5%	46.8%	29.8%
1984 female head became 1986 wife	7.1%	2.3%	22.5%	0.5%
1986 head was neither head nor wife in 1984	24.7%	17.2%	18.0%	31.7%
Institutionalized husband in 1984 returns by 1986	31.0%	5.5%	29.8%	6.1%

Table reads: 11% of all persons experienced income-to-needs drops of one-third or more. Of those living in female-headed households in 1984, 12.4% experienced such drops.

Persons living in the West are the most likely to drop two quintiles and those in the Northeast are the least likely.

Among the marital status categories, persons living with a married or single household head in 1984 face the lowest risks of experiencing declines of 50% or more in the income-to-needs ratio. They also exhibit the lowest frequencies of dropping two quintiles. However, these groups face fairly high likelihoods of dropping one quintile. Individuals whose 1984 head was divorced or separated generally face higher risks of both types of downward income mobility.

Changes in household headship also influence the risk of downward income mobility. Persons living in a family which retained the same head throughout the sample period generally face lower risks of both absolute and relative downward mobility. Those whose 1984 female head married by 1986 face the lowest risk of absolute downward mobility and of dropping two quintiles. Persons who lived in households in which the 1984 husband and wife split and now live in the family headed by the former wife face the highest risks of both types of downward mobility. This result is consistent with Burkhauser and Duncan's (1989) findings for the 1970s.

The increase in the returns to education appears to have made its mark on the risks of downward income mobility. Those whose household head did not finish high school face the highest risks of both absolute and relative downward mobility. Those living with a college-educated household head face lower risks of downward mobility. Even so, 5.2% of those whose 1984 head held an advanced or professional degree experienced income-to-needs drops of one-half or more and 7.5% dropped two quintiles.

Living with a working household head in 1984 reduces, but does not eliminate, the probability of downward mobility. Over 5% of those with working heads experienced drops of 50% or more in their income-to-needs ratio and 19.5% fell one quintile. Those whose 1984 household head was unemployed, keeping house, temporarily out of work, or was in Workfare or jail face the highest risks of absolute downward mobility. These persons also face the highest risk of dropping two quintiles.

VI. LOGIT ANALYSIS OF THE LIKELIHOOD OF
DOWNWARD MOBILITY

The previous sections described who the downwardly mobile are and the extent of downward mobility. These analyses suggest probable causes, but do not formally isolate the factors which contribute to downward income mobility. This section uses Logit analysis to ascertain which of the probable factors significantly influences the likelihood of downward income mobility in a statistical sense. For the sake of brevity we restrict this analysis to the two more severe types of downward mobility: Drops of 50% or more in the income-to-needs ratio and drops of two or more quintiles down the distribution of real family income.⁹

The descriptive sections of this paper and previous studies of downward income mobility suggest that female headship, changes in family composition, and unemployment of the household head are positively associated with downward mobility. The observed variation in risk across groups suggests that race, age, education, and region may also play significant roles. Obviously, so will the number of children and the number of income earners in the family. The Logit analyses include all of these factors as explanatory variables.

The term "downward mobility" often conjures up the image of a steel or auto factory worker being laid off. Are the downwardly mobile generally blue-collar, production workers? In order to address this question the regressions also include explanatory variables which track the 1984 head's main industry and occupation as measured by three digit codes from the *1970 Census of Population: Alphabetical Index of Industries and Occupations* (U.S. Department of Commerce and the Bureau of the Census).

Table VI reports the Logit analysis of the probability of drops of 50% or more in the income-to-needs ratio. The regression explains a small, but statistically significant proportion of the variation in the log odds of absolute downward income mobility. Education exhibits the expected effect: Living with a 1984 head who had not completed high school raises, while living with a college-educated head lowers, the probability of absolute downward mobility. Living with an elderly head lowers, while living with a young household head raises, the risk. Also

TABLE VI
Logit analysis of the probability that real family income-to-needs drops 50% or more

Independent Variable	Estimated Coefficient	B/SE
Constant	-3.2013**	-82.69
1984 Head, no HS diploma	0.2427**	11.27
1984 Head has college education	-0.3472**	-11.11
Elderly 1984 head	-0.2280**	-6.15
Young 1984 head	0.1741**	7.94
Married 1984 head	-0.3326**	-9.27
Minority 1984 head	0.3104**	13.02
Female 1984 head	-0.0593	-1.48
Unemployed 1984 head	0.1910**	4.15
# of children, 1984	-0.0142	-1.83
# of earners, 1984	0.0709**	6.51
Real family income-to needs, 1984 (initial position)	0.0255**	35.35
Region in 1984 (Chi-sq [5] = 110.18)		
Northeast	-0.1265**	-7.11
North Central	0.0725**	5.13
South	0.0251**	1.88
West	0.0119	0.63
AK,HI	0.7361**	5.65
Foreign	-1.6095**	-4.33
Head's Occupation in 1984 (Chi-Sq.[12] = 496.85)		
Profess., technical, kindred	-0.5310**	-10.34
Manager, admin. (non-farm)	-0.2083**	-4.36
Salesworkers	-0.0391	-0.63
Clerical and kindred	-0.0168	-0.32
Craftsmen and kindred	-0.4460**	-9.31
Operatives (non-trans.)	-0.5478**	-9.99
Transportation operatives	0.1083	1.94
Non-farm laborers	-0.3201**	-4.74
Farmers	0.5944**	4.08
Farm laborers & foremen	0.9565**	6.20
Service	0.0375	0.67
Private household	-0.6511*	-2.33
Not working for pay	0.8672**	6.30
Head's Industry in 1984 (Chi-sq[12] = 508.66)		
Ag., forest., fish	-0.1480	-1.11
Mining	0.9512**	10.41
Construction	0.4608**	8.62
Manufacturing	0.3774**	8.19
Trans., comm., public util.	0.1656**	3.09
Wholesale & retail trade	0.1995**	4.09
Finance, insurance, real estate	-0.1997**	-2.92

Table VI (Continued)

Independent Variable	Estimated Coefficient	B/SE
Business & repair services	0.5973**	9.92
Personal services	-0.1254	-1.28
Entertainment, recreation	1.0699**	12.71
Professional & related	0.1214*	2.33
Public administration	-0.1102	-1.79
Not working for pay	-0.7254**	5.35
Headship (Chi-sq[4] = 4825.20)		
Same head 1984 & 1986	-0.0728**	-28.42
1984 wife heads		
1986 family	1.6915**	53.23
1984 female head is		
wife in 1986	-1.0427**	-11.80
1986 head was neither head		
nor wife in 1984	1.3909**	45.44
1984 institutionalized		
husband returns by 1986	-0.0487	-0.43
R-squared:	4.8%	
Chi-sq[44]	7,643.22	

* Statistically significant at 95% level

** Statistically significant at 99% level

as expected, living with an unemployed head increases the likelihood of absolute downward mobility.

Marriage and stable family composition seem to produce financial security. Having a married household head significantly lowers the odds of absolute downward mobility, as does retaining the same head. Furthermore, when a female head marries, the likelihood of downward mobility drops. Lastly, like Duncan (1988) we find that living in a split off family, mainly persons "leaving the nest", increases the likelihood of absolute downward mobility.

While those in female-headed households are disproportionately downwardly mobile, living in a female-headed household does not significantly increase the log odds of absolute downward mobility. In fact, controlling for other factors, female headship exhibits a negative, but statistically insignificant, effect on downward mobility. The absolute increase in average female wages over the period helps explain this

result. This result suggests that being female in itself does not pose an economic risk, getting divorced does.

This analysis does reinforce the descriptive finding that persons living with a minority household head face higher risks of downward income mobility. Even after controlling for gender, education, employment, region, and initial economic status, living in a minority household significantly raises the likelihood of absolute downward mobility. The structural changes in the economy and the subsequent changes in the distribution of income clearly hurt minorities more.

The regional variable exerts a statistically significant impact on the likelihood of downward mobility.¹⁰ Specifically, living in the Northeast in 1984 lowers, while living in the South and North Central regions raises the likelihood of absolute downward mobility.

Because the wages and earnings of those already in the lower tail of the distribution have generally fallen, we would expect that those with lower income-to-needs ratios in 1984 would be more likely to be downwardly mobile. However, the results indicate just the opposite: Controlling for the other factors, the higher the 1984 income-to-needs ratio the greater the chance of absolute downward mobility.

Both occupation and industry significantly influence the log odds of absolute downward mobility. Occupations (of the 1984 household head) which *lower* the likelihood include: Professional, technical, and kindred workers; Non-farm managers and administrators; Craftsmen and kindred workers; Non-transportation operatives; Non-farm laborers; and Private household workers. Only the occupations "Farmers" and "Farm laborers and foremen" significantly raise the odds of absolute downward mobility. This result can likely be traced to the "farm crisis" of the 1980s.

Living with a 1984 household head in the "Finance, insurance and real estate" industry significantly lowers the probability of absolute downward mobility. Industries which significantly *raise* the likelihood of downward mobility include: Mining; Construction; Manufacturing; Transportation, communication, and other public utilities; Business and repair service; Entertainment and recreation; and Professional and related. The first three of these industries are commonly associated with blue collar jobs. Thus, blue collar workers do indeed appear to be

susceptible to downward mobility, however they are not alone. The remaining four industries contain many white collar jobs.

Table VII reports the Logit analysis of the probability of dropping two or more quintiles down the distribution of real family income. Again, the regression explains a small, but statistically significant proportion of the variation in the log odds of downward income mobility. As in the case of absolute downward mobility, living with a college-educated head in 1984 lowers the probability of relative downward mobility. In contrast to the case of absolute downward mobility, living with a 1984 head who had not completed high school lowers the odds of relative downward mobility. The age and marital status variables also exhibit signs which differ from the previous regression. Specifically, having an elderly or married 1984 head raises and having a young head lowers the chances of relative downward income mobility.

The regional effects on both types of downward income mobility appear to be quite similar. The notable exception is that living in the North Central region in 1984 raises the odds of absolute downward mobility, but lowers the odds of relative downward mobility. The occupational categories exhibit the same signs in both regressions with two exceptions. Having a 1984 household head in the "Craftsman and kindred workers" and "Private household workers" categories lowers the probability of absolute, but raises the probability of relative downward mobility. The effects of the various industry categories appear essentially the same in both regressions.

VII. SUMMARY AND CONCLUSIONS

Between 1984 and 1986 a substantial minority of Americans experienced downward income mobility despite a growing economy: 5.5% experienced drops of one-half or more in their family income-to-needs ratio and over 24% fell to a lower quintile in the distribution of real family income. The majority of the downwardly mobile initially lived in households headed by a nonelderly, Caucasian, married, less-educated, working man. Logit analysis indicates that the following factors significantly increase the odds of both absolute and relative downward

TABLE VII
Logit analysis of the probability of falling two or more quintiles

Independent Variable	Estimated Coefficient	B/SE
Constant	-3.4419**	-72.43
1984 head, no HS diploma	-0.1248**	-5.18
1984 head has college education	-0.2557**	-8.55
Elderly 1984 head	0.2728**	-6.62
Young 1984 head	-0.4381**	-17.14
Married 1984 head	0.2164**	4.82
Minority 1984 head	0.0761**	2.71
Female 1984 head	-0.2594**	-4.94
Unemployed 1984 head	0.7457**	12.37
# of children, 1984	-0.2116**	-24.44
# of earners, 1984	0.3764**	41.33
Real family income-to needs, 1984 (initial position)	0.0201**	31.93
Region in 1984 (Chi-sq [5] = 326.67)		
Northeast	-0.0833**	-4.75
North Central	-0.0380*	-2.51
South	0.0289*	2.03
West	0.0775**	3.96
AK, HI	1.6633**	16.24
Foreign	0.7220**	5.45
Head's Occupation in 1984 (Chi-sq [12] = 771.65)		
Profess., technical, kindred	-0.1925**	-4.27
Manager, admin. (Non-farm)	-0.0009	-0.02
Sales workers	0.3991**	7.51
Clerical and kindred	0.1379**	2.76
Craftsmen and kindred	0.1217**	2.95
Operatives (non-trans.)	-0.1865**	-3.57
Transportation operatives	0.7901**	16.42
Non-farm laborers	-0.2347**	-3.36
Farmers	2.2085**	4.54
Farm laborers & foremen	3.4490**	7.03
Service	0.0269	0.48
Private household	1.4687**	-3.19
Not working for pay	-0.4457**	-4.13
Head's Industry in 1984 (Chi-sq [12] = 381.33)		
Ag., forest., fish	-2.9695**	-6.26
Mining	0.7032**	7.81
Construction	0.1509**	3.07
Manufacturing	0.1912**	4.73
Trans., comm., public util.	0.3770**	8.21
Wholesale & retail trade	0.1473**	3.38
Finance, insurance, real estate	-0.4296**	-6.55

Table VII (Continued)

Independent Variable	Estimated Coefficient	B/SE
Business & repair services	0.4735**	8.44
Personal services	-2.1418**	-7.47
Entertainment, recreation	0.5324**	6.02
Professional & related	0.2857**	6.16
Public administration	0.0694	1.26
Not working for pay	-0.0352	-0.34
Headship (Chi-sq [4] = 6076.58)		
Same head 1984 & 1986	-0.1251**	-51.97
1984 wife heads		
1986 family	1.5865**	48.64
1984 female head is		
wife in 1986	0.3965**	4.92
1986 head was neither head		
nor wife in 1984	1.7249**	59.58
1984 institutionalized		
husband returns by 1986	1.3676**	18.76

R-squared: 8.7%

Chi-sq[44] 14,732.31

* Statistically significant at 95% level

** Statistically significant at 99% level

income mobility: Male headship; minority headship; marital dissolution; nest-leaving; unemployment of the household head; having a household head who is a farmer or farm laborer; having a household head in the trade, mining, construction, or manufacturing industries, and having a higher initial ratio of income-to-needs. The following factors significantly lower the odds of downward income mobility: Having a college-educated head; retaining the same household head; having a household head in a professional, technical, or operative occupation; and having a head in the finance, insurance, and real estate industry.

The results suggest that education and labor market changes play critical roles in downward income mobility. Policies which curb the high school drop rate and encourage college attendance may help reduce downward mobility. Macroeconomic growth policies, especially those which enhance employment opportunities for young men, and training and relocation programs might also help reduce downward mobility.

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NOTES

¹ However, the size of the gains over the income distribution was somewhat unequal. Those at the top gained more than did those on the bottom.

² Validity studies of the PSID generally confirm that the weighted sample is representative and that measurement errors in annual earnings are low (Bound *et al.*, 1989). For validity studies see Duncan and Hill (1989), Lillard and Waite (1989), and Beckett *et al.* (1988). For general information about the PSID see Hill (1992).

³ Real family income includes the labor earnings of all members, dividends, rent, interest, and public and private transfers. The family income-to-needs ratio is calculated by dividing real family income by the official poverty line (in real terms) for the family's size. We use the CPI-U-X1 to convert nominal income and need standards to real terms.

⁴ Using a drop of one quintile to measure downward mobility may overstate the severity of the drop. For example, if initial family income exceeds the quintile break by one dollar, the loss of \$1.01 in income would constitute a drop of 1 quintile.

⁵ Because the PSID is a stratified and clustered sample the standard errors automatically generated by most software packages will not be correct. The tests reported in this table are based on corrected standard errors generated by the PSALMS routine in OSIRIS.

⁶ Some of the observed downward mobility may be transitory.

⁷ The "Other" group includes Native Americans, Asians, and Pacific Islanders.

⁸ We omit discussion of risk differences for Alaska, Hawaii, and foreign counties as less than 1% of the sample resides in these regions.

⁹ This analysis uses the full sample rather than only persons initially in the third quintile. We include the 1984 family income-to-needs ratio to control for the effect of initial position.

¹⁰ The coefficients reported for all of categorical variables are standardized to reflect deviations from the category's mean effect.

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