

MARYLAND WELFARE RECIPIENT PARTICIPATION IN WORK IS LIMITED BY THE NUMBER OF LOCAL HIRES IN TRADITIONAL INDUSTRIES

Submitted to:

Family Investment Administration
Maryland Department of Human Resources

Submitted by:

Chris Herbst, Fulbright Fellow
Centre for Comparative Welfare Studies
Aalborg University, Denmark
and
Assistant Professor
School of Public Affairs
Arizona State University

And

David Stevens, Executive Director
The Jacob France Institute
University of Baltimore
dstevens@ubalt.edu
410.837.4729

September 2007

This is the fourth report from France Institute analysis of Maryland work and welfare patterns using Census Bureau LEHD Program Quarterly Workforce Indicator data. Our most recent previous reports in this series are: *Did Welfare Reform Change Work Participation Dynamics? Evidence from Maryland*, presented at the June 2007 Tenth Annual ACF/OPRE Welfare Research & Evaluation Conference, and *Maryland Local Departments of Social Services Face Different Job Opportunity Challenges When Assisting Work-Eligible TCA Recipients to Find Employment*. Both of these reports, and others, are available at <http://www.ubalt.edu/jfi>; click on publications. We thank Kevin McGuire and Richard Larson, Maryland Department of Human Resources, and Jane Staveley and John Janak, The Jacob France Institute, for supporting the research described here.

EXECUTIVE SUMMARY

A common theme in all of our recent studies of Maryland welfare and work patterns has been proper use of available information to show that participation of work-eligible welfare recipients in unsubsidized employment depends on both an opportunity to participate and an incentive to participate. This fourth report in the series of completed studies adds statistical insights to previous descriptive findings.

A unique contribution of our research to understanding welfare recipient behavior continues to be aggressive use of Census Bureau Quarterly Workforce Indicators Online information. These indicators provide us with never before available reliable estimates of local hiring by industry, gender and age group.

For the first time, we have been able to study industry-specific local hiring of women in age groups that align with the concentration of welfare recipient ages in Maryland. We now understand differences in hiring patterns among Maryland counties at any defined time, and changes in hiring patterns within a reference county over time.

Our previous descriptive reports illustrated differences and changes in hiring level and mix, using selected counties to highlight the magnitude, and therefore policy relevance, of these differences and changes. The current report takes another important step forward—adding appropriate statistical estimating methods to calibrate the effects of welfare recipient demographics and local economic conditions on welfare timing and recidivism.

Our findings here reinforce earlier reported findings that hiring in the traditional ‘destination’ industries for many welfare recipients that accept employment—retail trade; administrative and support services (including temporary help and staffing agencies); health care and social assistance; and accommodation and food services—has an important policy relevant effect on the likelihood that a woman who has received welfare at some time in recent years will be working and not receiving welfare.

We look forward to continued partnership with the Family Investment Administration of the Maryland Department of Human Resources to broaden and deepen our mutual understanding of welfare recipient behaviors and ways to promote their permanent transition from dependency to unsubsidized employment and economic independence.

1.0 INTRODUCTION

This report is a statistical extension of our June 2007 report titled: *Did Welfare Reform Change Work Participation Dynamics? Evidence from Maryland*. We begin with the opening and closing paragraphs of the June report:

Participation of work-eligible welfare recipients in unsubsidized paid employment depends in part on a local economy's capacity to employ them. We show how this absorption capacity differs among local economies and changes over time.

Welfare recipient participation in employment also depends on the incentive to accept a job. We show how new hire earnings levels differ among local industries and change over time.

Our approach uses Census Bureau Quarterly Workforce Indicator (QWI) Online information for Maryland to calibrate both *opportunity* and *incentive*. Our calculations can be replicated in 38 states. Results can be used to target job search assistance offered to work-eligible welfare recipients.

Our basic theme in this [June 2007] paper has been that participation of work-eligible welfare recipients in unsubsidized employment depends on both an *opportunity* to participate and a sufficient *incentive* to participate. Our incentive evidence appears in Figure 3 and Table 1 [of the June 2007 paper]. Our opportunity evidence appears in Table 2 [of the June 2007 paper].

We encourage commitment to a future work-eligible welfare recipient participation approach that is responsive to our illustrative evidence that labor market absorption capacities differ among local economies and change over time. The challenge faced is not the same or necessarily stable among localities. Uniform effort should not be expected to result in uniform success without differential assistance.

The next section defines the population of Maryland welfare recipients that underlies our statistical results. Section three introduces the new Census Bureau *Quarterly Workforce Indicators Online* data source, identifies other data sources and critical data fields used in our statistical analysis, and introduces basic labor market descriptors. Section four presents the statistical results. Section five concludes with a brief statement about potential policy uses of our findings.

2.0 STUDY POPULATION

2.1 The sample selection criteria

The starting point for our statistical analysis is 1996-2005 Maryland welfare and work histories for 1,712 women born in 1977. Three reasons for this choice are:

1. Women born in 1977 were age 19 in 1996, when TANF welfare reform legislation was enacted. We wanted to concentrate on the age-group of women that became eligible for adult case-head status at the same time as the start of TANF reforms. This coverage offers current policy relevance because these women have many years of potential employment opportunity ahead of them.
2. Previous descriptive analyses¹ have shown important differences in the welfare profiles of these women compared to Maryland pre-TANF 10-year welfare profiles for women ages 19-28 years old.
3. The Jacob France Institute maintains secure historical unit-record databases for Maryland welfare recipients and employees covered by Maryland's unemployment compensation law, through data sharing agreements with the Maryland Department of Human Resources and Maryland Department of Labor, Licensing and Regulation respectively.

Our June 2007 ACF/OPRE Welfare Research & Evaluation Conference report included a sample of 4,020 women born in 1977 selected using the following additional criteria:

- Each woman has a valid Social Security Number issued in Maryland, which serves as a proxy for knowing whether a woman lived in Maryland during the 1996-2005 observation years, and ensures a *possibility* of finding matching welfare records in the maintained DHR database and matching employment and earnings records in the maintained DLLR database.

¹ Robert A. Moffitt and David W. Stevens, "Changing Caseloads: Macro Influences and Micro Composition," *Economic Policy Review*, Vol. 7, No. 2 (September 2001), New York, NY: Federal Reserve Bank of New York, pp. 37-51. (<http://www.ny.frb.org/research/epr/01v07n2/0109moff.pdf>); Chris Herbst and David Stevens (2006), *Before and After TANF Temporary Cash Assistance Caseload Dynamics: Profiles of Women Born in 1967 or 1977*, presented at the August 2006 annual conference of the National Association of Welfare Research and Statistics, Jackson, WY. (http://www.ubalt.edu/jfi/jfi/reports/nawrs_082106.pdf); and Chris Herbst and David Stevens (2007), *Did Welfare Reform Change Work Participation Dynamics? Evidence from Maryland*, presented at the June 2007 Tenth Annual ACF/OPRE Welfare Research & Evaluation Conference (<http://www.ubalt.edu/jfi/jfi/reports/acfconfpaper60107.pdf>).

- Received at least one month of Maryland Temporary Cash Assistance (TCA) benefit between January 1996 and December 2005.

This statistical extension of the June 2007 report adds one new selection criterion:

- Received at least one month of TCA benefit between January 2002 and December 2005. This was necessary to proceed with the statistical analysis because The Jacob France Institute database of historical TCA case information between January 1996 and December 2001 does not include all of the demographic data fields needed to conduct the statistical analyses.

Adoption of this new selection criterion reduced the number of TCA recipients from 4,020 in the June report to 1,712 here. The 2,308 of the 4,020 women that received at least one month of TCA benefit between January 1996 and December 2001, when they were ages 19-24, but then not again during the next four years, when they were ages 25-28, are not included in the statistical results reported here.

Having identified the 1,712 women that received at least one month of TCA benefit during the four years 2002-2005, when they were ages 25-28, we were then able to complete their TCA benefit history from age 19 through age 24. We know the full 1996-2005 TCA benefit profile for each of the 1,712 women.

2.2 Resulting sample descriptors

Table 1, *Sample Member Descriptors*, shows that more than half of the 1,712 women had received their first TCA benefit as an adult case-head before the end of 1996, when they were 19 years old. More than three-quarters of these women are African-American. Almost six out of ten of the women had attained at least a high school diploma or its equivalent. Thirteen percent of the women received their first TCA benefit as an adult case-head while pregnant with their first child. Fewer than one out of five had two or more children when they received their first TCA benefit as an adult case-head, but 57 percent of these women had at least one additional child after this initial spell of TCA as an adult case-head.

Table 1: Sample Member Descriptors

Variable	Mean	Standard Deviation	Minimum	Maximum
Age at first quarter of welfare receipt				
18-19	0.522	0.499	0	1
20-22	0.176	0.381	0	1
23-25	0.179	0.383	0	1
26-28	0.121	0.326	0	1
Black	0.767	0.422	0	1
White	0.211	0.408	0	1
Other/missing race/ethnicity	0.021	0.143	0	1
At least high school degree	0.580	0.493	0	1
Missing education	0.042	0.200	0	1
Number of children at first quarter of welfare receipt				
0	0.130	0.337	0	1
1	0.665	0.471	0	1
2	0.138	0.345	0	1
3+	0.033	0.180	0	1
Additional children after first quarter of welfare receipt	0.573	0.494	0	1
Missing information on children	0.031	0.174	0	1

3.0 DATA SOURCES AND DEFINED DATA FIELDS

3.1 The *Quarterly Workforce Indicators Online* data source

The Census Bureau Quarterly Workforce Indicators Online tool² was first used to estimate local labor market absorption capacity in our pioneering June 2007 ACF/OPRE Welfare Research & Evaluation Conference report. Two of the eight online indicators were used in the June report:

² <http://lehd.did.census.gov/led/datatools/qwiapp.html>, click on *Maryland* to see the full set of online indicators and user selection options. Comprehensive information about the infrastructure files used to build the Quarterly Workforce Indicators is available in John M. Abowd, Bryce E. Stephens, Lars Vilhuber, Fredrik Andersson, Kevin L. McKinney, Marc Roemer and Simon Woodcock (2005), *The LEHD Infrastructure Files and the Creation of the Quarterly Workforce Indicators*, Technical Paper No. TP-2006-01 (<http://lehd.dsd.census.gov/led/library/techpapers/tp-2006-01.pdf>). Appendix A to that paper, titled *Definitions of Fundamental LEHD Concepts*, is available as a separate document (http://lehd.dsd.census.gov/led/library/techpapers/QWI_definitions.pdf).

- *New hires*—defined as an accession in a reference year/quarter that was not preceded by affiliation with the same employer during any of the previous four quarters. These are truly new hire transactions, not including recall of former employees.
- *Average new hire earnings*—defined as total quarterly earnings of all full-quarter new hires divided by the number of full-quarter new hires, divided by 3 to arrive at a monthly amount. Full-quarter, in turn, is defined to include only those new hire transactions that resulted in reported continued affiliation with the same employer during the next two quarters. This is important because we do not know when during the initial hire quarter the employee actually began work for this employer; and, if s/he left this employer during the third quarter in the defined sequence, we do not know when employment ended. However, the middle quarter in the three-quarter sequence can be defined as a full-quarter of employment with some confidence—s/he was hired in the previous quarter and was still reported as employed in the following quarter. Having said this, we cannot say with certainty that s/he worked throughout this full-quarter, and we do not know whether the employment is full-time or part-time (for any of the DLLR quarterly reports of employment and earnings).

The *new hires* and *average new hire earnings* data series were used in our preliminary statistical analysis for the current report and one new indicator was added:

- *Net job flow*—defined as the difference between the number of employees reported by a designated employer in a chosen reference quarter and the number of employees reported by this employer in the previous quarter. The resulting difference is influenced by the mix of accessions (new hires plus recall of former employees) and separations (the sum of voluntary and involuntary departures of employees). The same *net job flow* count can result from many different pairings of accessions and separations.

We have not included findings pertaining to the *average new hire earnings* and *net job flow* in Section 4 that follows because no statistically significant and policy relevant effects of these local economic indicators were found.

3.2 Labor market descriptors

Table 2, *Labor Market Descriptors*, shows the statewide average annual number of new hires and average statewide monthly new hire earnings level for the four industry sectors described in our June 2007 report as ‘traditional hiring destinations’ for Maryland welfare recipients.

The four North American Industry Classification System (NAICS) defined industries covered here are:

- Retail trade (NAICS codes 44 and 45);
- Administrative and support services, which includes personnel staffing and temporary help agencies (NAICS code 56);
- Health care and social assistance (NAICS code 62); and
- Accommodation and food services (NAICS code 72).

Table 2: Labor Market Descriptors

	Mean	Standard Deviation	Minimum	Maximum
Quarterly new hires (1,000s)				
Retail trade	6.823	3.907	0.054	20.552
Administrative/support services	9.864	5.173	0.005	18.747
Health care/social assistance	5.013	2.539	0.022	14.475
Accommodation/food services	6.837	2.980	0.043	14.817
Monthly new hire earnings (\$1,000s)				
Retail trade	1.402	0.211	0.654	3.259
Administrative/support services	1.481	0.360	0.383	5.050
Health care/social assistance	2.096	0.331	0.719	4.693
Accommodation/food services	0.991	0.204	0.293	3.426

Source: Quarterly Workforce Indicators Online, LEHD Program, Census Bureau.

3.3 Other data sources and defined data fields

The Jacob France Institute maintains a secure historical database of monthly Maryland Temporary Cash Assistance payments and case member demographics under an Interagency Agreement with the Maryland Department of Human Resources. Over the years of authorized data sharing, the Maryland Department of Human Resources has migrated from the AIMS to CARES database management system, and The Jacob France Institute has requested different extracts of data fields depending upon the requirements for research and evaluation studies approved by the Department. This combination of evolving data availability continues to limit the types of statistical analysis that can be conducted by the Institute staff. For this statistical extension we extracted a 10-year history of monthly TCA benefits received between January 1996 and December 2005, for each of the 1,712 women who were age 19 in 1996.

The Jacob France Institute also maintains secure historical databases of quarterly employment and earnings reports and industry affiliations under an Interagency Agreement with the Maryland Department of Labor, Licensing and Regulation. This data file enables us to trace the quarter-to-quarter pattern of covered Maryland employment, earnings level and industry affiliation over the 10-year observation period 1996-2005.

3.4 The critical data fields

Our goal in this statistical extension of the June 2007 ACF/OPRE Research & Evaluation Conference descriptive paper is to discover policy-relevant correlates of four possible circumstances for 1,712 TCA recipients.

- Work, no welfare—defined as having received Maryland reported earnings of any amount in a reference year/quarter, but not having received Maryland cash assistance benefit payment during any of the three months of the reference year/quarter.
- Welfare, no work—defined as having received one, two or three months of Maryland cash assistance benefit payment during a reference year/quarter, but not having received Maryland reported earnings during that reference year/quarter.
- Work and welfare—defined as having received both Maryland cash assistance in one, two or three months during a reference year/quarter and Maryland reported earnings during this reference year/quarter.
- No work and no welfare—defined as having no record of Maryland cash assistance in any of the three months of a reference year/quarter and no evidence of Maryland reported earnings during this reference year/quarter.

We have 1,712 women and 40 observation quarters between January 1996 and December 2005; a total of 68,480 person-quarters, each coded as one of the four mutually-exclusive circumstances defined in the dot-points above. The statistical results that follow in Section 4 report what ‘matters’ in explaining each of these circumstances. In January 1996 some of these women were in an open Maryland TCA benefit spell.³ This is taken into account in some of the analyses reported on in Section 4.

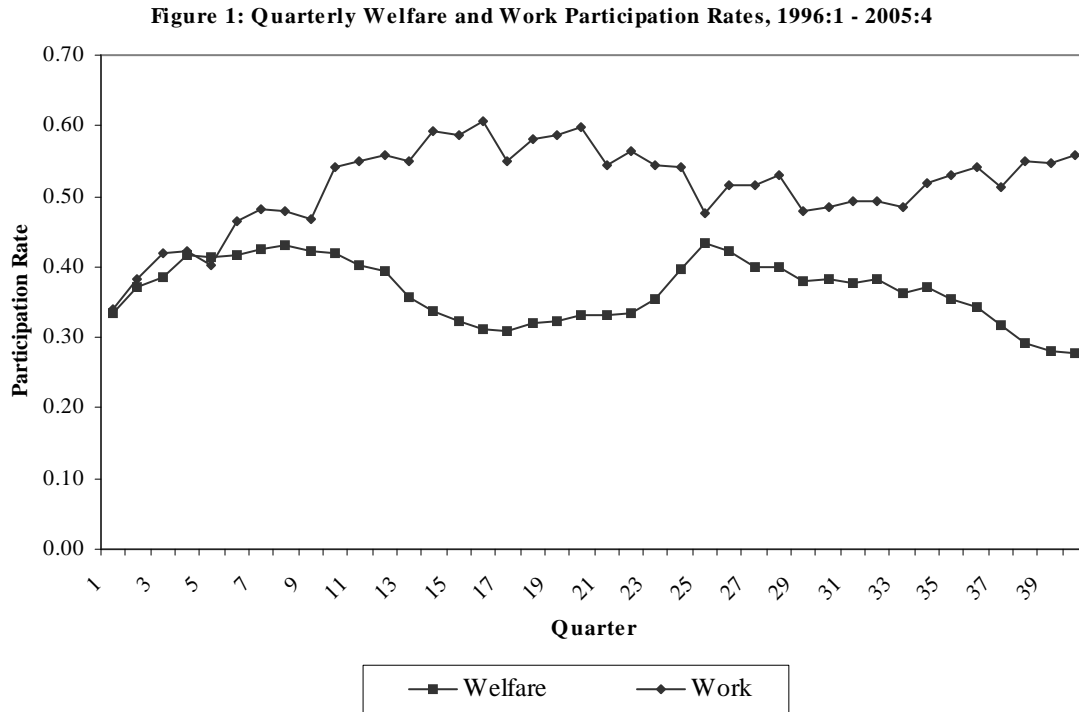
4.0 FINDINGS

4.1 Welfare and work profiles

We preface our report of statistical estimates with a series of descriptive charts and tables. These provide a solid foundation for the interpretation of welfare and work correlates that follows.

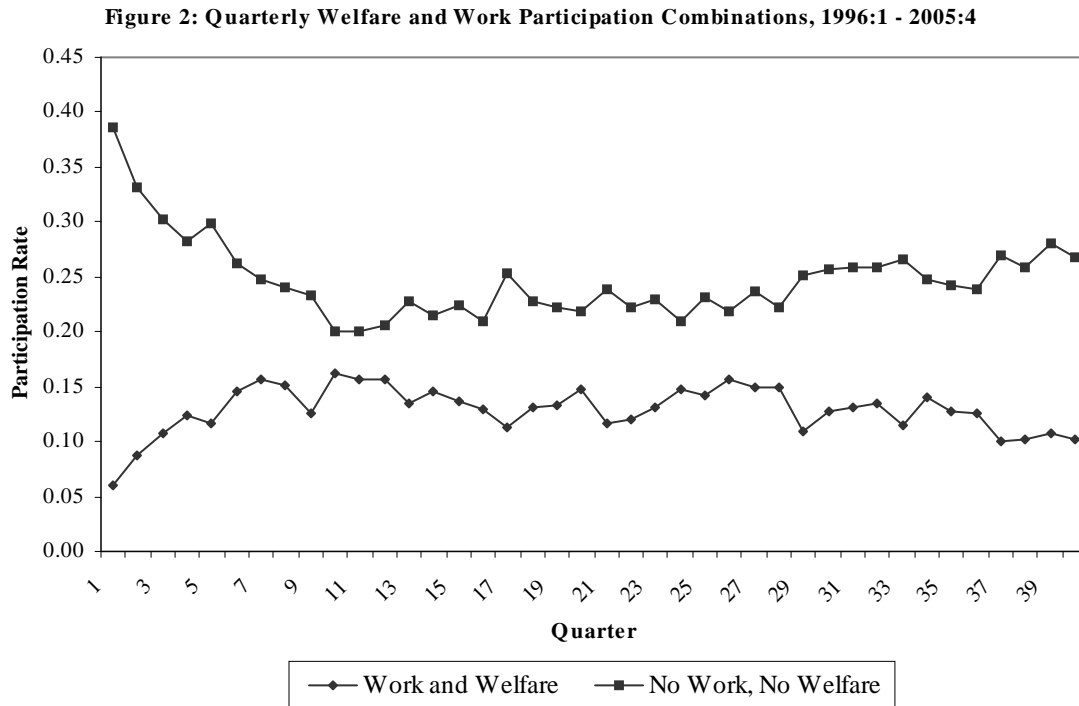
³ We added 1993-1995 Maryland TCA benefit information in anticipation of future study of whether being in a welfare-receiving household as an adolescent is correlated with later adult case-head status. So, we identified the women in our sample of 1,712 that received Maryland TCA benefits in both December 1995 and January 1996. These women are defined as having entered the 10-year observation period as an open spell of cash assistance; in technical terms there is no left-truncation of cash assistance receipt at the January 1996 threshold.

Figure 1, *Quarterly Welfare and Work Participation Rates, 1996:1-2005:4*, shows for each of the 40 reference quarters: (1) the percentage of the 1,712 women that received Maryland TCA benefits; and (2) the percentage of these women that had Maryland reported employment. These are independent percentage calculations from separate administrative data files—one from the Maryland Department of Human Resources and the other from the Maryland Department of Labor, Licensing and Regulation. The quarterly time-unit is used because the employment data are only available this way.



The welfare participation rate falls in the 30 percent to low 40 percent range throughout the 10-year observation period, 1996-2005. The employment participation rate falls in the 50 percent to 60 percent range, except in the first two years, 1996 and 1997, when the women were ages 19 and 20. The eight-month national recession, from March through October 2001, appears as quarters 21, 22 and 23 on the x-axis of Figure 1.

Figure 2, Quarterly Welfare and Work Participation Combinations, 1996:1-2005:4, draws upon the DHR and DLLR databases together, showing for each of the 40 observation quarters: (1) the percentage of the 1,712 women that had both Maryland reported employment and any combination of one, two or three months of Maryland TCA benefit⁴; and (2) the percentage of these women that had neither Maryland reported employment nor any monthly Maryland TCA benefit in the same reference quarter.



Again excepting the first two observation years, 1996 and 1997, when the women were ages 19 and 20, the percentage of the women with no TCA benefit and no employment in the same reference quarter falls in a narrow band between 20 percent and 27 percent over the next eight years. Those with both TCA and employment in the same reference quarter also remain in a narrow range from 10 percent to 16 percent over the nine years 1997-2005.

⁴ Our use of the label ‘work and welfare’ does not mean that a woman actually had overlapped timing of employment and TCA benefit. Again, the DLLR employment data are reported on a quarterly basis, so we do not know exactly when within a reference quarter a woman was working.

4.2 Entry into and exit from welfare

Table 3, Percent of Entries into and Exits from Welfare, 1996:1-2005:4, by Duration in Calendar Quarters, shows the length of completed TCA spells for three subpopulations of the 1,712 women:

- Initial entry—includes only the women who began a TCA spell within the observation years, omitting the women who were in an open TCA spell as of December 1995, and measures the fraction of those beginning their first spell during each of the designated time intervals.
- Initial exit, ongoing spells—calculates the fraction of women with spells in progress as of January 1996 exiting TCA during each of the designated time intervals.
- Initial exit, new spells—includes only the women who started a TCA spell within the 10 observation years, and measures the duration of that spell.

Table 3: Percent of Entries into and Exits from Welfare, 1996:1 – 2005:4, by Duration in Calendar Quarters

Quarters (Months)	Initial Entry	Initial Exit: Ongoing Spells	Initial Exit: New Spells
<= 2 (6 months)	0.123	0.080	0.242
<= 4 (12 months)	0.234	0.209	0.481
<= 8 (24 months)	0.383	0.432	0.745
<= 12 (36 months)	0.471	0.634	0.875
<= 16 (48 months)	0.530	0.799	0.925
<= 20 (60 months)	0.601	0.868	0.956
Cases	1,143	569	1,675
Observations	18,567	6,408	10,436
Completed Spells	1,143	564	1,565

Table 3 shows that 23 percent of the women started their first TCA spell during 1996—the first year of the study period—and 48 percent of these new TCA spells ended within one year, and 75 percent ended within two years.

4.3 Regression estimates of welfare and work correlates

Table 4, *Multinomial Logistic Regression Estimates of Welfare and Work Correlates*, shows the estimated effect of each variable on a woman’s probability of being in each of three defined welfare and work combinations relative to the probability of being in a fourth (comparison) category.⁵ The three work/welfare combinations are defined as follows: (1) receiving welfare and not working; (2) receiving welfare and working; and (3) not receiving welfare and working. The fourth, comparison, category includes women who are not receiving welfare and not working.

⁵ In a multinomial regression one of the defined categorical dependent variable values is omitted, so each marginal effect is interpreted as the effect of a defined attribute on being in a defined dependent variable category other than this omitted category.

The three Age Group marginal effect estimates are interpreted relative to the omitted age group 18-19 years old. The African-American coefficient estimate is relative to White women in the sample. The At Least High School Diploma or Equivalent marginal effect estimate is relative to Less Than High School Attainment. And each of the Number of Children marginal effect estimates is relative to the women who were pregnant and had no other children when beginning their initial TCA spell.

Table 4: Regression Estimates of Welfare and Work Correlates

	Welfare, No Work		Welfare & Work		Work, No Welfare	
	Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error
Unemployment rate	0.006	(0.008)	-0.005	(0.005)	0.002	(0.009)
Age 20-22	-0.055	(0.009) ^{***}	-0.033	(0.005) ^{***}	0.001	(0.016)
Age 23-25	-0.133	(0.008) ^{***}	-0.083	(0.004) ^{***}	0.086	(0.018) ^{***}
Age 26-28	-0.175	(0.007) ^{***}	-0.107	(0.003) ^{***}	0.124	(0.024) ^{***}
Black	0.018	(0.010) [*]	0.057	(0.005) ^{***}	-0.008	(0.016)
Other/missing race	0.049	(0.036)	0.033	(0.021)	-0.059	(0.042)
At least high school diploma or equivalent	-0.074	(0.008) ^{***}	-0.004	(0.004)	0.136	(0.012) ^{***}
Missing education	-0.097	(0.014) ^{***}	-0.042	(0.007) ^{***}	0.141	(0.031) ^{***}
1 child	-0.001	(0.010)	0.015	(0.006) ^{**}	-0.001	(0.017)
2 children	0.020	(0.015)	0.012	(0.009)	-0.041	(0.022) [*]
3+ children	0.035	(0.033)	0.005	(0.016)	-0.087	(0.036) ^{**}
Additional children	0.073	(0.008) ^{***}	0.013	(0.005) ^{**}	-0.056	(0.013) ^{***}
Missing children	-0.074	(0.024) ^{***}	-0.019	(0.015)	0.062	(0.040)
Constant	-1.012	(0.715)	-3.899	(0.890) ^{***}	-1.927	(0.635) ^{***}
County fixed effects			Yes			
Year dummies			Yes			
County-specific time trends			Yes			
Number of observations			68,480			
Log-likelihood			-82,529.181			

Notes: Marginal effects are presented, along with standard errors (in parentheses). Standard errors are corrected for clustering of observations at the individual level. ^{***}, ^{**}, ^{*} indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

The status Work, No Welfare can be thought of as the preferred one of the three statuses defined in [Table 4](#), so interpretive attention focuses on the marginal effect coefficients in this column of the table. For example, the marginal effect coefficient associated with the combination of row variable *at least high school diploma or equivalent* and column header *work, no welfare* has a value of 0.136. This is interpreted as “sample women with at least high school educational attainment are 13.6 percentage points more likely to be working and not receiving TCA, relative to doing neither.”

We see in [Table 4](#) that age has a statistically significant positive marginal effect on a woman's probability of working and not receiving TCA. Having attained at least a high school diploma or its equivalent also has a statistically significant positive marginal effect on a woman's probability of working and not receiving TCA. And having three or more children, and having additional children after beginning a spell of TCA within the 10-year observation period, both exhibit a statistically significant negative marginal effect on a woman's probability of working and not receiving TCA.

The results shown in [Table 4](#) are consistent with what other researchers have found. These findings are also consistent with what one would expect to find without prior knowledge of the research literature.

Our statistical estimates that follow in [Table 5](#) and [Table 6](#) are new. No predecessor has conducted a study of this kind. Availability of the Quarterly Workforce Indicators Online data source allowed us to carry out this pioneering analysis.

4.4 Marginal effect estimates using Quarterly Workforce Indicators data

An important finding in our June 2007 report was that there are large differences in the local availability of job openings in the industries that absorb most TCA recipients—retail trade, administrative and support services, health care and social assistance, and accommodation and food services. And, in addition to intrastate differences at a defined time, hiring in these industries fluctuates unevenly across Maryland.

Most predecessors who have estimated the impact of local economic conditions on participation in work by welfare recipients have used county-level monthly unemployment estimates as the sole measure of economic condition difference and change. This indicator is imperfect for the intended purpose.

The Quarterly Workforce Indicators Online data source allowed us to substitute quarterly county-level new hires of women ages 19-34 in each of the four industries for the weak monthly unemployment rate figure as a measure of economic condition difference and change. [Table 5](#), *Marginal Effect of Local Industry-specific Hires*, substitutes industry-specific hires for the previous unemployment rate variable in re-estimating the multinomial logistic regression results shown in [Table 4](#) above. Each of the four industry-specific hires series figures were entered separately, so [Table 5](#) shows the marginal effect of local hires in a defined industry on the three welfare and work status combinations already discussed.

Table 5: Marginal Effect of Local Industry-specific Hires

Variable	No Work, Welfare		Work, Welfare		Work, No Welfare	
	Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error
Model 1: Retail trade						
ln(retail trade)	-0.023	(0.015)	0.018	(0.013)	0.035	(0.016)**
County fixed effects				Yes		
Year dummies				Yes		
County-specific time trends				Yes		
Number of observations				68,480		
Log-likelihood				-82,526.150		
Model 2: Administrative and support services						
ln(admin/support services)	-0.019	(0.008)**	0.009	(0.005)	0.018	(0.009)*
County fixed effects				Yes		
Year dummies				Yes		
County-specific time trends				Yes		
Number of observations				68,480		
Log-likelihood				-82525.519		
Model 3: Health care and social assistance						
ln(health care/social assist)	-0.009	(0.008)	0.0004	(0.007)	0.007	(0.011)
County fixed effects				Yes		
Year dummies				Yes		
County-specific time trends				Yes		
Number of observations				68,480		
Log-likelihood				-82,530.364		
Model 4: Accommodation and food services						
ln(accommo/food serv)	-0.029	(0.007)***	0.037	(0.006)***	0.039	(0.009)***
County fixed effects				Yes		
Year dummies				Yes		
County-specific time trends				Yes		
Number of observations				68,480		
Log-likelihood				-82,503.846		

Notes: Marginal effects are presented, along with standard errors (in parentheses). Standard errors are corrected for clustering of observations at the individual level. The dependent variable is defined as follows: 1=no work, no welfare; 2=no work, welfare; 3=work, welfare; 4=work, no welfare. The base category in all models is 1. All models include the variables presented in Table 4, except the unemployment rate. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5 shows that the marginal effect of accommodation and food services hires on the status Work, No Welfare is positive and statistically significant, while the marginal effect of accommodation and food services hires on the status Welfare, No Work is negative and statistically significant. The same pattern of positive and negative marginal effects is also seen with respect to administrative and support services hires, although with a lower level of statistical significance in each case. Retail trade hires is shown to have a positive and statistically significant marginal effect on the status Work, No Welfare, but no statistically significant effect on the status Welfare, No Work. We attribute the absence of statistically significant marginal effect estimates for the health care and social assistance industry classification to the greater diversity of occupational mix within this industry, with many hire transactions spread among professional occupations that are unlikely to be accessible by most welfare recipients.

Table 6, *Marginal Effect of Local Combined Industries Hires*, shows impact estimates calculated by substituting the sum of local new hires in Retail Trade and Accommodation and Food Services for the unemployment rate indicator used to derive the Table 4 marginal effect estimates. Here, in Table 6, we see what would be expected from the separate industry-specific Table 5 marginal effect estimates—local hiring in the combination of Retail Trade and Accommodation and Food Services has a reinforcing marginal effect on the status pairings of welfare and work—a larger negative marginal effect on the status Welfare, No Work, and a larger positive marginal effect on the status Work, No Welfare

Table 6: Marginal Effect of Local Combined Industries New Hires

Variable	No Work, Welfare		Work, Welfare		Work, No Welfare	
	Marginal Effect	Standard Error	Marginal Effect	Standard Error	Marginal Effect	Standard Error
Model 1: Total New Hires						
ln(total new hires)	-0.041	(0.010)***	0.044	(0.010)***	0.058	(0.012)***
County fixed effects				Yes		
Year dummies				Yes		
County-specific time trends				Yes		
Number of observations				68,480		
Log-likelihood				-82,507.268		

Notes: Marginal effects are presented, along with standard errors (in parentheses). Standard errors are corrected for clustering of observations at the individual level. The dependent variable is defined as follows: 1=no work, no welfare; 2=no work, welfare; 3=work, welfare; 4=work, no welfare. The base category in all models is 1. All models include the variables presented in Table 4, except the unemployment rate. ***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

5.0 POLICY RELEVANCE OF THE MARGINAL EFFECT ESTIMATES

The first two sentences of our June 2007 report titled *Did Welfare Reform Change Work Participation Dynamics? Evidence from Maryland* began with the following two sentences:

Participation of work-eligible welfare recipients in unsubsidized paid employment depends in part on a local economy's capacity to employ them. We show how this absorption capacity differs among local economies and changes over time.

That first report from our two-part study delivered descriptive evidence about local absorption capacity differences and changes, focusing on Anne Arundel County and Baltimore City data at two points in time. The current statistical extension of that descriptive report broadens the scope of attention to all counties in Maryland and to the 40 calendar quarters of 1996 to 2005.

Table 5 and Table 6 of the present report deliver the essence of our statistical findings. Local hiring in the traditional industries that continue to absorb many welfare recipients into employment does matter—having a positive and statistically significant effect on the status pairing Work and No Welfare, and having a negative and statistically significant effect on the status pairing Welfare and No Work. The magnitude of local industry-specific hiring impacts the participation of work-eligible welfare recipients in unsubsidized paid employment.

The most compelling policy relevant conclusion to be drawn from our two-part study is that local departments of social services should be distinguished from one another with respect to the degree of difficulty that their staffs experience when attempting to assist work-eligible welfare recipients to transition into unsubsidized employment. Differences in degree of difficulty, and changes in comparative degrees of difficulty over time among the local offices, translate into differences in resources needed to serve their work-eligible clients.