Economic Inactivity of Young Adults:
An Intergenerational Analysis

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Working Paper No. 107

March 1994

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"Be not Solitary, be not idle" Richard Burton 1640

The problem of declining work effort--or "joblessness"--has become an increasingly important social policy issue, especially as it concerns particular race and ethnic groups, and particular age groups. African-Americans--especially young African-Americans--have experienced high unemployment rates over the entire post-war period, and these rates, adjusted for the macroeconomic performance of the economy, have been growing over time. The rate of "joblessness"--having zero weeks worked in a year--for minority youth has followed the same pattern.

Similarly, there is substantial concern regarding the rates of nonemployment of young women. In their case, it is a concern that dependence on welfare benefits has replaced their own work effort as the source of income and economic well-being. For both young males and females, the concern is that increasing joblessness is associated with the growth of nonproductive activities--illegal activities or welfare dependence--that are substitutes for working and earning.

Aggregate statistics indicate that there is basis for concern regarding youth joblessness. For example, using the Current Population Survey, Danziger and Wood (1992) found that the proportion of all African-American non-Hispanic men aged 18-64 who reported zero weeks worked in the prior year grew from .178 in 1979 to .204 in 1989, an increase of nearly 15 percent. For African-American non-Hispanic men aged 18-19 (20-24) (25-29), the percentage increases over the decade were 6.5 (26.8) (12.8) percent. By 1989, the jobless rates for these three groups stood at 40.7 percent, 25.1 percent, and 12.3 percent, respectively.[1]

In this paper, we focus on the extent of economic inactivity of young adults, treating it as an indicator of their success or failure. We study the social and parental choice correlates of this status, emphasizing explanatory variables that reflect the social and parental investments in children.

By our definitions, a person is economically inactive if s/he is not occupied with work, schooling, or child care activities for more than about one half-time over the course of a year. In particular, we define a person to be inactive if s/he is <u>not</u> in any of the following categories during a calendar year:

-attending school full-time, or
-working at least one-half time, or
-attending school and working at least part-time, or
-bearing primary responsibility for caring for <u>either</u> an infant <u>or</u> two or more children aged
　　less than 6 years of age, or
-combining child care time with either part-time schooling and/or part-time work.

This definition, then, is based on a rather broad concept of economic activity which is not limited to either labor force participation or full-time schooling. Since many recent graduates of high school or college may find themselves economically inactive for some period of time--a transition period--we concentrate on economic inactivity when the youth is age 24.

In Section I, we provide some further background on the issue of economic inactivity. In what ways has it increased or decreased over the last three decades? What is known about the long run consequences of such idleness? Then, in Section II, our basic framework is presented. In Section III, we present our basic analysis of the determinants of economic inactivity, using our detailed data on 765 youth, aged 24-or-more in 1988 who are taken from the Michigan Panel Study of Income Dynamics (PSID). We first concentrate on explanatory variables reflecting parental choices/opportunities and family circumstances. We then add stress and neighborhood variables, taken to reflect social or community investments in children. For this analysis, the primary neighborhood variable of interest is the adult unemployment rate since it is directly related to the

youth's decision to choose to be economically active (or conversely to choose not to go to school, to work, or to engage in child care activities).

In Section IV. we undertake some further explorations of some of the relationships found in Section III., emphasizing the role of parental welfare recipiency, and neighborhood effects. Section V. presents the results of simulations based on the estimated models.

Since the rate of economic inactivity is much higher among high school dropouts than among those with more schooling, we estimate a simultaneous model of completing high school and economic inactivity. The results of this analysis are presented in Section VI. Finally, we draw some conclusions from our research in Section VII.

I.   ECONOMIC INACTIVITY: SOME BACKGROUND

Joblessness has been increasing among young adults in this country. Using data from the Current Population Survey (CPS), the percent of nonwhite (including, African-American, Hispanic, Oriental, and other nonwhite groups) males aged 21-25 with no reported work in the prior year increased by nearly 50 percent, from 1973 to 1988. However, the jobless patterns differ by race and sex; the patterns noted for nonwhite males do not hold for either young white males or females. For all of these groups, the proportion that reported no work activity either remained steady over the 1973 to 1988 period, or decreased.

It should be noted that these statistics on joblessness may be misleading. The basic issue, we suggest, concerns the alternative activities in which youths might be engaged if they are not working in the formal labor market. Clearly, if attending school is the activity which is being substituted for market work, the problem of joblessness would fade in importance.

In an attempt to correct this problem, we defined a crude indicator of "inactivity" to use with CPS data. A person is economically inactive if they do not work 1000 hours per year, are not in the

military, and are not in school (and for females, and are not the mother of a child less than five years old).

In Table 1, we present our tabulations on the rates of economic inactivity so defined for nonwhite and white youths aged 21-25 over the 1973 to 1988 period. The 1988 inactivity rates are substantial for all of the groups, ranging from 8.1 percent for white females to 19.7 percent for nonwhite males. For nonwhite males, the inactivity rate over this period has risen sharply from 15.8 percent to 19.7 percent, or by nearly one-fourth. However, for all of the other groups the inactivity rate has fallen over the period. We have also shown the percentage of youths in these groups who are in school in the two years. Interestingly, for all of the groups the rate of school attendance has increased over the period, with the greatest absolute and percentage increase recorded for females.

Not surprisingly, economic inactivity is one of several indicators of young adult attainment that has been found to be highly correlated with other patterns of success.[2] For example, persons without a high school degree are far more likely to be non-employed or unemployed than those with more education. In 1970, the ratio of the unemployment rate for those without a high school degree to those who graduated high school was 1.6; by 1988 it had increased to 1.8. Moreover, among youths who work, the wage rates and earnings of those who have chosen to stop attending high school before graduating high school are substantially lower than those for high school graduates--and the gap is growing.

II.   BASIC FRAMEWORK

The primary hypothesis that is explored here is that individual behavior and performance responds to available opportunities and incentives. The implication of this economic perspective is that choices made by children, youths, and young adults regarding working, schooling, and welfare

recipiency are influenced by the relative opportunities available (and implicit "prices" reflected) in organized labor markets, informal labor markets, marriage markets, and public program "markets".

Models that might be used to explore the issue of economic inactivity include the "role model or "working mother hypothesis." The first suggests that parent's activities serve as role models for their children; if they are economically active, their children are more likely to be active as well. The working mother hypothesis suggests that the mother's absence from the home may be the source of developmental problems in children, due to the associated reduction in control, guidance, and monitoring.[3] Mother's working, however, may also be associated with income increases for the family, which may offset the negative effects of low income (as emphasized by the economic deprivation hypothesis). Of course, a mother's working may also serve as a role model--one of industry and effort.

Another alternative is the "welfare culture perspective" which emphasizes the harmful effects that parental dependence on public assistance may have on children's aspirations and on their capacity for independent actions.[4]

The "family size perspective" focuses on the reasons why large family size (reflected in the number of siblings) may adversely affect development and attainment. These reasons range from the effects of overcrowding, to the dilution of parental time, to the erosion of parental discipline and supervision. Alternatively, some have speculated that the presence of siblings may increase the network of support and monitoring.[5]

Finally, we mention the "neighborhood/peer group perspective". This viewpoint hypothesizes that the characteristics of neighborhoods and the attitudes and behaviors of peer groups may have a strong influence on the aspirations and, hence the attainments, of children. This conjecture is closely related to, and perhaps a subcategory of, a socialization perspective, in that it is the interactions of an individual with peers, neighbors and role models that influence his/her attitudes, aspirations, and

ultimately behaviors and achievements.[6] It is consistent with a model that emphasizes economic opportunities and information; one that places emphasis on contacts providing opportunities and information as important in order to provide correct perceptions of opportunities.

Common to all of these perspectives is the presumption that the many stimuli that come to bear on children affect the paths along which they grow and develop. Many of these stimuli take the form of resources--or the services of resources--to which children have access, or to which they are exposed. These resources and their services can be categorized in many ways, and include: family financial resources such as the income and the things bought with that income, resources in the form of parental time devoted to children, the emotional energy spent by parents in fostering and nurturing their children, the psycho-social resources (e. g., self-esteem, self-efficacy, future-orientation) which fathers and mothers are able to bring to their parenting role, public sector services to which children are exposed (such as those related to schooling, health care, recreation, police, counseling, and neighborhood quality or composition).

In all cases, the factors that we have labelled "resources or their services" are increased or decreased by decisions made by individuals. For example, the decision of a parent to work (or to work longer hours) will increase the level of family income to which a child has access. That decision may also influence the level of parental time devoted to the child. Similarly, parents can choose whether or not to allocate time to their children, to invest in their own capacity to produce quality parenting services (e. g., by improving their own psycho-social resources), or to contribute their time to improving the environment in the schools that their children attend.

Viewed in this way, many of the factors identified above as determinants of children's success can be cast into an economic or an "investment" framework. Whether it is economic deprivation or socialization or neighborhood characteristics that plays the pivotal role in the development process, the factors that serve as inputs to these determinants can be altered by individual decisions regarding

them. Such decisions may involve increasing or decreasing the resources--money and time--devoted

to children.[7]

If this proposition is true, a corollary is that individual, family, and public decisions--resource

allocation decisions--can affect children's success patterns. Such decisions or interventions are

properly viewed as investment-type decisions--they involve the commitment of real labor and capital

resources today in order to secure gains in the future.[8] This view lies behind the estimates below.

III. BASIC ANALYSIS OF DETERMINANTS OF ECONOMIC INACTIVITY

For the intergenerational analysis presented here we use data on a sample of youths who were

4-6 in 1968, and who are at least 24 years old in 1988. The family circumstances and resources and

the individual attainments of each youth have been recorded for each of the 21 years from 1968

through 1988.[9] At age 24, we record the level of economic inactivity of each youth and study its

determinants.[10]

Nearly one quarter of our (unweighted) sample of young adults who are 24 or more years of

age are economically inactive at the age of 24, using the concept of inactivity defined above.[11] This

includes 29 percent of females and 20 percent of males. 35 percent of young African-Americans are

inactive, relative to 16 percent of youths from other races.

Of course, the characteristics of those who are inactive differ substantially from those of the

active group of youths. Of those who are economically inactive, 33 percent have a mother who did

not complete high school; of those economically active, 17 percent had a mother who dropped out of

high school. And, while only 16 percent of young adults who grew up in a family that never lived in

poverty were inactive, the incidence of inactivity was 24 percent for the entire sample, and nearly

one-half (47 percent) for those who grew up in a family that was persistently poor over their ages

6-15. While informative, these basic statistics tell us little about the independent effect of any one of

these variables, holding the other determinants of economic inactivity constant. For this sort of information, we require multivariate statistical analysis.

The first two columns of Table 2 show the results from a simple Probit model of the determinants of economic inactivity at age 24 for our sample. The second pair of columns present a more full-blown specification.

The results in columns 1 and 2 of Table 2 are consistent with the simple calculations of the incidence of inactivity by gender and race we noted above: females and African-Americans are more likely to be economically inactive than are non-African-Americans and males; the coefficients on these variables are positive and statistically significant. The educational choices of the parents also have an effect; children of high school graduates are less likely to be inactive at the age of 24 than young adults whose parents failed to graduate high school. The coefficients of the parental education variables are statistically significant at the 10 percent level for a two-tail test and the 5 percent level for a one tail test. The two variables are jointly significant at the 5 percent level.

Parental decisions related to earnings and income are not related to the probability of a young adult's being economically inactive. Family income has a negative sign, but is not statistically significant. This may be the result of two offsetting effects--those with more income may have successful role models who are active in the labor market; on the other hand, additional income available in the family may reduce the pressure on a young adult to be economically active. However, children whose mother chose to work in the paid labor market are less likely to be economically inactive. As the variable is continuous, the greater the number of years that the mother worked, the lower the probability that the youth will be economically inactive. This may reflect the role model effect of the mother's choice--a set of attitudes regarding labor market connections that the mother is able to convey to the child.

In the simple model, neither of the variables measuring the amount of time parents spend with children while they are growing up--average parental time spent and years lived with one parent--are significantly associated with the probability that their child will be economically inactive at the age of 24. However, the negative coefficient on the variable measuring the average time parents spend with a child while growing up does suggest that more parental time may be associated with a reduced probability of inactivity.[12]

The number of siblings of the child appears unrelated to economic inactivity, as does the birth order of the child. The only other variable with a statistically significant effect on the probability of inactivity is the number of years that the parents choose to live in an SMSA or urban area. We interpret this to suggest that economic activity norms differ between urban and nonurban areas, perhaps related to the greater availability of informal work in rural areas.

In the last two columns of Table 2, we present the results from a more full-blown version of the model--one in which a set of parental choices creating stress for the child and a neighborhood attribute are added to the variables in the simple model.

The variables included in the simpler model of columns 1 and 2 are but little changed in the fuller specification. Both father's and mother's education choice variables remain statistically significant at the 10 percent level, two tail test. The time parents spend with the child while growing up is now significant at the 5 percent level. All of the measured influences are in the expected direction and suggest that parental choices leading to more resources (income, time, and human capital) reduce the probability that the youth will be economically inactivity.

The additional parental choice/opportunity and neighborhood variables included in the equation add to our understanding of the determinants of economic inactivity: having lived in a family that received welfare benefits, a family with more geographical moves, and a family in which the head was unemployed are associated with an increased probability of being economically inactive,

and all are marginally significant. The positive and significant association of the family welfare benefit receipt variable and young adult inactivity is consistent with estimates found in the literature on the intergenerational transmission of welfare dependence. Growing up in an environment in which welfare is an important source of income may encourage dependence on income sources other than own earnings.[13]

The number of location moves during childhood is positively associated with inactivity, although it is only marginally significant. Having a parent who is unemployed more years--suggesting limited labor market success of the parent and potentially negative attitudes toward the labor market--many explain the positive and marginally significant coefficient on this variable.

Surprisingly, the unemployment rate of the neighborhood in which the youths live is negatively associated with the probability that they will be economically inactive at age 24, and has a t-statistic of 1.41. There are, of course, differences in the acceptability of various types of economic activity--for example, working or going to school, as opposed to child care as an unmarried mother. Perhaps a higher county unemployment rate discourages job seeking and encourages greater reliance on welfare benefits or parental income.[14]

In terms of statistical fit, the simple model has a Chi-square value of 73.4 for 15 degrees of freedom, and predicts correctly the status of 76.2 percent of the sample, including 98 percent of those who are economically active. The expanded model does somewhat better, correctly predicting the activity status of 77 percent of the sample, including 97 percent of those active. The Chi-square value is 84 for 21 degrees of freedom.

Since the prevalence of economic inactivity differs by gender and race, we also ran tests to see if the same structural models apply to African-Americans and other racial/ethnic groups, and to females and males. In both cases we could not reject the hypothesis that the same models apply to both subgroups, even at the 10 percent level.[15]

IV. FURTHER EXPLORATIONS OF THE DETERMINANTS OF INACTIVITY

In this section, we explore a few variants of these specifications. We first present results on the effects of welfare recipiency by the family in which the child grew up, and then investigate the role of neighborhood characteristics as determinants of youth inactivity.

A. Does Family Welfare Recipiency Matter?

An oft-asked question is whether growing up in a family which received welfare has negative impacts on the children of the family. That is, is there a connection between the parent's decision to receive welfare benefits when the child is 15 years or younger and the probability that the child will be economically inactive when a young adult? The results reported in Table 2 suggest a positive link--living in a family that received welfare while the child is growing up is reported in that table to be positively and significantly associated with an increased probability of economic inactivity. A related question concerns the effect of the duration of welfare receipt--as contrasted to whether the family received welfare at all--on the attainments of the child (in this case, the economic inactivity of the child at age 24)? One might speculate that long-term AFDC participation by the family in which children live might encourage them to be dependent on welfare, and hence inactive. On the other hand, such long-term dependence might generate aversion to welfare, and a commitment to employment or schooling.

In Table 3, we explore this issue in a number of ways, using both subgroups of the population and alternative measures of welfare dependence. In terms of subgroups, Table 3 shows the effect of welfare recipiency on youth inactivity using race and gender specific samples. In terms of alternative measures of welfare dependence, we have included the number of years that the family received AFDC benefits (rather than a dummy variable for receipt of benefits); and as an alternative, we

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created a spline function with two components--number of years on AFDC and number of years on AFDC in excess of two.

The estimates in Table 3 suggest that the significant and positive effect on the youth's inactivity of the family ever receiving welfare benefits (reported in Table 2) carries over to the African-American and the female sample; the event of receiving welfare does not appear to have an effect on the probability of inactivity for males and non-African-Americans. When the continuous variable--years family received AFDC--is used, the signs on the coefficients are mixed; however, none of them are significant.[16] The spline function also tests for duration, in this case in a non-continuous fashion. Here, we break duration into two continuous segments, with the discontinuity occurring at two years. The results suggest that a short duration on welfare is positively and statistically associated with a greater probability of being economically inactive; years beyond this have no further positive influence and rather may have a slightly negative association with the probability of economic inactivity.[17]

Taken together, these estimates suggest that if the family in which children grow up are ever a welfare recipient, the child has a higher probability of being inactive when a young adult. However, if the family ever received welfare, longer term recipiency is not associated with a higher probability of economic inactivity (and, if anything, a lower probability).[18]

B. Do Neighborhood Characteristics Matter?

Are the attributes of the neighborhood in which a child grows up related to the probability that s/he will be economically inactive at age 24? In studying this question, we substituted three neighborhood variables (dummy variables for 40 percent or more of the households headed by a female, 40 percent or more of the workers in high prestige occupations, and 40 percent or more of the youths high school dropouts) for the adult unemployment rate in the full specification of Table 2.[19] Only the female headed household variable is marginally significant. The negative sign on the

coefficient of this neighborhood variable suggests that growing up in a neighborhood that is intensive

in its use of welfare benefits is related to "economic activity" in the form of the care of young

children.

V.   SIMULATION RESULTS

Our results in Tables 2-3 suggest a strong relationship between a number of variables

reflecting parental choices/opportunities, family circumstances and neighborhood attributes during

childhood and the probability that a youth will be economically inactive at age 24. However, because

the coefficients shown in the tables are estimates from maximum likelihood models, the quantitative

relationship between the explanatory and dependent variables cannot be readily discerned.

In Table 4, we report a series of simulations designed to reveal the effect of changes in the

explanatory variables on the probability of economic inactivity. In the simulations, individual

variables that are statistically significant in the results shown in columns 3 and 4 of Table 2 are

changed, one at a time for each observation, with the remainder of the variables being held constant.

The resulting expected probability of inactivity is calculated for each observation, and this value is

then multiplied by the observation's weight. The results shown in Table 4 are weighted averages over

these values for individuals in the sample. By using the population weights in this simulation

exercise, our simulated values represent predictions for the nation as a whole.

The explanatory variables with the largest simulated effect on the overall probability of

economic inactivity include a number of parental choices and opportunities while the child was ages

6-15: parental choices regarding their own education and work effort, the amount of time parents

spend with their children while they are growing up, and the extent of parental unemployment.

At the mean of all of the explanatory variables, the expected national probability of inactivity

is .18. However, if the level of parental time spent with children was set at a value equal to one

standard deviation below the mean of about 950 hours per year, the expected probability of inactivity

would rise to .28, an increase of over 50 percent. Similarly, if the level of parental time was

increased by one standard deviation from the mean, the expected probability of inactivity would fall to

.15, a decrease of about 17 percent.

Effects of a similar magnitude are shown for the parental unemployment and parental

education variables. If a child's parent was never unemployed while the child was growing up, the

expected probability of economic inactivity at age 24 would be .17. However, if the parent were

unemployed during 3 of the 10 years that the child was ages 6-15, the expected probability of

inactivity rises to .26, an increase of about 11 percent.

When we simulate that both parents are high school graduates--as opposed to the mean

proportions--the expected probability of inactivity falls from .18 to .13, a decrease of one-quarter.

The extent to which the mother decides to work while the children are young also appears to

have a strong effect on their level of activity at age 24. If the mother is assumed to work for 3 of the

10 years, the probability of youth inactivity is .21, a value which is 15 percent above the base level

of .18. However, if the mother had not worked at all during the child's growing up period (holding

the amount of parental child care time constant), the probability that the child would be inactive at age

24 increases to .24, an increase of about one-third.

Finally, large effects on the probability that the child will be economically inactive are also

recorded for parental decisions to change geographic locations, to live in a large urban area, and to

become welfare recipients. Almost no response is estimated from raising the income of all families in

poverty up to the poverty line.[20]

As noted above, the included neighborhood variable is not significant. However, accepting

the estimated coefficient as the best point estimate, our simulation suggests that moving from an adult

unemployment rate two standard deviations below the mean to one two deviations above the mean

(from a rate of 2.5 to 12.6) would decrease the probability of being inactive from .20 to .14.

VI. A BIVARIATE PROBIT ESTIMATION OF HIGH SCHOOL GRADUATION AND YOUTH ECONOMIC INACTIVITY

Published data suggest that economic inactivity is much greater among high school drop-outs

than among those with more education. This suggests that the decision to drop-out of high school

may be related to the choice of economic inactivity. If our presumption is correct, there is likely to

be a relationship between these outcomes.

Table 5 is a simple cross tabulation of the relationship between educational attainment and

economic inactivity for the 765 youths in our sample. The relationship is as we expected--those

youths with greater schooling attainments have a substantially higher probability of being

economically active when they are age 24.

While this relationship is clear in our data, it says little about how these two variables are

related in the actual decision process of the youth. Does the level of schooling completed influence

the probability of economic inactivity at age 24? Do youths make a joint decision regarding schooling

and economic inactivity; if youths at, say, age 16 have a high expected probability of being inactive

in the mid-20s, do they tend to choose fewer years of schooling? In this section, we explore the

nature of the relationship between these outcomes. Are our results modified if we model the

decisions made by the youth as a simultaneous system; do similar unmeasured factors such as

motivation, tastes, or events during childhood simultaneously influence both of these decisions?

The model that we estimate is a bivariate probit model which specifies first whether the youth

graduated high school and, then, whether he or she was economically inactive at age 24. (The

econometric structure of this model is available upon request.) The test for simultaneity yielded by

this estimate provides information on the nature and extent of the relationship between these variables.

Due to the sample size, we use a parsimonious specification of the model. We include as

explanatory variables those that were found to be significantly related to the economic inactivity

variable in Table 2 of this paper. Among the neighborhood characteristics, we include variables that

we expected to be most closely associated with each of the outcomes, such as the proportion of the

youths in the child's neighborhood who were dropouts (in the education component of the model),

and the adult unemployment rate in the child's neighborhood (in the economic inactivity component).

Our results are presented in Table 6. The estimated value of Rho--the test statistic for the

simultaneity of the estimates--is -.56. Although this value is relatively large, suggesting that

simultaneity may be present among these decisions, it is not statistically significant at the 5 percent

level. However, when the neighborhood variables are excluded from the model, the value of Rho is

significant at the 1 percent level.[21] Hence, we interpret the results on the presumption that the two

decisions are simultaneously related--that unmeasured experiences, tastes, or motivations are

statistically related to both of the decisions.

Do the estimated results in Table 6 differ from those in the more direct estimates presented

earlier? First, while the race and gender background characteristics of the children were significant in

the single equation estimates, the race variable is not statistically significant in the inactivity

component although it is in the education component of the bivariate probit model. The sign on the

coefficient is consistent with the prior estimate, however. In the bivariate probit model, the variable

for first born is negative and significant, while in the single equation probit it was not statistically

significant.

Among the parental choice/opportunities variables, the results in Table 6 largely verify our

earlier estimates. Parental education choices are again negatively related to the probability of being

economically inactive at age 24. Parental economic resources are not significantly related to either of the outcomes in any of the specifications.

There is one change in the estimated effect of those parental choice variables indicating stress for children during their ages 6-15. While the number of location moves was marginally significant in the economic inactivity results of Table 2, it is strongly significant in the bivariate probit estimates.

These changes carry the suggestion that certain of the parental choices/opportunities variables may have a longer-term and more adverse effect on children's attainments than is indicated by the estimates that do not account for the simultaneity between decisions made earlier and later in the child's life. Conversely, some of the family attributes may have less effect than the more straightforward estimates suggest.

VII.   CONCLUSION

In this paper, we have explored the relationship between parental choices/opportunities and family and neighborhood characteristics when children are growing up and their activities in their mid-20. We define a person to be economically inactive if s/he is not occupied with work, schooling, or child care activities for more than about one half-time. We first explored simple relationships between our primary family and neighborhood characteristics and the indicator of inactivity, and then estimated a more complex simultaneous model.

The pattern of estimated results could be interpreted as strongly supportive of a role model perspective: children who grow up with parents that themselves are active--mothers who worked, parents with a high school education, parents who spend time with their children, families who avoided being on welfare, parents with more income--tend to have a higher probability of themselves being active. The coefficients on all of these variables have the expected sign, and all of them save the coefficient on the income variable are significant. The separate estimates of the effect of family

welfare participation for the girls in our sample suggests that the role of family welfare participation is an especially important factor in understanding their patterns of activity and inactivity.

In addition to these effects, the probability of being active is also related to the race and gender background characteristics. The positive and significant coefficient on the African-American variable has a number of possible interpretations, but is consistent with the high pattern of minority youth joblessness, and the labor market discrimination hypothesis which is often used to explain this pattern. The positive and significant effect on Female is consistent with the lower labor force participation rate of women, and the several cultural and economic hypotheses that predict this pattern. The positive (though not significant) coefficient on the neighborhood unemployment rate suggests the effect of labor demand on the level of observed economic activity among youths.

Finally, the interaction between the educational attainment of youths and the probability that they will be economically active at age 24 is noteworthy (see Table 5). Those youths that complete high school--or who have more years of completed schooling--have a higher probability of being active than those who have terminated their schooling before high school or shortly after.

Endnotes

[1]These rates do not adjust for school enrollment or child care of an infant or of multiple children.

[2]See, for example, National Commission on Children (1991).

[3]See Hetherington, Camara, and Featherman (1983).

[4]Macaulay (1977) presents the essence of this theoretical position most explicitly. The welfare culture hypothesis is related closely to the "economic deprivation" (or culture of poverty) framework, in that both perspectives suggest that poverty or welfare receipt have negative effects on personal adequacy, independence, and self-esteem.

[5]See Rutter (1980).

[6]This perspective has been recently emphasized in the writings of Wilson (1981, 1987), and explored in the review by Jencks and Mayer (1990).

[7]Indeed, even the least economic among these determinants--for example, the extent of contact with positive role models or the incidence of stressful events (or the psychological resources to effectively cope with them)--would seem to be amenable to change through altering the level of resources devoted to producing the services to children that they represent.

[8]A more detailed presentation of this "investment in children" perspective is found in Haveman and Wolfe (1993) and Haveman and Wolfe (forthcoming).

[9]The PSID is a nationally representative sample of the U.S. population. It oversamples those of low income but weights can be used to obtain a representative sample of the U.S.

[10]These data are observations of children from United States families that were included in the stratified sample of households included in the Michigan Panel Study of Income Dynamics (PSID). There are about 780 children in this data set, and they have been tracked from their early childhood years through young adulthood. For each child, these data include information on family status, income and source of income, parental education, neighborhood characteristics, changes in family

status, and background characteristics such as race, religion, and geographic location. They also include information on a variety of children's attainments. The data are described in some detail in Appendix A.

[11]In particular, inactivity is defined as: Work < 1000 hours; not a full-time student or part-time student and working at least 500 hours, not a mother of infant or two or more children one of whom is < 5; nor of one child 1-5 plus a part-time student.

[12]The child care time variable is a predicted value, and hence subject to substantial measurement error. See Appendix A.

[13]Separate analysis by race and by gender suggest that this influence is stronger among females and among nonwhites than among whites or men. See below.

[14]An alternative specification using three neighborhood variables suggests that living in an area with a higher prevalence of households headed by women may be negatively associated with the probability of being economically inactive (t-statistic = 1.5). This also is an unexpected result. The other two neighborhood variables--a 40 percent or more prevalence of both labor force participants in high prestige occupations and youths who are high school dropouts are not statistically significantly associated with economic inactivity of young adults.

[15]Chi-square tests for statistically significant differences in the models for males versus females and the two racial groups were conducted. For these equations, the test statistics were 28 for the racial groups and 24 for the gender groups. The relevant test values are 32 at the 10 percent level, 35 at the 5 percent level, and 42 at the 1 percent level. Hence we fail to reject the null hypothesis that there are no significant differences in the models for men and women or the racial subgroups.

[16]We tested to see if there was a statistically significant difference between the structure of the model fit over gender and race specific samples and the full model. The null hypothesis that either the gender or race specific models differed in their structure from the full model could not be rejected

at the 10 percent level. A similar model using the family received welfare dummy variable was also run over the full sample and the gender and race specific samples, and the null hypothesis could not be rejected at the 10 percent level in this case either.

In the estimates run over the race and gender subsamples using the "ever received" variant, the AFDC variable was marginally significant in only the female and African-American estimates. Finally, we interacted the gender variables with the family received AFDC dummy variable and with the years family received AFDC variable, and in only the case of the female interaction with the family received AFDC dummy variable was the interaction term even marginally significant. (The positive coefficient on this interaction variable was significant.)

[17]The signs on the two terms of the spline function are of the opposite signs, and both are significant. Because the magnitudes of the coefficients are similar, the spline specification indicates that welfare receipt for two years has a positive and significant effect on the probability that the youth will be inactive, but that additional years of recipiency have no additional effect on the probability. A simulation using the spline coefficients suggest a nonlinear influence of duration of welfare receipt on the probability of economic inactivity. Holding all of the other variables constant at their mean values, the estimated probability that a youth will be inactive at age 24 is .24 (unweighted) if his family was on welfare for two years; this probability becomes .06 if a child grew up in family that had no welfare experience at all. However, if the family of the child is simulated to have been on welfare for all ten years, the probability is .12.

[18]The absence of a duration effect is seen in both the insignificant coefficient on the years family received AFDC variable, and in the negative and significant coefficient on the extended recipiency variable in the spline specification.

[19]The coefficients on the remaining variables in the specification renamed virtually unchanged. The father's education variable changed from being significant to being marginally significant.

[20]One might wish to study the influence of eliminating poverty on those who grew up experiencing a spell of family poverty during ages 6-15. We simulated this impact of economic resources as well, and find very little impact. The average probability of inactivity for this group of vulnerable children was .251; the simulated effect on the average probability of eliminating poverty reduced this to .249.

[21]The value of Rho in this model is nearly -1, which is statistically significant at the 1 percent level. The Wald test-statistic is 80, compared to a critical value of 6.63 at the 1 percent level. As expected, the statistical significance of some of the remaining variables is increased when the neighborhood variables are excluded, indicating the importance of including in the estimation a rich selection of background, parental choice/opportunity, family attribute, and neighborhood characteristics.

Table 1

Rates of Inactivity Rates, Persons Aged 21-25,
1973 and 1988

| | Males | | Females | |
	1973	1988	1973	1988
White				
Inactive	10.2	9.7	11	8.1
In school	19.3	20.2	13.3	17.2
Nonwhite				
Inactive	15.8	19.7	12.2	11.7
In school	12.8	14.8	9.5	12.0

Source: 1973 and 1988 CPS tapes.

Table 2

Determinants of Economic Inactivity at Age 24, Sample of Observations Aged 24 Years or More, Probit Estimation
N=765

Variable	Coefficient	t-statistic	Coefficient	t-statistic
Constant	-.28	0.60	-.01	0.0
Background				
African-American	.30	2.23*	.35	2.43*
Female	.26	2.51*	.27	2.56*
Parental Choices/Opportunities				
Religion	-.13	0.59	-.11	0.51
Number of siblings	.01	0.21	-.00	0.09
Years Lived with One Parent	-.01	0.25	-.03	1.03
Average Parental Time Spent	-.36^{-3}	1.31	-.56^{-3}	1.94*
Father High School Graduate	-.25	1.67**	-.26	1.65**
Mother High School Graduate	-.24	1.83**	-.25	1.82*
Average Family Income ÷ Poverty Line	-.05	0.94	-.06	1.13
Years Mother Worked	-.04	2.69*	-.04	2.55*
Years Lived in SMSA	.04	2.76*	.04	2.89*
Number of Location Moves			.05	1.40
Number of Parental Separations			-.04	0.26
Number of Parental Remarriages			.09	0.50
Years Family Head Unemployed			.04	1.33
Family Received AFDC			.30	1.95*
Family Circumstances				
Years Family Head Disabled	.01	0.72	-.01	0.50
First born	-.07	0.49	-.11	0.73
Neighborhood Attributes				
Unemployment Rate, Adults			-.02	1.41

Notes: The model specifications also include controls for whether both parents are in the sample in 1968, and whether the child's father was foreign born.
* Statistically significant at 5 % level, 2 tail test.
** Statistically significant at 10 % (5%) level, 2 (1) tail test.

Inactivity: x=0.24 sd=0.43 unweighted and 0.17 and 0.37 weighted. Inactivity is defined as: Work < 1000 hours; not a full-time student or part-time student and working at least 500 hours, not a mother of infant or two or more children one of whom is < 5; nor of one child 1-5 plus a part-time student.

Table 3

Estimates of Family Welfare Participation and Economic Inactivity at Age 24

	Coefficient	t-statistic
Family Received AFDC		
Full Sample	.30	1.95*
Female Sample	.38	1.81**
Male Sample	.13	0.60
African-American Sample	.34	1.74**
Non-African-American Sample	.01	0.00
Years Family Received AFDC		
Full Sample	$.08^{-2}$	0.30
Female Sample	-.02	0.40
Male Sample	.01	0.30
African-American Sample	.01	0.40
Non-African-American Sample	-.09	1.27
Spline Estimation		
Years Family Received AFDC	.27	3.0*
Years Family Received AFDC Beyond Two Years	-.35	3.1*

Note: The Probit equations are otherwise identical to those of columns 3 and 4 of Table 2, with the following exceptions: in female (male) subsample equations, the (male) female variable is excluded; in the non-African-American (African-American) subsample equations, race is excluded.

* statistically significant at 5 % level, 2 tail test.
** statistically significant at 10 % (5%) level, 2 (1) tail test.

Table 4

Simulated Effects of Changes in Explanatory Variables:
Predicted Value of Attainment Variable and Percentage Change from
Population (Base) Value of Attainment Variables

Variable	Probability of Economic Inactivity	Percentage Change from Base
Base	.18	
Parental Education		
Both parents High School Graduates	.13	-26.5
Neither parent a High School Graduate	.26	46.4
Years Mom Worked		
0	.24	35.2
3	.21	-14.6
10	.13	-25.5
Average Parental Time[a]		
300 hours/year	.28	53.3
1200 hours/year	.15	-17.3
Years Lived in SMSA[a]		
0	.12	-34.3
3	.14	-20.7
10	.21	18.3
Number of Location Moves[a,b]		
0	.16	-9.0
4	.21	16.2
Years Family Head Unemployed[a,c]		
0	.17	-4.4
3	.20	11.1
10	.27	52.7
Family Received AFDC Benefits[a]		
No	.17	-8.1
At Least One Year	.19	6.3

Note: Simulation estimates based on specification in Table 2.

[a] Variable records events during, or circumstances averaged over, child's ages 6-15.
[b] Variable has t-statistic of 1.4 in Table 2.
[c] Variable has t-statistic of 1.3 in Table 2.

Table 5

Cross Tabulation of Economic Inactivity
by Years of Education
N=765

	Percent Economically Inactive Age 24
Level of Education	
Not a High School Graduate	36
High School Graduate	22
Years of Education	
< 10	40
11	33
12	29
13	21
14+	15

Note: The correlation between inactivity and high school graduate is -.12; with years of education it is -.20.

Table 6

Bivariate Probit Estimate: High School Graduation and Economic Inactivity at Age 24

	High School Graduation (N=765)		Economically Inactive at age 24 (N=765)	
Constant	1.15	2.47*	-.66	1.53
Background				
Female	-.002	0.0	.17	1.42
African-American	.50	2.26*	.23	1.20
African-American x Female	.03	.12		
Parental Choices/Opportunities				
Number of Siblings	.005	.01	-.04	1.10
Religion	.16	.49	.23	.90
Father High School Graduate	.20	.85	-.24	1.40
Father Some College	.15	.41		
Father College Graduate	.14	.31		
Mother High School Graduate	.22	1.23	-.23	1.57
Mother Some College	.19	.40		
Mother College Graduate	4.45	.00		
Years Family Head Disabled	-.08	3.31*		
Years Lived in SMSA	-.03	1.81**	.05	2.90*
Number of Location Moves	-.16	4.27*	.10	2.29*
Years Mother Worked	-.01	.52	-.05	2.38*
Years in Poverty	-.04	1.36		
Average Family Income ÷ Poverty Line	.15	1.49	-.06	.95
Years Family Head Unemployed			.03	.88
Family Received AFDC Benefits			.34	2.08*
Years Lived With One Parent			.001	.04
Family Circumstances				
Firstborn	.36	1.51	-.34	2.04*
Neighborhood Attributes				
Percent of Youths 18-25 Who Are High School Drop outs	-.01	1.51		
Adult Unemployment Rate			-.03	1.50
Goodness of Fit				
Rho	-56	1.34		
Log Likelihood Value	-568			

* Significant at 5% level.
** at 10 % level, 2-tail test.

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Appendix A
Description of Data

Our basic data set consists of 21 years of information on 765 children from the Michigan Panel Survey of Income Dynamics (PSID). The PSID data provides longitudinal information on 6,000 families beginning in 1968. As of 1991, 21 years of information were available--from 1968 to 1988. We selected children who were ages 4-6 in the beginning year of the survey, and follow them for the full 21 years. By the final year, the children have become young adults, ranging in age from 24 to 27 years. Only those individuals who remained in the survey for each year until 1988 are included.

In order to analyze the influence of various family and neighborhood characteristics during the childhood period on success and attainments of these children when they have become young adults, we transformed those data elements which do not describe the permanent characteristics of either the child or his or her parents into an age-indexed data set. That is, rather than have the information defined by the year of its occurrence (say, 1968 or 1974), we converted the data so that this time-varying information is assigned to the child by the child's age (say, age 6 or 7).[1] We transform the data in this way, in order to be able to compare the process of attainment across individuals with different birth years. Doing so allows us to analyze whether the timing of particular events--whether an event or circumstance occurs when the children are young or adolescents--has a differential influence on their attainments when they become young adults.

Many of the variables describing parental or social investments in children--for example, family income--are stated in monetary units. To compare income and other monetary values over time, all dollar values from the PSID were converted to 1976 prices using the Consumer Price Index for all items.

In order to estimate the amount of time that parents spent with their children, we used data from the University of Michigan's Time Use Data Set. In this study, interviewers collected detailed information on individual time allocation, asking respondents to complete a time diary. In the diary, respondents stated the time spent in a number of activities during a 'typical' day, including time spent with children. For each parent in the Time Use Data Set who had at least one child under the age of 19, we summed together the time spent in activities which we classified as "time allocated primarily to children."[2] We then transformed this daily information into an annual estimate, and then regressed this estimate of annual child care time on a set of background, family status, and labor market activity variables that are common to the Time Use and PSID data sets. This estimation was done separately for mothers and fathers.[3] The coefficients from these regressions were then used with information on every parent in every family in every year of our PSID sample to obtain an estimate of mother's and father's child care time.[4] This measure is then included as an independent variable in the estimates of inactivity at age 24.

We have also merged onto our PSID data neighborhood data constructed by matching small area information from the 1970 and 1980 Censuses to the location of the children in our sample. The links have been accomplished by the Michigan Survey Research Center (SRC). Using 1970 and 1980 Census data, the SRC analysts created a link between the neighborhood in which each family in the PSID lives and small-area information collected in the national Census.[5] Based on this link, we are able to include information on the proportion of young adults who are high school dropouts, the adult unemployment rates, proportion of families that are female headed for each family in our sample, based on the neighborhood in which they reside for each of the years from 1968 to 1985. Neighborhood is defined in terms of census tract. For the years 1968 to 1970, the 1970 Census data are used in this matching; for years, 1980 to 1985, the 1980 Census data are used. For years 1971 to 1979, a weighted combination of the 1970 and 1980 Census data are used. The weights linearly reflect the distance from 1970 and 1980.[6]

Endnotes to Appendix

[1]Thus, for two children, one aged 2 and the other aged 6 in 1968, comparable information for each from ages 6 to 18 is obtained using data from 1972 to 1984 for the first child and data from 1968 to 1980 for the second child.

[2]These activities included child care time, time teaching children to learn, time spent helping with homework, time spent reading to the child, time spent playing with the child, and time spent listening to the child.

[3]The equations are reported in Haveman and Wolfe, 1994.

[4]If a family unit includes only one parent in a particular year, the family child care time estimate is based on the imputed value for that parent alone. The presence or absence of a spouse is one of the independent variables in the child care time regressions. It has the expected positive sign and is large and significant in the child care time equation of mothers. It is positive but not significant in the time estimate for fathers.

[5]In most cases, this link is based on a match of the location of our observations to the relevant Census tract or block numbering area (67.8 percent for 1970 and 71.5 percent for 1980). (A block numbering area is analogous to a tract but is typically located in a small city that is blocked rather than tracted.) These are the smallest areas (neighborhood measures) available, and hence the most preferred match. The next most common match (25 and 14 percent for 1970 and 1980, respectively) is on the basis of Minor Civil Division/Census County Division. (A minor civil division is a legal subdivision of a county, typically a township or a city and is used as a substitute in areas where tract, enumeration district and block numbering area are not available.) The third most common match in both 1970 and 1980 is for zip codes (5 and 11.7 percent respectively). Zip codes or U.S. Postal Service Zoning Improvement Plan areas are another substitute when tract, enumeration district and

block numbering area are not available. The fourth--and least common match accounting for about two percent of the matches for both years is enumeration district. These are the "basic work areas for a single Census enumerator" and are used as an approximation for a neighborhood in rural areas. Less than one percent of individuals in our sample did not have a neighborhood match.

⁶The specific weights are .1 1980 and .9 1970 for 1971; .2 1980 and .8 1970 for 1972, etc.