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The Dynamics of Poverty in the United States: A Review of Data, Methods, and Findings

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Abstract

This paper reviews the literature on poverty dynamics in the U.S. It surveys the most prevalent data, theories, and methods used to answer three key questions: How likely are people to enter, exit, and reenter poverty? How long do people remain in poverty? And what events are associated with entering and exiting poverty? The paper then analyzes the combined findings of the literature, discussing overarching patterns of poverty dynamics, differences among demographic groups, and how poverty probabilities, duration, and events have changed over time. We conclude with a discussion of the policy implications of these findings and avenues for future research. © 2008 by the Association for Public Policy Analysis and Management.

INTRODUCTION

From President Johnson's War on Poverty to President Bush's response to Hurricane Katrina, poverty, and the fight against it, has played a central role in American politics and policy. The poverty threshold, formally defined in 1965 to compare a family's basic needs against its income, and the corresponding U.S. poverty rate, have for decades provided seemingly universal justification for American social welfare policies. As such, a vast body of literature on poverty rates and the causes of poverty has accumulated since the 1960s. One strand of this literature examines static poverty measures, while another examines the dynamics of poverty.

Studies of static poverty rates provide information on well-being, such as the changing proportion of Americans whose basic needs are not being met.¹ However, studies of static poverty rates do not provide a complete picture of poverty. They do not reveal, for example, whether those in poverty last year remain in need or whether new individuals have fallen below the poverty threshold. Nor do they reveal how long individuals remain in poverty. Examining poverty dynamics or transitions provides information on how, why, and when families' incomes fall below or rise above the poverty threshold, filling in gaps left behind when one looks at static poverty rates alone. This research provides insight into a number of questions such as: Who are the poor in the United States and is this population changing? Are those below the poverty threshold at any one point in time chronically poor or just experiencing a short poverty spell? What events lead people into poverty and what events lead them out?

In this paper we review and synthesize the literature on poverty dynamics in the U.S. As the first review of this substantial body of research, we provide essential information for those seeking to understand, evaluate, or conduct poverty dynamics research. The paper is organized around three key research questions found in the literature:

1. What are the *probabilities* associated with entries into, exits from, and reentries into poverty?
2. What is the *duration* of poverty?
3. What are the *events* associated with entries into and exits from poverty?

We survey, describe, and assess the merits of the most prevalent poverty measures, data, theories, and methods used to answer these questions over the past two decades. We also analyze the combined results of these studies, discussing overarching patterns of poverty dynamics for the U.S. population, differences among demographic groups, and how poverty probabilities, duration, and events have changed over time. We conclude with a brief discussion of the policy implications of these findings and avenues for future research.

POVERTY MEASUREMENT

The Official Poverty Rate

The official U.S. poverty measure was developed during the 1960s by Molly Orshansky, an economist at the Social Security Administration. It compares a family's resources with a known dollar value "poverty threshold" to determine whether or not a family is poor. The thresholds developed by Orshansky were based on expenditures for a minimally acceptable amount of food times a multiplier (of three) for all other expenses. The thresholds have been adjusted annually based on changes in the consumer price index² and vary by family size and composition—particularly the number of children and whether the householder is over age 65. A family's resources are defined as annual before-tax regular money income, including all cash transfers, but excluding in-kind transfers and taxes. If a family's resources fall below the relevant poverty threshold for a family of that size and composition, then

¹ For an excellent discussion of trends in static poverty rates, see Hoynes, Page, and Stevens (2006).

² The thresholds are currently updated by the CPI-U (Consumer Price Index for All Urban Consumers). An alternative measure of poverty considered by the U.S. Census Bureau uses the CPI-U-RS (Consumer Price Index Researchers Series using Current Methods) to update poverty thresholds for inflation. The CPI-U-RS, which is available from 1978 to the present, incorporates methodological improvements to the CPI-U since 1978 (for example, it "retroactively applies the newest methods of quality adjustment for many items, including personal computers"; Dalaker, 2005, p. 3). Using the CPI-U-RS to adjust the poverty thresholds for inflation tends to produce lower poverty thresholds, and thus lower poverty rates (Dalaker, 2005).

all family members are considered poor (U.S. Bureau of the Census, 2007a). Consider, for example, a family of four: two children, their mother, and their father. In 2006, the relevant threshold for a family of four with two children was \$20,444. If, when summed together, the total family income is less than this amount, the family is considered to be in poverty.

The official poverty rate uses the family as the basic unit of analysis—where the family is defined as all persons living in the same household who are related by birth, adoption, or marriage (U.S. Bureau of the Census, 2007a). Under the official definition, cohabiting partners are not part of the family. So, in a household that includes a mother, her two children, and her unmarried cohabiting partner, the family unit excludes the cohabiting partner. If, for example, the mother and cohabiting partner both worked full time at the \$5.15 minimum wage in 2006, and thus earned \$10,712 each, the family would be considered poor and the cohabiting partner not poor when compared to the relevant thresholds—\$16,242 for the family of three and \$10,488 for the individual. In contrast, if the household rather than the family was considered as the basic unit of analysis—such that the mother and partner incomes were combined and compared with the \$20,444 poverty threshold for a family of four—then the household would not be considered poor.

Poverty Measurement in the Literature

Most studies of poverty dynamics use the official poverty rate or a slight variant to measure poverty. Studies closely matching the official definition using families as the unit of analysis and before-tax money income to measure poverty, include Ribar and Hamrick (2003), Ruggles (1990), Ruggles and Williams (1987), and Sawhill (1988).

The most common adjustment to the official poverty definition in the poverty dynamics literature is to use households as the unit of analysis rather than families—treating cohabiting couples, roommates, and multiple families in a household as one unit (Bane & Ellwood, 1986; McKernan & Ratcliffe, 2002, 2005; Stevens, 1994, 1999). This may be due to the ease with which households, rather than families, are identified in various data sets, or because some researchers believe that measuring poverty by household is more relevant in assessing well-being. The 1995 National Academy of Sciences Panel on Poverty and Family Assistance, for example, recommended that the definition of “family” be broadened to include cohabiting couples because cohabiting couples are likely to share resources. A few researchers have adjusted the official poverty measure in other ways. In addition to examining before-tax money income, Duncan and Rodgers’ (1991) analysis of children includes a measure of income that includes food stamp benefits and excludes taxes.

For the most part, however, adjustments to the official poverty rate in the poverty dynamics literature are relatively minor. While there are some differences in the poverty measures used across studies, our review of the empirical literature shows that despite these differences there is much agreement in the findings. It is nevertheless possible that future poverty dynamics analyses examining both official poverty and alternate poverty measures (for example, including taxes and in-kind transfers) could find important differences. The official poverty rate serves as a useful point of reference and benchmark for comparisons across studies and over time, though it is, admittedly, only one measure of economic well-being. We discuss shortcomings of the official poverty measure, potential alternative poverty measures, and how poverty dynamics findings could differ under these alternative measures in the final section of the paper.

DATA

Different data sets lend themselves to different types of analyses. Cross-sectional data can provide static estimates of the poverty rate—for example, the March

Current Population Survey (CPS) is used to calculate the Census Bureau's official U.S. poverty rate—but these types of data sets are not well-suited for studies of poverty dynamics. Longitudinal data, such as the Panel Study of Income Dynamics (PSID), the Survey of Income and Program Participation (SIPP), and the National Longitudinal Survey of Youth (NLSY), follow the same individuals over time, and thus allow for more detailed analyses of poverty entry, exit, duration, and events.

A clear strength of longitudinal data is the ability to track individuals over time as family size and composition, income, and poverty status change. However, longitudinal data are not without some weaknesses. These weaknesses include survey attrition, the “seam phenomenon,” and censorship.³ Some respondents invariably drop out of longitudinal surveys before the panel ends, which is a concern when analyzing these data. The 2001 SIPP panel, for example, had an 87 percent response rate in its initial wave and a 68 percent response rate across the full panel. The PSID currently has a high response rate between waves (94–98 percent), but the cumulative nonresponse since 1968 is substantial (over 50 percent). If respondents who drop out of the survey are poorer and have more unstable incomes than those who remain, attrition bias concerns arise. The survey's sample weights can be used to mitigate this problem, but uncertainty about the ability of the weights to fully address attrition concerns remains.

Studies using longitudinal data have also been concerned with the “seam phenomenon.” Seams can arise if there are changes in survey implementation between waves (for example, a move from interviews with paper and pencil questionnaires to computer-assisted interviewing). Seams can also be generated if transitions systematically occur more often between interview waves than periods (for example, months) within the same wave. As discussed below, this is a particularly pronounced issue with the SIPP, due to its design.

Finally, while longitudinal data allow poverty to be observed over time, complete spells of poverty are often not observed in the data. That is, the poverty spell is censored. Censorship is particularly troublesome in the poverty dynamics literature, an issue we return to in the methods section. Below we briefly describe the data sets used in this literature.

Panel Study of Income Dynamics

The Panel Study of Income Dynamics (PSID) is the most commonly used data set in the poverty dynamics literature (Bane & Ellwood, 1986; Duncan & Rodgers, 1988; Iceland, 1997a; McKernan & Ratcliffe, 2002; Rank & Hirschl, 1999a, 1999b, 2001; Stevens, 1994, 1999; Zick & Smith, 1991).⁴ The PSID is a longitudinal data set with a single panel that began with 4,800 households and their 18,000 members in 1968. The survey is based on interviews with these individuals, new household members, and any new households formed by existing members. Subjects were interviewed annually through 1997, and every two years through 2005—the most recent available wave. The PSID now includes data for over 65,000 individuals covering up to 37 years of some subjects' lives (PSID, 2007). Although attrition since the beginning of the panel has been substantial, research suggests that the PSID sample is “roughly representative” (Fitzgerald, Gottschalk, & Moffitt, 1998, p. 252).

The most obvious advantage of the PSID is that it contains so many years of data, making it possible to track long poverty spells and multiple transitions into and out of poverty. Another strength of the PSID is that it oversamples low-income families, providing relatively large sample sizes of people near the poverty line. Moreover, it collects detailed household income information for each survey year.

³ For a further discussion of data quality issues see: Citro and Michael (1995) (CPS, SIPP, and PSID); National Research Council (2005) (CPS, SIPP); Besharov, Morrow, and Shi (2006) (SIPP); Gouskova and Schoeni (2007), Kim and Stafford (2000) (PSID); and MaCurdy, Mroz, and Gritz (1998) (NLSY79).

⁴ See Table 1.

Several researchers, however, have pointed out weaknesses of the PSID. First, as Gottschalk, McLanahan, and Sandefur (1994) point out, the PSID provides only annual or biennial data, when monthly data may be preferable. Second, Bane and Ellwood (1986) point out that income and household composition are measured at different points in time. While household structure is measured at the time of the interview, income is reported for the previous year—potentially mismatching poverty thresholds and making it difficult to pinpoint the timing of events leading to poverty. A third drawback of the PSID is that it represents only the nonimmigrant U.S. population (Rank & Hirschl, 1999a, 2001; Wiseman, 2001). As such, Corcoran and Chaudry (1997) remark that the PSID does not represent the poverty experiences of Hispanics and immigrants. Finally, Wiseman points out that although the PSID tracks some individuals for more than 20 years in the 1992 wave (now up to 37 years in 2005), the panel is not yet long enough to draw inferences about poverty transitions across the entire life course.

An issue to consider when using the PSID is whether or not to adjust the needs standard to reflect the official figures and poverty rates reported by the Census Bureau (based on CPS data). Incomes reported in the PSID tend to be higher than in the CPS, resulting in lower poverty rates (Duncan, 1984; Duncan & Rodgers, 1988). It is not clear whether this is due to more complete or accurate reporting of income in the PSID, as some researchers contend (Duncan, 1984; Rank & Hirschl, 2001; Stevens, 1994), or simply measurement error. Bane and Ellwood (1986), Iceland (1997a), and Stevens (1994) multiply the government's poverty thresholds by 1.25 to make their figures comparable to official figures.⁵ This change slightly increases the number of poverty spells and lengthens the duration of spells.

Survey of Income and Program Participation

The Survey of Income and Program Participation (SIPP) has been used less extensively than the PSID in poverty dynamics research, though its popularity has grown in recent years. Studies using the SIPP include Eller (1996), McKernan and Ratcliffe (2002, 2005), Naifeh (1998), Ribar and Hamrick (2003), Ruggles and Williams (1987), and Zick and Holden (2000).

The SIPP is a multistage stratified sample of U.S. households. Each year from 1984 to 1993, a new nationally representative (civilian noninstitutionalized) panel was introduced. For each panel, interviews were conducted at four-month intervals over periods ranging from two to four years. In more recent years, new panels have been introduced less frequently, with a four-year panel beginning in 1996; an intended three-year panel in 2000, but cancelled after eight months; another three-year panel beginning in 2001; and a panel beginning in 2004. Data are currently publicly available for all panels and waves except 2004 (for which data are in the process of being released), though the latest panel used in the studies reviewed here is 1996 (McKernan & Ratcliffe, 2005). Sample sizes for each panel range from 14,000 to 36,700 households. At each interview, data are collected on income for each of the preceding four months.

The SIPP also provides poverty-relevant data in special topical modules such as wealth, employment history, and health, while a supplemental longitudinal survey called the Survey of Program Dynamics (SPD) focuses on program participation. The SPD comprises households represented in the 1992 and 1993 SIPP panels interviewed annually between 1997 and 2002. To date, Ribar and Hamrick (2003) are the only researchers to draw on the SPD data and they use only the 1997 wave.

The biggest strength of the SIPP lies in its monthly accounting of income and household composition. This allows monthly measures of poverty to be calculated, along with detailed analyses of short poverty spells and the events that cause them.

⁵ The needs standard included in the PSID multiplies the government's poverty thresholds by 1.25.

While official poverty is measured annually, a monthly poverty measure has the advantage of analyzing well-being over the same period that program benefits are determined and administered. For example, the Food Stamp Program's gross income test requires monthly income to be below 130 percent of the poverty threshold. However, some adjustments must be made to the annual poverty thresholds to look at monthly poverty. Ruggles (1990) and McKernan and Ratcliffe (2005) divide the annual poverty threshold by 12 and compare these monthly thresholds to income each month.⁶ Eller (1996) and Naifeh (1998) adjust the thresholds each month according to changes in the consumer price index.

The SIPP has also been used to look at annual poverty. Eller (1996), Naifeh (1998), and Ribar and Hamrick (2003) calculate annual poverty by summing the family's monthly income over the entire year and comparing it to the sum of the family's monthly poverty thresholds. This may yield more accurate estimates of annual poverty than the PSID, as monthly changes in household composition can be accounted for in the SIPP data.

Another advantage of the SIPP is that it does a better job capturing the current Hispanic and immigrant populations than the PSID. These populations may be particularly important in measuring poverty. Still, in contrast to the long panel length of the PSID, the SIPP can only track households for two to four years, making it impossible to examine long poverty spells.

As discussed above, seam bias concerns arise when analyzing the SIPP's monthly data. At each SIPP interview (i.e., at each wave), data are collected for each of the preceding four months. Respondents have a tendency to report the same information within the fourth month of the wave, so differences (that is, transitions) are more likely to occur between waves. This leads to concerns of bias because the timing of some transitions is based purely on the survey's design. This concern is often addressed in one of two ways: (1) using wave (interview month only) data rather than monthly data or (2) using monthly data and controlling for the seam phenomenon by including a dummy variable that identifies the seam month. Analyses of poverty dynamics using SIPP data tend to use monthly, rather than wave, data (for example, Eller, 1996; McKernan & Ratcliffe, 2005; Naifeh, 1998; Ruggles, 1990). In addition, a recent analysis of seam bias in the SIPP suggests that using the monthly data with a seam month dummy is preferred to using wave data (Ham, Li, & Shore-Sheppard, 2007).⁷

National Longitudinal Survey of Youth and Current Population Survey

The National Longitudinal Survey of Youth (NLSY) and the March Current Population Survey (CPS) are also occasionally used in studies of poverty dynamics in the United States. The former is used by Meyer and Cancian (1998) and Burgess and Propper (1998), while the latter is used by Gottschalk and Danziger (1993).

The NLSY offers two different panels of longitudinal data—one beginning in 1979 (NLSY79) and one in 1997 (NLSY97). The NLSY79, used in the studies noted above, began with roughly 13,000 individuals ages 14 to 22 in 1979. Interviews of the same individuals were conducted annually through 1994 and biennially since then. The more recent NLSY97 has not been used in the poverty dynamics literature. It began with 9,000 teens ages 13 to 17 in 1997, and annual data are currently available through 2004. Though the NLSY79 and NLSY97 collect detailed information on income, studies using these data are necessarily limited to a particular age cohort. Moreover, the NLSY97 is still too new to address poverty dynamics over the life course.

⁶ Starting with the 1996 SIPP panel, the SIPP provides a monthly poverty threshold. However, in earlier SIPP panels, the SIPP provides an annual poverty threshold that must be adjusted to measure poverty on a monthly basis.

⁷ The authors' results suggest that using wave data does not produce biased estimates but does affect the statistical significance of the explanatory variables.

As noted above, the March CPS is the current source of the nation's official income and poverty statistics. The core CPS files contain demographic and labor force participation characteristics, and the March supplement includes annual income for the prior year, by source, for approximately 60,000 respondents each year. Though typically considered cross-sectional, it has a rotating design where households are in the sample for four months, out of the sample for eight months, and in the sample again for four months. As a result, there is a 50 percent overlap in the sample of poverty estimates from year to year that can be used to study poverty changes. But, with a maximum of two years of annual poverty status on individuals, the CPS is generally not well-suited for these types of studies.

THEORIES

What theory is appropriate for analyzing poverty dynamics? Sawhill, writing in 1988, contended that the poverty persistence literature lacked “a widely accepted theory of income distribution that might help one choose between competing model specifications and their varying results” (p. 1112). She found that while the literature reported many empirical patterns of income and poverty in the U.S., we knew relatively little about the process that generated the observed results.

Our review of the poverty dynamics literature suggests that this literature still lacks a comprehensive theory of poverty. Perhaps this is because a theory of poverty is complex to model. As Duncan (1984) notes, a complete explanation of why people are poor would require many interrelated theories—theories of family composition, earnings, asset accumulation, transfer programs, and the macroeconomy, to name a few. Further complicating the task, a complete poverty theory would need to be based upon the family, while most theories are based upon individuals (Duncan, 1984). But despite these challenges, a few researchers in the poverty dynamics literature have indeed attempted to model poverty dynamics, or at least certain aspects of poverty dynamics—among them, Duncan (1984), Iceland (1997b), Lillard and Willis (1978), McKernan and Ratcliffe (2005), and Ribar and Hamrick (2003). The most comprehensive model in this literature, developed by Burgess and Propper (1998), incorporates both household composition and labor market participation decisions in predicting patterns of poverty dynamics.

Below, we present a brief nontechnical description of the two main theories emphasized in the poverty dynamics literature—human capital theory and the permanent income hypothesis. We then provide brief examples of several other theories of poverty that may prove useful in understanding empirical patterns of poverty dynamics. It is worth noting, however, that our discussion is not intended to provide a comprehensive review of poverty theory generally. Moreover, as we find that many of the theories described below have not been tested explicitly in the poverty dynamics literature, we recommend future research in this area.

Human Capital Theory

Human capital theory is a theory of earnings—one of the major determinants of poverty. First developed by Becker (1975) and Mincer (1974), this theory explains both individuals' decisions to invest in human capital (education and training) and the pattern of individuals' lifetime earnings. Individuals' different levels of investment in education and training are explained in terms of their expected returns from the investment. Investments in education and training entail costs in the form of both direct expenses (for example, tuition) and foregone earnings during the investment period, so only those individuals who will be compensated by sufficiently higher lifetime earnings will choose to invest. People who expect to spend less time in the labor market and those who have fewer labor market opportunities are less likely to invest in human capital. This theory would help explain, for example,

historical patterns of lower earnings and higher poverty rates among women and minorities.⁸

Human capital theory can also explain the pattern of individuals' lifetime earnings. In general, the pattern of individuals' earnings is that they start out low (when the individual is young) and increase with age (Becker, 1975), although earnings tend to fall somewhat as individuals near retirement. Younger people are more likely to invest in human capital than older people because they have a longer remaining work life to benefit from their investment and their foregone wages are lower—so costs of investing are lower. Earnings then increase rapidly with age as new skills are acquired. Finally, as workers grow older, the pace of human capital investment and thus productivity slows, leading to slower earnings growth. At the end of a person's working life, skills may have depreciated as a result of a lack of continuous human capital investment and the aging process. This depreciation contributes to the downturn in average earnings near retirement age (Ehrenberg & Smith, 1991).

To the extent that poverty follows earnings, we might predict a similar relationship between age and poverty, with poverty more likely for the young and elderly. As reported in the section on findings below, the literature provides evidence to support this hypothesis. Also, using the PSID, Duncan (1984) finds “a fair amount of evidence supporting the human capital model” (p. 124) in the context of poverty research.

While much empirical work tends to support the human capital theory, it remains a theory of human capital investment and labor market earnings, not poverty. Earnings are only one of the determinants of poverty. Non-earnings income and family composition are other important determinants that human capital theory does not shed light on. Thus, human capital theory cannot be considered a complete theory of poverty.

Permanent Income and Life-Cycle Hypotheses

The permanent income and life-cycle hypotheses—associated primarily with Nobel Prize winners Friedman in 1976 and Modigliani in 1985—highlight the important role of unearned income and future earned income, as well as current income (Dornbusch & Fischer, 1990). An advantage of the permanent income and life-cycle hypotheses over human capital theory is that they incorporate both earned and unearned income. The foundation of the theories is that people have a permanent income stream (from current and future earnings and assets), but that their income can have short-term (transitory) deviations from the permanent stream. In a study of earnings mobility, Lillard and Willis (1978) propose the components-of-variance method, which has subsequently been applied as a link between poverty data and the life cycle framework of these hypotheses (Duncan & Rodgers, 1991; Stevens, 1999). As discussed further in the next section, however, the theory is difficult to adapt to poverty (Bane & Ellwood, 1986) and results from the empirical model do not reproduce observed patterns of poverty persistence as well as other methods (Stevens, 1999). In addition, the permanent income hypothesis does not allow for an individual's income stream to change if, for example, they become disabled. This is a serious drawback for analyzing poverty transitions where one of the primary aims is to analyze the effect of events—such as changes in disability or marital status—on poverty.

Labor Market Theories

In the tradition of human capital theory, several theories outside of the poverty dynamics literature focus on the role of employment in affecting poverty—emphasizing the role of labor market failures. Dual labor market theory suggests

⁸ While women have historically had lower college enrollment and degree attainment than men, the tide has shifted in the last 20 years, with women now comprising 57 percent of total college enrollment (U.S. Department of Education, 2006, Table 175).

that the labor market is split into two sectors with little mobility between them—the primary sector offering steady employment, higher wages, and better promotion opportunities, and the secondary sector with low wages, poor working conditions, and few promotion opportunities (Doeringer & Piore, 1971, as cited in Duncan, 1984). Using the PSID, Duncan (1984) finds little support for the dual labor market theory: “The fact that very few male workers appear to be locked into a given economic position, coupled with the movement found from ‘bad’ jobs to ‘good’ ones, contradicts rigid theories of dual labor markets” (p. 124).

Another labor market theory deserving attention is that of discrimination. Economic models of discrimination have broadly focused on two particular drivers or types of discrimination referred to as taste-based and statistical. Taste-based models of discrimination, first developed by Becker (1961), suggest that employers, coworkers, or customers have a taste for employees of a particular race or gender, making it difficult for minorities and women, in particular, to find jobs and escape poverty. Statistical discrimination, on the other hand, traced back to Phelps (1972) and Arrow (1973), among others, posits that in the absence of complete information on a job candidate’s skills, employers rely on stereotypes, eschewing minority, female, and low-socioeconomic-status candidates. Recent experimental studies have in fact found the presence of discrimination in employment along both gender and racial lines (Goldin & Rouse, 2000; Bertrand & Mullainathan, 2004), though the evidence cannot substantiate one theory of discrimination over the other.

Structural Poverty Theories

Another strand of literature has emphasized the importance of social structure, demography, and macroeconomic forces on poverty. These theories contend that the poor lack sufficient access to economic opportunities and cannot avoid poverty unless their economic opportunities improve (Duncan, 1984). Among the most notable scholars in sociology, Wilson (1987) argues that the creation of a black urban “underclass” in the 1960s and ’70s was fostered by “spacial mismatch”—as both manufacturing jobs and middle-class blacks moved out of central cities—leaving inner-city residents with few employment opportunities and role models. Further, joblessness fueled single parenthood as women deemed unemployed men unmarriageable. In Wilson’s view, both demography and the economy play central roles in persistent poverty. Later work by Wilson (1991) reconciled the idea of these structural drivers of poverty with arguments that emphasize cultural and social contexts of poverty, points we return to below.

Building on concepts of demography and family structure, Burgess and Propper (1998) develop a model of poverty dynamics emphasizing the instability of household composition. They point out that decisions about labor force participation are made within a household context, making household formation and dissolution decisions endogenous and a crucial determinant of poverty entry and exit. Gottschalk and Danziger (1993), Cancian and Reed (2001), Blank and Card (1993), and Hoynes, Page, and Stevens (2006) also draw attention to the importance of demography and family structure in shaping poverty. However, investigating changes in static poverty rates over time, Hoynes, Page, and Stevens find that increases in female headship actually overpredict increases in poverty rates over time, suggesting that negative impacts of demographic changes are mitigated by increases in women’s earnings, education, and labor force participation.

In addition to demographics, research in economics has emphasized three main macroeconomic factors driving labor market opportunities and patterns of poverty over time—as reported by Hoynes, Page, and Stevens (2006). The three economic factors are growth (Gottschalk & Danziger, 1985; Blank & Card, 1993), inequality (Gottschalk, 1997; Gottschalk & Danziger, 1993; Danziger & Gottschalk, 2004), and business cycles (Hines, Hoynes, & Krueger, 2001; Hoynes, 2000; Danziger &

Gottschalk, 1985). Testing these theories, Hoynes, Page, and Stevens find that, of these, only inequality appears to correlate with trends in poverty; they contend that macroeconomic factors have become less important over time.

Cultural Poverty Theories

The “culture of poverty” theory made famous by Lewis (1968) maintains that a culture of poverty forms among a significant minority of the poor such that people are not psychologically geared to take advantage of opportunities that may come their way (Duncan, 1984). Schiller (1976) argues that this fits into a class of theoretical arguments emphasizing “flawed character”—arguments that contend that the poor have ample opportunities for improving their economic status but lack the initiative and diligence necessary to take advantage of them (Duncan, 1984). Hannerz (1969) suggests a slightly different cultural cause of poverty, arguing that individuals’ behavior is influenced by the behavior of other members of the community (as cited in Wilson, 1991). More recently, Herrnstein and Murray (1994) generated controversy by arguing that innate intelligence plays an important role in determining poverty. Though the culture-based theories differ substantially, they have an important implication in common: Poverty among certain groups will be persistent because the culture of poverty is passed from generation to generation. Using the PSID to examine the earnings of prime-aged white men, Duncan confirms earlier studies in finding no support for the culture of poverty theory: “[E]ducational attainment is relatively powerful in distinguishing individuals with different levels of earnings, while attitudes and a simple measure of cognitive ability are not” (p. 123).

METHODS

The poverty dynamics literature primarily uses five methods: (1) tabulation or count, (2) life table, (3) bivariate hazard rate, (4) multivariate hazard rate, and (5) components-of-variance methods, though a few employ other multivariate methods, as noted in Table 1. Below, we describe the methods used to answer each of the primary research questions addressed in the literature and summarize the advantages and disadvantages of each. Table 2 reports the methods used by research question.

Tabulation or Count Method

Tabulating or counting the number or proportion of individuals entering or exiting poverty, or experiencing an event, provides a simple and intuitive method for examining poverty dynamics. Thus, this method serves as a starting point for most studies of poverty dynamics across all three research questions. The tabulation method is well-suited to measuring poverty entry and exit rates, as well as the total number of individuals or families entering and exiting poverty in a given time period.

However, tabulations are potentially problematic, or at least less straightforward, when used to study poverty duration. Bane and Ellwood (1986) first illustrate and highlight the important methodological distinction between measuring poverty duration for individuals poor at any given time versus those just beginning a new spell of poverty, and in doing so make an important contribution to the poverty duration literature. Gottschalk, McLanahan, and Sandefur (1994) also emphasize the importance of this distinction and clarify it with the following extreme example:

Suppose there are 11 poverty spells in a ten-year period. A new one-year spell starts in each year and a ten-year spell starts every ten years. Therefore, in each year there is one person in the midst of a poverty spell that lasts one year and one person in the midst of a ten-year spell. The vast majority (10 out of 11) of the *new* spells turn out to be short.

Table 1. Summary of empirical poverty transitions literature.

Study	Data	Years	Primary Sample Studied	Methods Used*	Research Question(s) Addressed
Bane & Ellwood, 1986	PSID	1970–1982	Persons under Age 65	BH	Exits, Events, Duration
Blank, 1997	PSID	1979–1991	Total U.S.	Tab	Events
Burgess & Propper, 1998	NLSY79	1979–1991	Young Women	OM	Entries, Events
Duncan & Rodgers, 1988	PSID	1968–1982	Children	Tab, LT	Events, Duration
Duncan & Rodgers, 1991	CPS, PSID	1967–1972 and 1981–1986	Children	Tab, CV	Duration
Eller, 1996	SIPP	Oct. 1991–Apr. 1994	Total U.S.	Tab	Exits, Entries, Duration,
Gottschalk & Danziger, 1993	CPS	1968, 1986	Children	Tab, OM	Events
Gottschalk, McLanahan, & Sandefur, 1994	PSID	1968–1987	Total U.S.	Tab	Duration
Iceland, 1997b	PSID	1970–1985	Adults Ages 18–64 in Metropolitan Areas	MH	Exits, Events
McKernan & Ratcliffe, 2002	PSID, SIPP	1975–2000	Total U.S.	Tab, MH	Entries, Exits, Events
McKernan & Ratcliffe, 2005	SIPP	1988–2000	Total U.S.	Tab, MH	Events
Meyer & Cancian, 1998	NLSY79	1979–1992	AFDC Leavers	Tab, OM	Duration
Naifeh, 1998	SIPP	Oct. 1992–Dec. 1995	Total U.S.	Tab	Entries, Exits, Duration
Rank & Hirschl, 1999a	PSID	1968–1992	Adults Ages 60–90	LT	Entries
Rank & Hirschl, 1999b	PSID	1968–1992	Adults Ages 20–85	LT	Entries
Ribar & Hamrick, 2003	SIPP, SPD	1994–1995, 1997	Adults	Tab, MH	Entries, Exits
Ruggles & Williams, 1987	SIPP	Sept. 1983–Dec. 1984	Total U.S.	Tab	Events
Stevens, 1994	PSID	1970–1987	Total U.S.	BH, MH	Exits, Reentries, Duration
Stevens, 1999	PSID	1967–1988	Total U.S.	MH, CV	Exits, Reentries, Duration
Zick & Holden, 2000	SIPP	Feb. 1990–Apr. 1995	Widows Ages 40+	OM	Events
Zick & Smith, 1991	PSID	1970–1984	Widows & Widowers	OM	Events

*Note: Tab = Tabulation, LT = Life Tables, BH = Bivariate Hazard Rate, MH = Multivariate Hazard Rate, CV = Components-of-Variance, OM = Other Multivariate.

Table 2. Methods by research question.

	Probabilities of Entry and Exit	Duration	Events
Tabulation or Count (Tab)	X	X	X
Life Tables (LT)	X	X	
Bivariate Hazard (BH)	X	X	X
Multivariate Hazard (MH)	X	X	X
Components-of-Variance (CV)		X	

Now consider the length of spells *in progress* in any given year. Because in each year there is always one short and one long spell in progress, half the spells in progress are long while the other half are short. This is in sharp contrast to the fact that less than 10 percent of new spells are long. Both facts are correct, but these two measures have seemingly different implications. (p. 91)

These differences highlight the importance of distinguishing between new spells and spells at a given time in estimating poverty duration.

Life Table Method

Life tables report the extent to which a specific event occurs across given intervals of time. Typically used by demographers and medical researchers, they have been used in poverty analysis to examine the probability that an individual enters poverty at each age and the cumulative probability of entering poverty across the life span (Rank & Hirschl, 1999a, 1999b, 2001). One advantage that life table methods bring to poverty analysis is their strength in studying age-specific probabilities. Another advantage that Rank and Hirschl (1999a, 1999b, 2001) point out is that period or year effects are smoothed within and across ages, thereby reducing the impact of year- or generation-specific impacts on poverty measures. For example, a recession would not affect one age group any more than another, since individuals in a particular age group (say, age 60) are counted in whichever year they reach that age (1968 for some, 1985 for others, etc.). While life tables do make it easy to look up statistics for a particular age, the tabular format makes aggregation and generalization difficult. Moreover, the tables become significantly more complicated and more difficult to interpret when demographic characteristics and other important explanatory variables are introduced.

Bivariate Hazard Rate Method

The bivariate hazard rate, or spell-based, method is designed to calculate the probability of exiting a poverty spell given a particular spell duration. The method was first proposed and used by Bane and Ellwood (1986). They model individual poverty spells—consecutive years in which total household income is below the poverty line—and estimate the probability of ending these spells, allowing the probability to vary with spell duration. The “hazard” of exiting a spell that has lasted two years, for example, is calculated as the number of persons who exit a poverty spell after two years over the number of persons who experience a poverty spell of at least two years. Bane and Ellwood then use the estimated exit probabilities to generate three distributions of spell duration: (1) new spells, (2) completed spells at a given point in time, and (3) uncompleted spells at a given point in time. Stevens (1994) extends Bane and Ellwood’s work by using the same method to estimate the probability of reentering poverty, allowing the probability to vary with time elapsed since the end of the last poverty spell.

This method has some advantages in common with tabulation methods: It is straightforward and easy to interpret. But in assessing poverty duration, it has the

added benefit of allowing for a distinction between poverty duration for new spells and for spells at a given time. And, as Stevens (1999) points out, it is well-suited to assessing changes in poverty exit rates over time and the impact of time-varying factors on poverty duration.

The primary disadvantage of the bivariate hazard rate method is that it analyzes the relationship between only *two* variables—poverty and time—so it does not allow one to easily incorporate differences such as gender, age, race, marital status, or educational attainment into transition probability estimates. The Bane and Ellwood (1986) analysis using the bivariate method allows for only one (primary) reason for a change in the family's poverty situation when in fact there may be several reasons.

Multivariate Hazard Rate (or Spell-Based) Method

The multivariate hazard rate approach uses a regression framework to examine individuals' transitions from one "state" (for example, living below the poverty threshold) to another "state" (for example, living above the poverty threshold). Using this method, individuals are observed in each period through the period the transition occurs. So, in examining exits from poverty, information is used for each period individuals live below the poverty threshold and for the first period they live above the poverty threshold. This multivariate approach, used in the form of logit models by Iceland (1997b), McKernan and Ratcliffe (2002, 2005), Ribar and Hamrick (2003), and Stevens (1999), is well-suited to answering all three research questions and brings many of the advantages of its bivariate counterpart. Among other attributes, it easily incorporates spells that are censored by the end of the sample frame. The additional advantage of the multivariate method is that it is more flexible and enables researchers to incorporate additional factors into models of poverty entries, exits, and reentries. Factors such as spell duration, individual- and family-level characteristics, and region- or metropolitan-specific characteristics have been incorporated into hazard rate models. These factors, which also serve as controls, enable researchers to examine how the characteristics of individuals, families, and the areas they live affect the probabilities of entering, exiting, and returning to poverty.

Components-of-Variance Method

The final, and perhaps most complicated, method used for poverty analysis is the components-of-variance method. This method estimates the transitory and permanent components that describe income dynamics and then uses these components to draw conclusions about poverty duration. This approach has three advantages. First, it is grounded in economic theory; it largely mirrors Friedman's theoretical decomposition of permanent and transitory income, though the theory provides less guidance for studying poverty and income-to-needs ratios than earned income—Lillard and Willis' (1978) original application. Second, the components-of-variance method quantifies the permanent and transitory components in the overall distribution of poverty (Duncan & Rodgers, 1991). Thus, it can be used to decompose the poor into groups which are permanently and transitorily poor (Bane & Ellwood, 1986). Third, this method explicitly deals with the problem that the poverty line is an arbitrarily defined standard, around which income can fluctuate randomly. Unlike the hazard rate methods, the components-of-variance method presumes that each individual has an unchanging underlying "permanent" income-to-needs level from which brief departures are possible. Duncan and Rodgers (1991) find this a reasonable assumption.

The components-of-variance method also has important disadvantages. First, because it assumes an underlying permanent income-to-needs level, it does not

allow for easy incorporation of poverty transitions involving changes in household structure, as other methods do. The components-of-variance method is less well-suited to accounting for permanent changes in economic status that may accompany events like divorce, remarriage, widowhood, or a long-term disability (Duncan & Rodgers, 1991). Second, this method does not provide a way to look at the events associated with transitions into and out of poverty (Bane & Ellwood, 1986; Stevens, 1999).

Third, the components-of-variance method is less well-suited for examining the nature and dynamics of poverty for a heterogeneous population, such as the entire U.S. population. It is better suited for ascertaining the income dynamics of homogeneous groups, such as the prime-age males in Lillard and Willis' (1978) application. The conventional model assumes that income dynamics patterns are the same for all levels of income, though it is possible that the dynamic patterns for low-income levels are different from those of higher income levels (Stevens, 1999). It treats all deviations from permanent income as random and behaviorally equivalent. As Bane and Ellwood (1986) point out, all changes in family income are not likely to lead to the same sort of long-run dynamics. The worker who is poor because he was temporarily laid off is unlikely to have the same prospect of long-term poverty as the worker who lost his job when he became disabled. Most importantly, the components-of-variance method does not appear to measure poverty duration as accurately as other methods. Stevens (1999) finds the multivariate hazard rate method performs better in reproducing observed patterns of poverty persistence.

Other Multivariate Methods

Though the methods described above are the most common in the literature, it is worth noting that a handful of authors employ alternative multivariate methods to study poverty dynamics. Gottschalk and Danziger (1993), Meyer and Cancian (1998), Zick and Holden (2000), and Zick and Smith (1991) run multivariate regressions using alternate dependent variables such as income-to-needs ratios and the unconditional probability of being in (rather than transitioning into or out of) poverty. Using a different methodological approach, Burgess and Propper (1998) estimate the parameters of a structural model of household income dynamics and poverty transitions.

The Issue of Censorship

One final methodological issue warrants further discussion: the issue of how to handle poverty spells that are censored at the beginning of the sample period (left-censored spells) or the end of the sample period (right-censored spells). Left-censored spells occur because the sample is drawn when a person is in poverty, so we do not observe that person entering poverty; right-censored spells occur because a person is in poverty at the end of the sample period, so we do not observe that person exiting poverty. Censored spells are a particularly important problem in duration analyses because they may bias results, as described below. In the literature reviewed, some researchers exclude left-censored spells, other researchers include them, and still others carry out and compare the results of analyses that include and exclude left-censored spells. In their 2001 study, Rank and Hirschl work to reduce the problem of left censoring by constructing life tables based on 20-year age intervals (age 20–40, 40–60, and 60–80) in which respondents enter the analysis at the starting age, rather than at the start of the sample.

Does including or excluding left-censored spells actually produce misleading results? The answer depends on whether the analysis is trying to answer questions regarding poverty transitions or poverty duration. Iceland (1997a) looks at this exact topic in his paper "The Dynamics of Poverty Spells and Issues of Left-Censoring."

He recommends that “when studying poverty *transitions*, using discrete-time logistic regression, all observations from left-censored spells should be included in [the] model to avoid selection bias” (p. 8). Iceland finds that omitting left-censored cases potentially introduces greater bias in poverty transitions than including them because it would systematically exclude individuals in the midst of long-term poverty. Iceland (1997b) does not omit left-censored cases from his model because his focus is on how urban labor market characteristics affect transitions out of poverty, not the precise duration of poverty. Stevens (1999) is also concerned about bias from omitting left-censored spells from her models that estimate exit and reentry rates. She similarly argues that omitting left-censored spells may overestimate poverty exit rates at long durations. McKernan and Ratcliffe (2005), Rank and Hirschl (1999a, 1999b), and Stevens (1999) estimate their models both with and without left-censored spells. Stevens finds that the bias from omitting left-censored spells from entry, exit, and reentry probabilities is extremely small. Rank and Hirschl (1999a, 1999b) also find a slight bias. In McKernan and Ratcliffe’s (2005) analysis of events that lead to poverty entries and exits, their general findings are not sensitive to the inclusion or exclusion of left-censored spells. However, they do find that the effects of trigger events are larger in magnitude in models that exclude left-censored spells.

Right-censored spells pose less of an issue because standard multivariate hazard rate methods account for right-censoring (Iceland, 1997b; Stevens, 1999). In their bivariate hazard rate models, Bane and Ellwood (1986) and Stevens (1994) account for right-censoring by including right-censored spells in the calculations of exit probabilities in all but the censored year.

FINDINGS

This section presents results from the various studies of poverty dynamics discussed above. Turning back to the three main research questions, we discuss the following: (1) What are the probabilities associated with entries into, exits from, and reentries into poverty? (2) What is the duration of poverty? and (3) What are the events associated with entries into and exit from poverty?

1. Probabilities Associated with Entries into, Exits from, and Reentries into Poverty

Poverty Entries

The literature examining entry rates into poverty is somewhat limited, particularly as compared to studies that examine exits from poverty. Nonetheless, several studies have examined entries into poverty. McKernan and Ratcliffe (2002) use the PSID to examine the likelihood of entering and exiting poverty each year from 1975 through 1996. They find that the likelihood of entering poverty in a year averaged 2.8 percent in the late 1970s and stayed fairly constant around 3.0 percent in the 1980s. In the 1990s, research by Eller (1996) and Naifeh (1998) using the SIPP suggests that these rates remained around 3 percent per year in the 1993–94 period, while McKernan and Ratcliffe (2002) found that entry rates jumped substantially in the PSID data, to 4.2 percent annually on average over the first half of the 1990s. Though estimates by Ribar and Hamrick (2003) are not weighted to reflect the U.S. population, they too find a slightly higher overall entry rate (at 5.1 percent per year) using SIPP and SPD data from 1994–95 and 1997. Taken together, the likelihood of entering poverty for the total U.S. population during the early 1990s appears to be around 4 percent annually.

Examining poverty entry from a different angle, Rank and Hirschl (1999a, 1999b, 2001) estimate the proportion of the population that will have experienced poverty by a particular age. Using a life table approach, they find that 27.1 percent of adults will have experienced poverty by age 30, 41.8 percent will have experienced poverty

by age 50, and 51.4 percent will have experienced poverty by age 65 (Rank & Hirschl, 1999b), suggesting that the figure of 4 percent per year calculated above masks the tremendous number of people cycling through poverty over the course of a lifetime.

Demographics and Entry: Many of the studies reviewed above examine the probabilities of poverty entry and exit by demographic subgroups—such as race, ethnicity, gender, age, and education level. In the case of poverty entries, the studies all report similar findings: The probability of entering poverty is higher for blacks, Hispanics, women, those in female-headed households, and those with lower levels of education. These patterns hold in nearly every study (Eller, 1996; McKernan & Ratcliffe, 2002, 2005; Naifeh, 1998; Rank & Hirschl, 1999b, 2001; Ribar & Hamrick, 2003). The differences in poverty entry rates between blacks and whites are particularly striking in a number of studies. Ribar and Hamrick report poverty entry rates of 10.0 percent among blacks and 4.5 percent among whites. Burgess and Propper (1998) report similar rates among young adults in the NLSY; poverty entry rates are 11.7 percent for blacks but just 4.8 percent for whites, the slightly higher figures reflecting the younger average age of survey participants, a point we return to below. Rank and Hirschl (1999b, 2001) also find that being black has stronger correlation with the probability of poverty entry than being female or having less than 12 years of education.

Another consistent finding worthy of note is the higher likelihood of poverty entry for female-headed households with children. Ribar and Hamrick (2003) report a poverty entry rate of 15.7 percent per year for this group, compared to just 2.8 percent for married couple households with children. Narrowing this subgroup further, Meyer and Cancian (1998) use the NLSY to study women who exit welfare (that is, the Aid to Families with Dependent Children program, AFDC). They find that three-quarters (78.4 percent) of AFDC leavers lived below the poverty line in at least one of the five years after they exit welfare. Women who are married or partnered when they exit the AFDC program are less likely to fall below the poverty line, as are women who are working at the time of their AFDC exit.

Several studies have addressed the differential probabilities of poverty entry across the lifecycle. The most consistent finding in the literature is that the probability of entering poverty is much higher in young adulthood than in other stages of life. McKernan and Ratcliffe (2002) find that household heads under 25 years old are significantly more likely to enter poverty in both the PSID and SIPP data. This finding is corroborated by Ribar and Hamrick (2003) and Rank and Hirschl (2001)—the latter reporting that more than one-third of individuals (35.7 percent) experience poverty between the ages of 20 and 40, compared to 22.7 percent experiencing poverty between the ages of 40 and 60.

There is less agreement on the likelihood of poverty entry later in life. Rank and Hirschl (2001) find that the likelihood of poverty entry generally decreases for a number of years but begins to increase around age 60. Specifically, they find that 28.8 percent of 60- to 80-year-olds experience poverty, compared to 22.7 percent of 40- to 60-year-olds. McKernan and Ratcliffe (2002) find that families headed by individuals age 55 and over are more likely to enter poverty in the PSID data, but actually less likely to enter poverty in the SIPP data—a finding consistent with Naifeh (1998).

Poverty Exits

Some of the key papers in the literature examine exits from poverty. Bane and Ellwood (1986), McKernan and Ratcliffe (2002), and Stevens (1994, 1999) use the PSID to calculate poverty exit rates. As McKernan and Ratcliffe (2002) report, the likelihood of those in poverty exiting in any given year was 39.3 percent on average in the late 1970s. The rate declined to 35.5 percent over the 1980s, falling slightly to an average of 34.4 percent in the early 1990s. These estimates are considerably higher than Eller's (1996) and Naifeh's (1998) findings of roughly 23 percent

per year in the early 1990s based on SIPP data. On the other hand, more recent research by Ribar and Hamrick (2003) finds a much higher annual exit rate between 1994–95 and 1997 of 41.3 percent using SIPP and SPD data, but again, due to a lack of weighting, this may not reflect exit rates of the U.S. population. Overall, in the mid-1990s it appears that those experiencing poverty had a roughly one in three chance of leaving poverty in any given year.

The estimates presented above, however, do not account for differential rates of poverty exit for those experiencing poverty spells of various lengths. Rather, they are based purely on the transitions out of poverty for those who were poor in the previous year. In Bane and Ellwood's (1986) groundbreaking study, they pay close attention to spell length in determining exit probabilities. Using the 1970–82 waves of the PSID, Bane and Ellwood find that the probability of exiting a poverty spell starts at 0.45 for one-year spells, falls to 0.29 for two-year spells, and falls further to 0.21 for four-year spells. Using an additional six waves of the PSID, Stevens (1994) replicates Bane and Ellwood's results. Stevens also reestimates the exit probabilities on data that are not smoothed to eliminate some one-year spells, a procedure used by Bane and Ellwood,⁹ and obtains slightly higher exit probabilities: 0.53 for one-year spells, 0.36 for two-year spells, and 0.23 for four-year spells. In general, and not surprisingly, the results of this strand of literature suggest that the longer a person has been poor, the less likely it is that he or she will escape poverty.

Stevens (1994) examines how exits from poverty changed over the period from 1970 to 1987, finding that for one-year spells, exit rates varied from a low of 0.44 in 1980 to a high of 0.65 in 1973. She concludes that exit rate variation across years is the result of both business cycle influences and longer term trends. Over time, Stevens (1994, 1999) finds that there has been a slight downward trend in exit rates, controlling for aggregate business cycle conditions.

Demographics and Exit: Poverty exit rates have also been found to be quite different across demographic subgroups, with patterns among groups similar to those for entries. Analyses show that poverty exit rates are consistently higher for whites than for blacks (Burgess & Propper, 1998; Eller, 1996; McKernan & Ratcliffe, 2002, 2005; Naifeh, 1998; Ribar & Hamrick, 2003; Stevens, 1999). For example, Ribar and Hamrick report exit rates of 34.2 percent among blacks and 44.6 percent among whites. Again, household composition also seems to make a difference in the probability of exiting poverty. Several studies have shown that individuals in households headed by females are less likely to exit poverty (Eller, 1996; McKernan & Ratcliffe, 2002, 2005; Naifeh, 1998; Ribar & Hamrick, 2003; Stevens, 1994), and Ribar and Hamrick and McKernan and Ratcliffe (2002, 2005) also find that households, with more children have a lower probability of exit.

Studies of exit by education level are particularly interesting and potentially useful for policy development. Iceland (1997b), McKernan and Ratcliffe (2002, 2005), Ribar and Hamrick (2003), and Stevens (1999) all report that higher levels of education increase the likelihood of escaping poverty. Educational attainment—both graduating high school and obtaining an associate's degree or higher—have a positive and significant correlation with the likelihood of poverty exit, according to McKernan and Ratcliffe (2002, 2005). Ribar and Hamrick, on the other hand, find that completing high school has a strong positive correlation, while the impact of college completion is not statistically significant.

As in the case of poverty entry, the evidence on poverty exit by age is mixed. McKernan and Ratcliffe (2002) find that having a household head age 55 or older weakly increases the chances of exit in the PSID, but decreases the probability in the SIPP.

⁹ Bane and Ellwood eliminate one-year spells either into or out of poverty—if they either began or ended with an income change that was less than one-half the poverty threshold—to adjust for insignificant changes in poverty due to small random changes in income or measurement error.

Poverty Reentry

Once an individual exits poverty, are they likely to reenter? Stevens (1994, 1999) examines reentries into poverty and finds relatively high reentry rates. She finds that the probability of entering a poverty spell is 0.27 after being out of poverty for one year, 0.16 after being out of poverty for two years, and 0.08 after being out for five years. With these reentry rates, she calculates that more than one-half of those who previously escaped poverty will return to poverty within five years. For the subset of persons who were poor for at least five years before exiting, more than two-thirds will return to poverty within five years (Stevens, 1994).

While exit rates overall trended down over time and did seem to correspond to economic conditions, Stevens (1994) finds no overall trend in the probability of reentering poverty, with the exception of white female-headed households, discussed below. Reentry rates also show a weaker relationship with the state of the economy than exit rates (Stevens, 1999).

Demographics and Reentry: Consistent with findings on entry and exit rates by race, Stevens (1999) finds that blacks have a higher reentry rate than whites. Households headed by females and by individuals with less than a high school education are also more likely to reenter poverty. Examining trends in reentry rates over time, Stevens (1994) finds no trend overall but does find a trend for one specific subgroup: The tendency to experience repeated poverty spells increased between 1970 and 1987 for people living in households headed by white females.

2. Poverty Duration

Measuring the duration of poverty is more complex than it appears at first glance. As discussed above, Bane and Ellwood (1986), as well as Gottschalk, McLanahan, and Sandefur (1994), discuss how different poverty spell duration looks when examining persons beginning a new spell of poverty and persons poor at a given time. Both studies use the PSID to show that the average poverty spell length is considerably shorter when examining persons beginning a new spell of poverty. Bane and Ellwood, for example, calculate an average spell duration of 4.2 years for persons beginning a spell of poverty, whereas the average spell duration for persons poor at a given time is 12.3 years for completed spells and 6.2 years for uncompleted spells. This difference in poverty spell duration is due to the fact that the long-term poor are overrepresented in a cross-section of the poor, as noted above.

Still, the literature consistently finds that most people who begin a poverty spell end it quickly. Bane and Ellwood (1986), Gottschalk, McLanahan, and Sandefur (1994), and Stevens (1999) find that 45 to 59 percent of individuals who enter poverty have a spell length of only one year and 70 to 84 percent have a spell length of less than four years. Eller (1996) and Naifeh (1998) use SIPP data and a monthly accounting period to find median spell lengths of 4.9 and 4.5 months, respectively.

Stevens (1999), however, raises the issue of whether the most appropriate question to be studying is “how long do poverty *spells* last?” Rather, she suggests that the more important question is “how long are people poor?” The answers to these two questions differ because individuals cycle into and out of poverty, as shown by the relatively high poverty reentry rates discussed above. Making an important contribution to the literature, Stevens extends Bane and Ellwood’s (1986) bivariate hazard model to incorporate multiple spells of poverty. Looking over a ten-year period, Stevens finds that only 29.5 percent of individuals are poor less than one year and that 55.9 percent are poor for less than four years. Following this approach, Rank and Hirschl (2001) also draw a distinction between consecutive years in poverty (or spells) and total time in poverty. They report that the cumulative percentage of young adults (ages 20–40) experiencing five or more consecutive years in poverty in these two decades is 3.7 percent, compared to 12.6 percent experiencing five or

more total years in poverty over this period. Similar patterns hold in looking at older age groups. This evidence again suggests that spells are generally short, but that individuals do indeed cycle in and out of poverty over the life course.

Finally, Bane and Ellwood (1986) examine how poverty spell duration differs according to the events that trigger entry, and they find some differences. Notably, entries into poverty that occur when individuals move out of their parents' household to form their own household are relatively short, while entries that result from the birth of a child tend to be long. We examine the events associated with poverty entry extensively in the next section.

Demographics and Duration: Several of the studies above examine poverty duration by race, finding longer durations for blacks as compared to whites. For example, Stevens (1999) shows that 62 percent of whites who experience poverty are poor for less than four years, whereas only 39 percent of blacks who experience poverty are poor for less than four years. Eller (1996) and Naifeh (1998) both show that poverty spell duration among Hispanics falls between that of whites and blacks. Female-headed households are also found to experience longer spells of poverty as compared to married-couple households (Eller, 1996; Naifeh, 1998; Stevens, 1999).

Burgess and Propper (1998), using the NLSY79, report findings for blacks and whites separately. Among young adults, total time in poverty is between 1.2 years for whites and 3.8 years for blacks on average for the sample. Among those ever experiencing poverty, the average total time over 13 years of the NLSY79 panel is between 3 years for whites and 6 years for blacks. Still, duration of first spells of poverty are 2.5 years for blacks and 1.6 years for whites, with most occurring between age 18 and 22, when many individuals leave home, go to college, or establish new households.

Again, female-headed households and women who exit welfare appear to spend more time in poverty. Tracking welfare leavers for the five years after their exit, Meyer and Cancian (1998) report that nearly one-fifth (18.7 percent) live below the poverty line in all five years. Welfare leavers who have a high school education, have older children, and are white spend less time below the poverty line.

An examination of child poverty by Duncan and Rodgers (1988) suggests that nonblack children ages 0 to 15 can expect to spend about one year living below the poverty line, while black children can expect to spend about 5.5 years living below the poverty line. Defining income as "after-tax money income plus food stamps" and following children over a six-year period using the PSID, Duncan and Rodgers (1991) also find longer poverty spells for black children. They find that roughly 15 percent of black children spent all six years living below the poverty line, while only about 1.5 percent of white children did so.¹⁰ These results are consistent with the results for adults discussed above, which identify longer durations of poverty for blacks than for whites. Also consistent and expected is their finding that living in a one-parent household throughout childhood increases poverty duration.

3. Events Associated with Poverty Dynamics

Events Associated with Entries

Analyses by Bane and Ellwood (1986), Blank (1997), McKernan and Ratcliffe (2002, 2005), and Ruggles and Williams (1987), who study all individuals, and Duncan and Rodgers (1988), who study children, find similar results concerning events associated with transitions into poverty. These analyses all find that changes in labor supply and earnings are the events that are most commonly associated with poverty entry. It is interesting that the figures reported from various surveys and studies are remarkably similar. Bane and Ellwood find that almost half (49.3 percent) of

¹⁰ Duncan and Rodgers (1991) do not present comparable statistics based on before-tax money income.

poverty spells begin when the household experiences a decline in earnings: 37.9 percent of poverty entries coincide with a fall in heads' earnings and 11.4 percent of entries coincide with a fall in wives' or other family members' earnings. Similarly, Ruggles and Williams report that of the people who enter poverty, 40 percent live in a household that experienced a job loss by the head, spouse, or other household member—the same figure reported by McKernan and Ratcliffe (2002). McKernan and Ratcliffe (2005) confirm these patterns with multivariate methods using the 1996 SIPP, finding that the likelihood of entering poverty increases by roughly 11 percentage points if the household head experiences a loss of employment, and 5 percentage points if a spouse or other household member suffers a job loss.

Other significant events associated with poverty entry include transitions from two-parent to female headship, children born into the household, and young adults setting up their own households (Bane & Ellwood, 1986; Blank, 1997; McKernan & Ratcliffe, 2002, 2005), though these are consistently less important in poverty entry than earnings and job losses. As McKernan and Ratcliffe (2005) find, having a child under age six enter the household increased the likelihood of entering poverty by 2.7 percentage points, while transitioning from a two-adult to a female-headed household increased the likelihood of poverty entry by 1.8 percentage points.

The importance of various events may be changing over time, though the mechanisms driving these changes are unclear. As the only study to investigate poverty dynamics in the late 1990s, McKernan and Ratcliffe (2005) find that employment losses were more likely to be associated with poverty entry in the post-welfare reform period from 1996 to 2000 (covered by the 1996 SIPP) than in the period between 1988 and 1992 (covered by the 1988 and 1990 SIPP). Shifts from two-adult to female-headed households showed the opposite trend, becoming less important over time.

Demographics and Entry Events: A few studies examine the importance of events for various subgroups. Bane and Ellwood (1986) show that a decline in heads' earnings account for 60 percent of poverty entries among male-headed households with children, but only 14 percent of entries among female-headed families. For the latter group, the initial transition to female headship—either by unmarried motherhood, moving out of a parent's home, divorce, or widowhood—accounts for the highest proportion of poverty entries at 59 percent.

As for children's transitions into poverty, Bane and Ellwood (1986) find that the highest proportion (20 percent) of spells of child poverty begin when the child is born, while Duncan and Rodgers (1988) find that the labor supply of individuals in the household other than the mother or father is the event that coincides most with children's transitions into poverty. Fewer work hours for the male head, as well as unemployment of the male head, also coincides with poverty entries of children. Shifting into a single-parent family and having a head who becomes disabled are somewhat less important than these labor supply measures.

Events Associated with Exits

Similar to events associated with poverty entry, descriptive analyses using both the SIPP and PSID find that changes in labor supply and earnings are more commonly associated with poverty exits than changes in household structure and composition (Bane & Ellwood, 1986; Blank, 1997; McKernan & Ratcliffe, 2002, 2005; and Ruggles & Williams, 1987). Using the SIPP, Ruggles and Williams find that almost 47 percent of those leaving poverty had a family member gain a job, while the various household structure changes (including marriage) were experienced by less than 1 percent of those households leaving poverty. Using the PSID, Bane and Ellwood find that nearly three-quarters (73.2 percent) of poverty spells end with a rise in earnings—50.2 percent with a rise in the head's earnings and 23.0 percent with a rise in a wife's or other household members' earnings. McKernan and

Ratcliffe (2005), on the other hand, find that employment gains for any household member have roughly equal importance in facilitating poverty exit. As in the case of poverty entry, the authors again find employment to be a more important correlate of poverty exit in the post-welfare reform era. They also report that increases in educational attainment, such as completing a high school or postsecondary degree, have a large impact on poverty exits, as do shifts from female headship to two-parent households.

Demographics and Exit Events: In contrast to their findings on poverty entries among female-headed households, Bane and Ellwood (1986) show that changes in earnings are more important for this subgroup than household composition changes. For example, they find that 26.4 percent of female-headed households with children exit poverty when they shift to a male-headed household, while 51.4 percent exit because head or others' earnings rose.

Again, Duncan and Rodgers (1988) find that children's transitions out of poverty most often coincide with changes in labor supply. They also find that moving from a one-parent to a two-parent family is associated with transitions out of poverty, although gaining a parent is more important for transitions out of poverty for blacks than for nonblacks.

SUMMARY AND FUTURE DIRECTIONS

The past 20 years have witnessed the growth of a substantial body of literature on poverty dynamics in the U.S. Bane and Ellwood's (1986) seminal work highlighted the importance of poverty entry, exit, duration, and events—streams of inquiry that continue to shape the discussion of poverty dynamics today. With a wealth of longitudinal data and the development of new theories and methods, our understanding of individuals' transitions into and out of poverty is better than ever.

Summary

The review presented above highlights several important themes in the poverty dynamics literature to date. Notably, most researchers continue to measure poverty using the official poverty definition, though many modify it slightly by comparing total household income rather than family income against the official threshold. The bulk of studies also draw on the same two data sets to study poverty dynamics—the Survey of Income and Program Participation (SIPP) and the Panel Study of Income Dynamics (PSID)—with newer waves of these surveys contributing to our understanding of poverty over the life cycle and patterns over time. No single theory has emerged from this literature that is capable of explaining the complex processes of poverty entry and exit, yet the literature is rich in empirical studies of these patterns. These studies implement a wide range of methodologies, including life tables and components-of-variance, as well as more commonly used bivariate and multivariate hazard methods.

Despite differing data sets and methods, our review reveals several discernible patterns in U.S. poverty dynamics. Organizing results by research question, we first ask: What are the probabilities associated with entries into, exits from, and reentries into poverty? Estimates of entry probabilities appear to be fairly similar in the literature, suggesting that the likelihood of entering poverty is roughly 4 percent per year for the U.S. population and that just over half of the population will experience poverty at some time before age 65. Estimates of exit rates show greater variation, but taken together, it appears that the probability of ending a poverty spell is around 33 percent on average in any given year. The little research there is on recurrent poverty suggests that half of those who manage to escape poverty will return to poverty within five years—a cycle that can add up to a significant number of total years in poverty for some individuals.

A more optimistic picture emerges from our second research question: How persistent is poverty? The literature in this area suggests that most people who begin a poverty spell end it quickly, with around 50 percent experiencing poverty spells of just one year and around 75 percent experiencing spells of less than four years.

Our third research question—what are the events associated with entries and exits from poverty?—yields the most consistent results. Studies identifying events all agree that changes in labor supply and earnings are most significant in explaining both poverty entry and exit, but changes in household composition, such as changes to or from female headship are also important events in the dynamics of poverty.

Looking across research questions and studies, patterns of poverty dynamics among various demographic subgroups stand out as remarkably strong. Blacks, young adults, and female-headed households are particularly vulnerable to poverty entry, low rates of exit, and long spell duration. Common threads also emerge suggesting the importance of employment, education, and marriage as mechanisms for avoiding, exiting, and shortening poverty spells, while temporal trends in poverty dynamic (based on the official definition) present a picture of moderately declining well-being from the late 1970s into the early 1990s, with signs of improvement in the mid-1990s.

Future Directions

These robust results mask some important challenges and questions that remain in the poverty dynamics literature. First, we have up to now deliberately sidestepped criticism of the official poverty line. As noted above, all of the studies we review use some variation of the official measure. And while the official definition has the distinct advantage of allowing comparisons of well-being over time, there is considerable debate over whether this measure appropriately assesses economic need.

Criticism of the official poverty rate comes from almost every angle. Among the most contentious issues: Should in-kind transfers be included in measures of family resources? Should family resources be adjusted to account for taxes and work-or health-care related expenditures? Should thresholds be adjusted for differences in the cost of living across the country? Is the family the most appropriate unit of analysis?

In 1995, a National Academy of Sciences (NAS) Panel on Poverty and Family Assistance convened to address these criticisms and make recommendations. Since then, over 20 alternative poverty measures have been calculated by the Census Bureau (Dalaker, 2005; Short, 2001) and additional changes were discussed in a 2004 NAS Workshop (Banthin, 2004; Bavier, 2006; Betson, 2004; Citro, 2004; Garner, 2004; National Research Council, 2005; Nelson, 2004; Short, 2004; Stern, 2004; Weinberg, 2004a) and in a University of Maryland–American Enterprise Institute seminar series titled “Reconsidering the Federal Poverty Measure” (Besharov & Germanis, 2004; Besharov & Green, 2004, 2005; Jencks, Mayer, & Swingle, 2004; Johnson, 2004; Murray, 2004; Weinberg, 2004b, 2005). Although it is not clear that any of these alternative poverty measures alone are adequate or have enough political support to replace the official poverty measure, together they hold promise in addressing weaknesses of the current official poverty measure by accounting for in-kind transfers, taxes, medical expenditures, owner-occupied housing, geographic variation in the cost of living, and cohabitation, among other things.

Future research on poverty dynamics should consider comparing estimates of poverty probabilities, duration, and events under the official and various alternative poverty measures. These analyses could provide valuable information, as there is reason to think that poverty dynamics would change under alternative poverty definitions. Analyses by the U.S. Census Bureau and others reveal that static poverty rates differ substantially under the proposed new measures (Besharov, 2006;

Dalaker, 2005). These static differences are suggestive of dynamic differences. Alternate poverty measures that lead to lower “poverty” rates—for example, including in-kind transfers in measures of income—will result in fewer poverty spells and shorter spell duration. Indeed, Duncan and Rodgers (1991) report lower poverty rates and less poverty persistence when income is measured as after-tax money plus food stamps than when income is measured as before-tax money alone. How the likelihood of entering and exiting poverty, and the events associated with these entries and exits, will change under alternate poverty measures is, however, ambiguous. Analyses using alternative poverty measures in a dynamic framework could lead to different conclusions and policy implications than those presented here. Careful analysis and interpretation of results under various poverty measures will certainly provide context for findings presented in this literature, as well as provide new insights into the well-being of low-income families.

Furthermore, it is not clear that poverty alone, no matter how it is measured, is the definitive benchmark for assessing well-being. The dynamics of other measures of economic or material well-being—such as food insecurity, difficulty paying bills, or unmet medical need—also warrant further exploration. Studies using these metrics would provide both a broader perspective and a deeper understanding of the welfare of U.S. families. That said, we do not advocate abandoning the official poverty measure altogether. Maintaining the current measure is important in assessing temporal trends in poverty dynamics. Alternate measures should be used as a complement to, rather than a substitute for, the official poverty line.

Future research would also do well to investigate poverty dynamics using new sources of data. Additional panels of the SIPP and waves of the PSID and NLSY79 have been released that are not included in the studies reviewed here. As more time passes, these data sets will cover ever longer trajectories of individual experience while newer longitudinal data sets, such as the NLSY97, will cover enough years to be relevant in studies of poverty dynamics.

Most important, however, is that new sources and waves of data will allow researchers to build on the literature presented here in assessing trends in poverty dynamics in the late 1990s and into the 21st century. The literature has not yet adequately addressed poverty dynamics in the post-welfare-reform era and it is certainly possible that the dynamic measures we report have shifted in the decade since the 1996 law change. The only study in the literature comparing the pre- and post-welfare-reform eras finds that changes in employment had a larger effect on poverty transitions in the years immediately following welfare reform (McKernan & Ratcliffe, 2005). However, it is unclear whether this change was driven by welfare reform or the strong economy of the late 1990s—both have the potential to play key roles in poverty dynamics. Additional research using the latest data is needed before we can fully assess and disentangle the impacts of the economy, welfare reform, and other policy changes on patterns of poverty entry, exit, persistence, and events.

Methodologically, we recommend that researchers investigating poverty dynamics employ multivariate hazard rate methods, as these are well-suited to answering all three of the research questions we investigate.¹¹ Unlike the other methods studied, multivariate hazard rate estimates can account for right-censored poverty spells and can control for observable exogenous explanatory variables. It is most important, however, that poverty dynamics research should move beyond simply identifying events associated with poverty transitions to measuring the causal impact of these events on poverty entry and exit. To date, the research has only barely touched on issues of endogeneity. Fixed effects, instrumental variables, and regression discontinuity methods hold promise in this regard.

With respect to theories of poverty dynamics, our review of the literature reveals that no one theory has been developed or tested that can be directly linked to

¹¹ For practical discussion of estimating multivariate hazard models, see Allison (1984).

patterns of poverty dynamics. To date, empirical studies have found evidence consistent with several different theories, but no study has conclusively identified which theory dominates. For example, findings in the literature might suggest that lower rates of poverty exit among blacks could be attributable to discrimination in employment or dual labor markets, considering that changes in earnings are the events most associated with exit. While these types of inferences are tempting, any number of other theories could explain these findings equally well—demographics, macroeconomics, or culture, to name a few. Both the development of a comprehensive theory of poverty dynamics and rigorous testing of existing theories are areas ripe for future study.

Finally, current and future research on poverty dynamics should play a central role in informing policy. An understanding of the crucial differences between the types of individuals and events associated with short-term, long-term, and recurrent poverty spells can have important implications for the design and implementation of a wide range of social policies. For example, policies to encourage asset accumulation, education, and job training may be best targeted toward individuals experiencing persistent or recurrent poverty, such as welfare leavers and families with young children. These types of policies could not only help these individuals climb out of poverty, but would also allow for the development of a personal safety net to guard against future poverty spells. In contrast, a different set of policies may be appropriate for those experiencing temporary poverty spells. Short-term benefits such as unemployment insurance or interim health insurance may be all that is needed to help displaced workers, young adults leaving their parents' home, or those experiencing a change in marital status get back on their feet.

The findings by demographic subgroup suggest a role for policies targeted to female-headed households. Though the studies we review were generally conducted before welfare reform, the evidence suggests that public policy and tax reform could push further in eliminating disincentives for marriage. Providing access to high-quality affordable child care, encouraging flexible work schedules, and strengthening family leave policies would benefit all working families, but especially single parents.

With education as an important correlate with poverty exit, and changes in earnings as the most notable event associated with poverty transitions, a renewed focus on education and job training is warranted. The empirical results suggest that high school completion and the attainment of an associate's degree may be more important than four-year college completion in determining poverty exit. Therefore, school-to-work programs in high schools that encourage the development of workplace-relevant skills, high school completion, and enrollment in community colleges may go far in combating persistent poverty. Moreover, public support for community colleges is essential if we are to keep these vital education and training pathways open for millions of low-income students. Alongside this institutional support, individual support for education and job training in the form of need-based financial aid and credit access would not only stimulate investment in human capital generally, but it would also target young adults—a group that is vulnerable to poverty entry.

The usefulness of poverty dynamics research extends beyond design and implementation to policy and program evaluation. As Burkhauser (2001) points out, poverty dynamics research that extends over the life course is invaluable in this regard, as it is only in following a policy over multiple periods that the full impact of the policy can be understood. In the case of social security, for example, examining poverty transitions and events over the life course can answer questions as to whether individuals experiencing poverty fall into poverty before or after becoming eligible for benefits, or whether it is retirement itself or other events that trigger a poverty entry. These types of insights contribute to our understanding of the successes and failures of current social programs, as well as providing useful information on the optimal design of policy alternatives.

More research must be done on the dynamics of poverty if we are to design effective short-term and long-term anti-poverty policies in the future. From the Pell Grant to the Earned Income Tax Credit, from food stamps to Medicaid, evaluating the effectiveness of the policies and programs that comprise the social safety net will require more than an analysis of static poverty rates. Understanding, measuring, and assessing the dynamics of poverty is essential if we are to improve social welfare policy in the U.S.

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