

Longitudinal Analysis of the Labor Market
Performance of the Working Poor: Evidence from
the 2004 Survey of Income and Program
Participation Panel

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Abstract

This study uses ten waves of the 2004 Survey of Income and Program Participation (SIPP) to analyze the labor market performance of those who were employed at the bottom of the labor market during a period of economic expansion (2004-2006). Specifically, the study utilizes the proportional hazards model to examine whether those low income workers who were successful in improving their relative standing in the workforce during this time were also successful in maintaining their improved relative earnings, as well as whether experiences of these individuals differed by their socio-economic characteristics. The results suggest that some groups of individuals were better positioned to maintain their improved relative status, while others, such as the disabled and those who indicated that they typically had work hours that varied, were more likely to become working poor again.

*This paper is released to inform interested parties of ongoing research and to encourage discussion of work in progress. All views expressed in this paper are those of the author and not necessarily those of the U.S. Census Bureau. Any errors or omissions are the sole responsibility of the author. E-mail: marina.s.vornovytsskyy@census.gov

1 Introduction

According to the National Bureau of Economic Research, the period from 2004 to 2006 corresponded to a period of economic expansion (NBER[14][13]). Gross Domestic Product increased by a total of 12.9 percent during this time, increasing by an average of 3.13 percent every year (U.S. Bureau of Economic Analysis[15]). According to the U.S. Census Bureau, real median incomes also increased during this time period (U.S. Census Bureau[5][6][7]). Moreover, this increase was present across the entire income distribution, since, while incomes increased, shares of aggregate income received by different quintiles remained unchanged (U.S. Census Bureau[5][6][7]). Figures such as these can be expected in an expanding economy. However, they say little about patterns of upward mobility during this time. In particular, the extent to which low income households were able to move up in the income distribution cannot be assessed from these numbers alone.

The literature in general has expressed little interest in the dynamics of economic well-being of low-income households in general and in the patterns of their labor market performance in particular. While there have been some studies of the patterns of wage-growth among low-skill workers (French et.al.[10], Hall[12], and Blank and Shierholz[4]), to the knowledge of the author there have been no recent studies that examined whether these low-skill individuals are ever successful in improving their *relative*, as opposed to absolute, earnings. Similarly, the studies that have focused on identity and economic performance of the working poor (the Bureau of Labor Statistics[9], Acs et.al.[11], Acs and Nichols[2], and Acs and Loprest[1]) have largely left the questions of how the *relative* performance of these individuals changes over long periods of time and what factors affect it unanswered.

This paper contributes to the literature by utilizing the unique blend of social, demographic, and economic data made available by the Survey of Income and Program Participation (SIPP) to analyze patterns of upward mobility among a subset of low-income households - “the working poor.” In particular, the paper focuses on those working poor who succeeded in improving their relative standing in the workforce at some point between January 2004 and December 2006. It then utilizes the longitudinal nature of SIPP to assess how successful these individuals were in maintaining their improved relative earnings, as well as whether their experiences differed by socio-economic characteristics.

The results suggest that some groups of individuals were better positioned to maintain their improved relative status. This is particularly true of those who had higher absolute earnings at the time when their relative

earnings improved. The results also suggest that those with disabilities and those who indicated that they typically had work hours that varied were more likely to become working poor again.

This paper is organized as follows: Section 2 discusses the data used in this study, Section 3 describes the general methodology and econometric model, Section 4 discusses results, and Section 5 offers concluding remarks.

2 Data

This study uses the first ten waves of the 2004 Panel of the Survey of Income and Program Participation (SIPP). The population represented (the population universe) is the civilian non-institutionalized population living in the United States. SIPP is a nationally representative longitudinal survey that tracks individuals over a period of two to four years (depending on the length of the panel). SIPP oversamples low-income households in order to obtain a sufficient number of cases to produce national-level estimates of program participation. This makes it a particularly useful dataset for analyzing the labor market performance of the working poor.

The SIPP sample is randomly divided into four rotation groups, and one rotation group is interviewed every month. The design of SIPP is such that respondents are repeatedly interviewed on a wide range of topics, which include, but are not limited to, income, employment, asset ownership, and program participation. This set of questions that is asked every wave (every 4 months) is known as the Core SIPP. In addition, there exist a number of topical modules that collect in-depth information on specific subject areas, such as fertility and employment history. Only the Core SIPP is used in this study.

The 2004 SIPP Panel consists of 12 waves (or 48 months). The first interviews were conducted in February 2004,¹ and the last interviews were conducted in January 2008. This study uses the first 36 months of the panel, which means that, after realigning respondents by calendar month, it covers the period from January 2004 to December 2006. Due to budget cuts, the sample size was cut by 53 percent in Wave 9, which decreased the amount of data available for analysis. Finally, since calendar year weights are not available for individuals missing waves, only those individuals who were in the panel for the entire 36-month period were included in the final sample.

¹In SIPP, every reference period covers 4 months prior to the interview date. This means that respondents who were interviewed in February 2004 provided information on the period covering October 2003 to January 2004.

3 Methodology

3.1 Defining the Working Poor

For the purposes of this paper, the analysis was limited to individuals who satisfied the following criteria during every year covered by the study (January 2004 - December 2006):

1. Individuals who were employed for at least 27 weeks.
2. Individuals who were 25 to 62 years old, inclusive.
3. Individuals who had at least six months of positive earnings.

The first requirement is consistent with the definition used by the Bureau of Labor Statistics to determine whether a particular individual should be considered a member of the labor force. The analysis has been further limited to those who were 25 to 62 years old, inclusive, during the entire 36-month period to exclude those who could be still in school or at the end of their working careers. The requirement that individuals should have at least six months of positive earnings within each year has been imposed to exclude those with marginal attachment to the labor force.

The criteria above help to identify active members of the workforce. Given that the focus of this study is on those employed at the bottom of the labor market, the analysis has been further limited to individuals who were working poor at least once during the 3-year period. In this study, “working poor” is defined as someone who:

1. Earned less than 25 percent of the median during a particular month² and
2. Worked at least one week during that month.

One last condition, namely that each person included in the study had at least two consecutive months during which both of these criteria were met, was added. This was done for the purpose of excluding individuals who experienced a one-time short-term drop in income and thus could not be truly considered working poor.

It has to be emphasized that the definition of “working poor” used in this paper differs from those commonly used in the literature to define “poverty” in two important respects. The first is that the focus here is on individual, as

²All monetary values used in this section and throughout the paper have been adjusted for inflation using the Consumer Price Index with 1982 as the base year.

opposed to household, earnings. The implication of this is that conclusions presented here may be different from those that would be reached if earnings of other household members (in particular, those of spouses) were taken into account. The second difference is that “poor” is defined in terms of one’s relative, as opposed to absolute, position in the labor market, i.e., the focus here is on people employed at the bottom of the labor market, as opposed to on those who are poor in absolute terms.

3.2 Spells of Improved Relative Earnings

This study focuses on individuals who, based on the criteria above, could be considered working poor at least once between January 2004 and December 2006. Given the economic performance of these individuals over time, this study attempts to answer the following question:

Research Question: Were those who succeeded in improving their relative standing in the labor force also successful in maintaining their improved relative status?

In order to answer this question, the study analyzes the duration of the first spell of improved relative earnings. A spell of improved relative earnings begins in month t if an individual who was working poor in $t - 1$ remained in the labor force, yet was no longer working poor in t . The requirement that the person remain in the labor force was imposed to ensure that the change in working poor status was brought about by a change in relative earnings, as opposed to the individual leaving the workforce. All spells are assumed to start at the beginning of the month.

A spell of improved relative earnings ends when an individual becomes working poor again. In practical terms, a spell would be considered over in month t if an individual who was in the workforce and not working poor in month t became working poor in $t + 1$. All spells are assumed to end at the end of the month.

In the context of this study an observation is considered censored if a spell does not end prior to the end of the 36-month period under investigation. According to this definition, 54.44 percent of spells that began during this 36-month period ended (standard error is equal to 1.59, and 45.56 were censored (standard error is equal to 1.59).

The definition of a spell ending described above implicitly assumes that an individual remains a member of the labor force (that is, they continue to work for at least one week within a given month, while in “not working

poor status”). This is not necessarily true. As a matter of fact, it is entirely possible for someone who improved their relative earnings to drop out of the labor force for any given number of months and then return to the labor force in working poor status. In such a case, for the purposes of this study, it would be improper to treat months spent out of the labor force as months with non-working poor status. To deal with this issue, an alternative definition of what it means for a spell to end is proposed: a spell of improved relative earnings ends when an individual becomes working poor again or drops out of the labor force. When this definition is used, 56.36 percent of spells that began during this 36-month period ended (standard error is equal to 1.56), and 43.64 were censored (standard error is equal to 1.56).

Results associated with both definitions will be presented in this paper to assess sensitivity of results to differential treatment of individuals who drop in and out of the labor force.

The two approaches discussed above are illustrated in Table 1. The hypothetical individual in question is considered working poor in months t and $t+5$, since during each of those months they both worked for at least one week and earned less than 25 percent of the median. For this hypothetical individual, the spell of improved relative earnings begins in month $t + 1$, and this is true under both approaches: the individual remained active in the labor force, yet their relative earnings increased. However, the two approaches differ with respect to defining when the spell in question ends: under Approach 1, the spell ended in month $t + 4$ and lasted 4 months, even though this individual was not in the labor force in $t + 4$, while under Approach 2, the spell ended in $t+3$ and lasted 3 months, since the individual dropped out of the labor force in $t + 4$.

As has already been mentioned above, this study focuses only on the first spell of improved relative earnings. The justification for this lies in the fact that, according to Table 2, most individuals either have only one spell or have been censored, and this is true irrespective of how an end of a spell is defined.

It is worth emphasizing that, given the approaches to defining spells of improved relative earnings described above, the findings presented in this paper are not necessarily reflective of the long-term performance of the working poor as a group. The reason for this is that this analysis excludes those who are persistently working poor (i.e., those for whom no spell of improved relative earnings was observed during the period covered by the study). In a similar fashion, it does not include those whose patterns of relative earnings and labor force participation did not meet the criteria for spell beginning and spell end identified above (one example would be individuals who be-

came working poor later in the panel and for whom no period of improved relative earnings was observed).

There were 2139 individuals who, according to the criteria specified above, were working poor at least once during the period under investigation. Of these individuals, 1926 had at least one spell of improved relative earnings that met the criteria for spell beginning and spell end described above. Therefore, these 1926 individuals constituted the final sample used in this study.

3.3 Econometric Model

Given the definitions described above, the upward mobility patterns of the working poor will be assessed by estimating a proportional hazards model of the form:

$$\log h_i(t) = \log \alpha(t) + \sum_{k=1}^k \beta_k x_{ik} \quad (1)$$

In Equation 1, $h_i(t)$ represents the hazard rate (that is, the hazard of returning to lower relative earnings), $\alpha(t)$ represents a baseline hazard function, and, finally, $\beta_k x_{ik}$ is a vector of explanatory variables that characterize an individual at the time when their relative earnings improved.

Censoring is a common feature of survival analysis, meaning that for some individuals the event of interest (in this case, end of a spell) may not have occurred by the end of the period of observation. It is important to include censored observation in the analysis in order to obtain accurate estimates (Allison[3], p. 11). Therefore, Equation 1 will be estimated using all available observations (which includes observations that have been imputed). Also, longitudinal weights have been applied to account for the complex sample design of SIPP and sample attrition over time.

The fact that this study uses longitudinal weights has a number of implications for which individuals have been included in this study, and which have been excluded. First, since only individuals who remained in the survey over the entire 36-month period have a positive longitudinal weight, the analysis is limited to individuals who were interviewed in every wave of the survey (that is, they did not miss any waves) or did not leave the survey. This means that potential censoring time is fixed for all observations.

Secondly, this means that two assumptions have to be imposed. The first is that censoring is uninformative, i.e., that the individuals who dropped out

of the survey or missed a wave are no different from those who remained. The second assumption is that longitudinal weights adequately compensate for any differences that may be present. Violation of the second assumption would lead to severe biases, since it is likely that individuals who left the survey or missed a wave were more likely to end a spell of improved relative earnings than those who stayed in the survey for the entire 36-month period. While there exists no formal statistical test for assessing the validity of these assumptions, further research could be conducted to test them in a less formal fashion (for example, by linking SIPP respondents with administrative data). However, this lies outside of the scope of the present study.

4 Results

Table 3 reports percentages of individuals for whom the spell of improved relative earnings ended (vs. being censored), by their socio-economic characteristics at the beginning of the spell. For example, under Approach 1, 62.53 percent of those who indicated that they had a disability at the time when their relative earnings improved subsequently returned to the working poor state, and 37.47 were censored. In general, the results associated with the two approaches follow similar patterns both in terms of values, as well as in terms of the overall conclusions that can be drawn. One key difference is that the values associated with Approach 1 are lower. This is reasonable, since individuals could end a spell in one of two ways - either by becoming working poor again or by dropping out of the workforce. Also, while differences in the percentages of exits are statistically insignificant across most groups, those with a disability at the beginning of the spell have a higher percentage with spells exits (relative to the “All” category). Self-employed and those who indicated that their typical number of hours worked per week varied were also more likely to end a spell of improved relative earnings (relative to the “All” category). This is true for both approaches.

Table 4 reports average durations of spells for individuals with different socio-economic characteristics. The average length of uncensored spells of improved relative earnings was 8.46 months for Approach 1, and 8.28 for Approach 2. The average length of censored spells was 18.21 for Approach 1, and 17.95 for Approach 2. In general, those who had a disability at the beginning of the spell and those who indicated that they typically had work hours that varied had shorter spells of improved relative earnings compared to the average (“All” category)³. Under Approach 1, those with a graduate

³The estimates in this report (which may be shown in text, figures, and tables) are

degree were more likely to have a longer spell relative to the average. Once again, the values associated with the two approaches follow similar patterns, indicating that, aside from the values of the estimates, conclusions do not appear to be sensitive to differential treatment of those who end their spell by exiting from the workforce.

Table 5 reports regression results associated with estimating Equation 1. The dependent variable is the hazard of ending a spell of improved relative earnings (In the context of Approach 1, this could mean that an individual either returned to the working poor state or dropped out of the labor force. In the context of Approach 2, this means that the individual returned to the working poor state).

The independent variables reflect individual’s characteristics at the beginning of the spell of improved relative earnings. Coefficients associated with “Age group” reflect hazards relative to those who were from 25 to 35 years old. Coefficients associated with “Education” reflect hazards relative to those who had a high school diploma or less. Coefficients associated with “Occupation” reflect hazards relative to those in “Other” occupations (that is, in occupations other than those included on the right-hand side of the equation). Female, Black, Hispanic, Female Householder, Disability, Residence in a Metro Area, Hours Vary, and Self-Employed are all dummy variables that take on a value of 1 if an individual had the characteristic of interest, and 0 otherwise. An individual was classified as “Disabled” if, at the time when their spell started, they indicated that they had a disability that limited the kind of work that they could do. “Earnings” is quantitative, and it indicates an individual’s total earned income during the month when their spell of improved relative earnings began, adjusted for inflation using the Consumer Price Index.⁴

For ease of interpretation, hazard ratios have been reported along with regression coefficients. The model has been checked for the presence of non-proportional hazards by explicitly including interaction terms between different independent variables and time in the model, as well as by examining covariate-wise residuals. Since the proportional hazards assumption

based on responses from a sample of the population and may differ from actual values because of sampling variability or other factors. As a result, apparent differences between the estimates for two or more groups may not be statistically significant. All comparative statements have undergone statistical testing and are significant at the 90-percent confidence level unless otherwise noted. All estimates reported in this paper have been weighted, and, unless indicated otherwise, standard errors have been calculated using longitudinal replicate weights.

⁴1982 has been used as the base year.

does not appear to be violated for any of the explanatory variables, none of the interaction terms have been included in the final model.

Due to the complex sample design of SIPP, standard errors calculated by statistical software can lead to misleading conclusions since they may underestimate the true variability of the population. Estimated standard errors have been adjusted upward by using the square root of an adjustment factor to obtain correct standard errors.⁵

The two approaches to spell endings follow similar patterns, both in terms of the magnitude of the estimated coefficients, as well as in terms of their statistical significance. In particular, the hazard ratio of ending a spell of improved relative earnings seems to be driven almost entirely by individuals' economic, as opposed to demographic, characteristics. Those who had higher earnings at the beginning of the spell were less likely to experience a spell exit. For those who indicated that they had a disability, the hazard of ending a spell was 36.4 percent greater than the hazard of those without a disability (under Approach 1). In a similar fashion, those who indicated that their typical work hours varied and the self-employed had higher hazards of ending a spell. These findings do not appear to be sensitive to the differential treatment of individuals who ended their spells by exiting from the workforce.

5 Conclusion

The primary goal of this paper was to investigate whether those who were successful in improving their relative standing in the workforce during an expansionary period were also successful in maintaining their relative gains. The results suggest that differences in individuals' ability to maintain their relative earnings seem to be driven by variables that characterize their labor market participation, as opposed to their socio-demographic characteristics. In particular, the self-employed and those with a disability at the beginning of the spell were less likely to maintain their improved relative earnings. However, as has already been mentioned earlier, these results, while reasonable, have to be interpreted with caution. The reason for this is that the focus of this paper was on relative earnings of individuals, so neither household earnings, nor individuals' standing relative to the poverty line, have been evaluated. This means that these findings do not necessarily reflect the long-term labor market performance of those who are poor in the

⁵The Source and Accuracy Statement[8] available from the SIPP website provides more information on obtaining correct standard errors when using SIPP data.

absolute, as opposed to relative, sense.

Given that little longitudinal research on the patterns of upward mobility of the working poor has been conducted, much could be done to extend the findings presented in this paper. First, the wealth of socio-economic data available from SIPP makes the analysis of events that may lead one to become working poor again a particularly interesting task, since a number of factors pertaining to the individual's life-long employment patterns, asset ownership, program participation, etc. could be considered. Secondly, given that some individuals classified as "working poor" using the definition used in this paper could belong to high income households, more research could be done on identifying who they are and how their long-term labor market performance and participation differs from individuals belonging to low income households. Third, the availability of comparable data from earlier SIPP panels, as well as the 2008 panel which is currently ongoing, means that findings presented here could be put into a historical perspective by looking at how the ability of individuals to maintain their relative standing in the workforce has changed for different socio-economic groups over time. Finally, in view of improving SIPP's data collection efforts, methodological analysis could be conducted to assess the sensitivity of the findings presented here to excluding imputed data, using unweighted observations, and including individuals who were not in the panel for the entire 36-month period.

Source of Data: The population represented (the population universe) in the 2004 Survey of Income and Program Participation (SIPP) is the civilian non-institutionalized population living in the United States. The SIPP is a longitudinal survey conducted at four-month intervals. The data in this report were collected from 36 in the 10 waves of the 2004 SIPP. The institutionalized population, which is excluded from the population universe, is composed primarily of the population in correctional institutions and nursing homes (91 percent of the 4.1 million institutionalized people in Census 2000).

Accuracy of the Estimates: Statistics from surveys are subject to sampling and nonsampling error. All comparisons presented in this report have taken sampling error into account and are significant at the 90-percent confidence level unless otherwise noted. This means the 90-percent confidence interval for the difference between the estimates being compared does not include zero.

Non-sampling errors in surveys may be attributed to a variety of sources, such as how the survey is designed, how respondents interpret questions, how able and willing respondents are to provide correct answers, and how accu-

rately the answers are coded and classified. The Census Bureau employs quality control procedures throughout the production process including the overall design of surveys, the wording of questions, the review of the work of interviewers and coders, and the statistical review of reports to minimize these errors. The SIPP weighting procedure uses ratio estimation whereby sample estimates are adjusted to independent estimates of the national population by age, race, sex and Hispanic origin. This weighting partially corrects for bias due to under-coverage, but biases may still be present when people who are missed by the survey differ from those interviewed in ways other than age, race, sex, and Hispanic origin. How this weighting procedure affects other variables in the survey is not precisely known. All of these considerations affect comparisons across different surveys or data sources.

For further information on statistical standards and the computation and use of standard errors, go to <http://www.census.gov/sipp/source.html> or contact Tracy Mattingly of the Census Bureau's Demographic Statistical Methods Division on the Internet at Tracy.L.Mattingly@census.gov.

Additional information on the SIPP can be found at the following websites: www.census.gov/sipp/ (main SIPP website), www.census.gov/sipp/workpapr/wp230.pdf, (SIPP Quality Profile) and www.census.gov/sipp/usrguide.html (SIPP User's Guide).

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Table 1: Two Approaches to Defining Spell Exits

	t	t+1	t+2	t+3	t+4	t+5
Worked 1 week or more?	Yes	Yes	Yes	Yes	No	Yes
Earnings <25% of the median?	Yes	No	No	No	-	Yes
Approach 1	Working poor	Spell begins			Spell ends	Working poor
Approach 2	Working poor	Spell begins		Spell ends		Working poor

Table 2: Number of Spells

Number of Spells	Approach 1	Approach 2
1 spell	29.43 (1.28)	27.50 (1.19)
2 spells	15.69 (0.95)	14.88 (0.95)
3 or more spells	8.96 (0.82)	13.70 (1.10)
Censored	45.91 (1.52)	43.92 (1.51)
Total	100%	100%

Source: 2004 Survey of Income and Program Participation, Waves 1 - 10.
 For information on confidentiality protection, sampling and nonsampling error see
[http : //www.sipp.census.gov/sipp/source/html](http://www.sipp.census.gov/sipp/source/html). Values in the parentheses refer to standard
 errors associated with each estimate. These standard errors have been obtained using replicate
 weights.

Table 3: Percentage of Individuals who Experienced a Spell End, by Socio-Economic Characteristics (Months)

	Approach 1 Exit (Percent)	Approach 2 Exit (Percent)
All	54.44 (1.59)	56.36 (1.56)
Female	55.70 (2.74)	57.76 (2.06)
Black	57.28 (5.09)	58.19 (4.89)
Hispanic	52.52 (5.01)	55.76 (4.82)
Disability	62.53 (4.76)	64.96 (4.49)
Residence in a metro area	53.13 (1.73)	55.11 (1.71)
Hours Vary	62.83 (4.83)	66.17 (4.98)
Self-Employed	63.85 (3.06)	64.42 (2.98)
Age Group		
25 to 34	52.69 (3.17)	55.63 (3.17)
35 to 44	53.35 (2.56)	55.49 (2.59)
45 to 54	57.14 (3.04)	58.45 (3.05)
55 to 62	54.54 (3.67)	55.50 (3.62)
Household Type		
Married-Couple	54.11 (1.70)	55.92 (1.70)
Male Householder	49.61 (6.17)	53.06 (6.19)
Female Householder	53.87 (3.85)	55.70 (3.92)
Level of Educational Attainment		
High School Diploma or Less	54.02 (2.57)	56.15 (2.44)
Some College or Associate's Degree	54.40 (2.76)	56.36 (2.78)
Bachelor's Degree	55.55 (3.44)	57.61 (3.41)
Graduate or Professional Degree	53.98 (4.23)	54.75 (4.17)

(Continued)

Table 3: Percentage of Individuals who Experienced a Spell End, by Socio-Economic Characteristics (Months)

	Approach 1 Exit (Percent)	Approach 2 Exit (Percent)
Occupation		
Administrative	42.04 (4.63)	42.58 (4.62)
Sales	55.44 (4.58)	55.85 (4.60)
Service	59.59 (3.48)	62.93 (3.30)
Other	54.432 (2.25)	56.37 (2.26)

Source: 2004 Survey of Income and Program Participation, Waves 1 - 10.

For information on confidentiality protection, sampling and nonsampling error see [http : //www.sipp.census.gov/sipp/source/html](http://www.sipp.census.gov/sipp/source/html). Values in the parentheses refer to standard errors associated with each estimate. These standard errors have been obtained using replicate weights.

Table 4: Average Spell Duration, by Socio-Economic Characteristics (Months)

Percent	Exit		Censored	
	Approach 1	Approach 2	Approach 1	Approach 2
All	8.46 (0.24)	8.28 (0.23)	18.21 (0.44)	17.95 (0.47)
Female	8.29 (0.32)	8.19 (0.31)	17.72 (0.61)	17.36 (0.63)
Black	7.70 (0.71)	7.86 (0.74)	14.90 (1.99)	14.77 (1.99)
Hispanic	7.76 (0.73)	7.55 (0.70)	19.24 (1.21)	18.68 (1.23)
Disability	7.14 (0.61)	7.17 (0.62)	17.64 (1.79)	17.87 (1.84)
Residence in a metro area	8.43 (0.27)	8.24 (0.25)	18.12 (0.53)	17.86 (0.56)
Hours Vary	7.22 (0.78)	7.19 (0.75)	21.01 (1.72)	20.61 (1.82)
Self-Employed	8.52 (0.48)	8.41 (0.45)	18.50 (1.04)	18.51 (1.06)
Age Group				
25 to 34	8.99 (0.56)	8.62 (0.53)	17.69 (1.00)	17.31 (1.04)
35 to 44	8.02 (0.36)	7.82 (0.36)	18.70 (0.79)	18.32 (0.83)
45 to 54	8.83 (0.41)	8.65 (0.40)	18.21 (0.92)	18.20 (0.95)
55 to 62	7.84 (0.69)	8.04 (0.70)	18.01 (1.20)	17.76 (1.23)
Household Type				
Married-Couple	8.87 (0.33)	8.76 (0.31)	18.35 (0.53)	18.08 (0.54)
Male Householder	9.02 (1.72)	9.23 (1.74)	18.84 (2.39)	18.02 (2.36)
Female Householder	7.60 (0.50)	7.25 (0.47)	17.13 (1.12)	16.82 (1.17)
Level of Educational Attainment				
High School Diploma or Less	8.14 (0.42)	7.85 (0.40)	17.45 (0.79)	17.21 (0.79)
Some College or Associate's Degree	8.86 (0.49)	8.79 (0.48)	18.84 (0.94)	18.59 (0.98)
Bachelor's Degree	7.76 (0.49)	7.73 (0.53)	18.76 (0.99)	18.27 (0.96)
Graduate or Professional Degree	9.47 (0.71)	9.10 (0.64)	17.76 (1.38)	17.82 (1.40)

(Continued)

Table 4: Average Spell Duration, by Socio-Economic Characteristics (Months)

Percent	Exit		Censored	
	Approach 1	Approach 2	Approach 1	Approach 2
Occupation				
Administrative	7.85 (0.89)	7.73 (0.87)	16.14 (1.72)	16.01 (1.73)
Sales	9.30 (0.73)	9.17 (0.73)	18.88 (1.25)	18.74 (1.25)
Service	7.58 (0.56)	7.64 (0.51)	16.97 (1.10)	16.33 (1.17)
Other	8.70 (0.34)	8.43 (0.34)	18.91 (0.55)	18.71 (0.57)

Source: 2004 Survey of Income and Program Participation, Waves 1 - 10.

For information on confidentiality protection, sampling and nonsampling error see [http : //www.sipp.census.gov/sipp/source/html](http://www.sipp.census.gov/sipp/source/html). Values in the parentheses refer to standard errors associated with each estimate. These standard errors have been obtained using replicate weights.

Table 5: Proportional Hazards Model: Estimation Results

	Approach 1		Approach 2	
	Estimate	Hazard Ratio	Estimate	Hazard Ratio
Female	0.12680 (0.1253)	1.135	0.1262 (0.1231)	1.135
Black	0.2870 (0.1831)	1.332	0.2347 (0.1813)	1.265
Hispanic	-0.0606 (0.1763)	0.941	-0.0151 (0.1712)	0.985
Female Householder	-0.0216 (0.1381)	0.979	-0.0118 (0.1357)	0.988
Earnings	-8.5E-05* * * (4.0E-05)	0.999	-8.1E-05* * * (4.0E-05)	0.999
Disability	0.3107* * * (0.1724)	1.364	0.3090* * * (0.1692)	1.362
Residence in a Metro Area	0.0961 (0.1380)	1.101	0.0857 (0.1359)	1.089
Hours Vary	0.3224* * * (0.1721)	1.380	0.3378** (0.1676)	1.402
Self-Employed	0.3983* (0.1258)	1.489	0.3425* (0.1243)	1.408
Age Group				
35 to 44	-0.0137 (0.1482)	0.986	-0.0292 (0.1449)	0.971
45 to 54	0.0542 (0.1518)	1.056	0.0081 (0.1488)	1.008
55 to 62	0.0.0125 (0.1811)	1.013	-0.0419 (0.1783)	0.959
Education				
Some College or Associate's Degree	-0.0201 (0.1329)	0.980	-0.0207 (0.1305)	0.980
Bachelor's Degree	0.1210 (0.1643)	1.129	0.1199 (0.1613)	1.127
Graduate or Professional Degree	0.0524 (0.2107)	1.054	0.0140 (0.2086)	1.014
Occupation				
Service	0.1472 (0.1508)	1.159	0.1523 (0.1474)	1.165
Administrative	-0.2430 (0.2206)	0.784	-0.2980 (0.2187)	0.742
Sales	-0.0357 (0.1760)	0.965	-0.0876 (0.1748)	0.916
Likelihood Ratio Chi-Square		84.21*	80.37*	

Source: 2004 Survey of Income and Program Participation, Waves 1 - 10.

For information on confidentiality protection, sampling and nonsampling error see [http : //www.sipp.census.gov/sipp/source/html](http://www.sipp.census.gov/sipp/source/html). Values in the parentheses refer to standard errors associated with each estimate. These standard errors were obtained by adjusting standard errors calculated by statistical software upward using the methodology outlined in the SIPP Source and Accuracy Statement[8].

* Significant at the 0.01 level of significance.

** Significant at the 0.05 level of significance.

*** Significant at the 0.10 level of significance.