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## The impact of welfare reform on leaver characteristics, employment and recidivism: an analysis of Maryland and Missouri

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Characteristics, Employment and Recidivism:  
An Analysis of Maryland and Missouri**

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# **The Impact of Welfare Reform on Leaver Characteristics, Employment and Recidivism: An Analysis of Maryland and Missouri**

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## **ABSTRACT**

### **The Impact of Welfare Reform on Leaver Characteristics, Employment and Recidivism: An Analysis of Maryland and Missouri\***

State and federal reforms of the 1990s transformed the U.S. cash assistance program for single parents and their children. Despite an extensive literature examining these changes and their impacts, there have been few studies that consider the effects of these reforms from the perspective of the recent period. The analysis here focuses on the characteristics and employment of welfare recipients in Maryland and Missouri, 1991-2004. We find that there has been only modest change in the observable characteristics of those entering, remaining on or leaving welfare, but the importance of employment has grown for each of these groups. We also examine the dynamics of employment and welfare recidivism, comparing cohorts of leavers prior to and after welfare reform. We find that after welfare reform leavers are much more likely to be working. Although in Maryland those working have earnings that are somewhat below employed leavers prior to reform, in Missouri earnings for employed leavers are unchanged. In both states, the types of jobs leavers hold have not changed substantially, and leavers are less likely to return to welfare following reform.

JEL Classification: J0, J01, J08, J18, J31

Keywords: welfare reform, earnings, employment

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## **I. Introduction**

Welfare reform legislation at both the state and national levels since the mid-1990s has transformed the U.S. cash assistance program for single parents and their children. Among the stated goals of the federal reform legislation was to “end the dependence of needy parents on government benefits by promoting job preparation, work, and marriage.”<sup>1</sup> By 2000, caseloads had declined in every state from peaks in the mid-1990s, with the national caseload declining by more than one half.<sup>2</sup> Yet whether these declines represent improvements in the long-run well-being of current and former welfare recipients remains a contentious issue. Research has shown that post-reform welfare leavers have low levels of job skills and are working in jobs with low wages, few benefits, and little security. Of course, many welfare leavers have always had limited job skills and have been concentrated in low-paying jobs. A relatively small number of studies are able to compare welfare recipients prior to and after reform. Even studies that make these comparisons are handicapped by a short time frame, observing post-reform recipients in the late 1990s, when economic growth was at near-unprecedented levels.<sup>3</sup> Therefore, the impact

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<sup>1</sup> Personal Responsibility and Work Opportunity Reconciliation Act of 1996, Public Law 104-193, August 22, 1996.

<sup>2</sup> Reviews of the literature on the impacts of welfare reform and the economy on caseloads are provided in Bell (2001), Blank (2002) and Grogger and Karoly (2005); a broader survey of the literature on the factors influencing welfare caseloads is provided in Mayer (2000). Meyer and Rosenbaum (2001) provide an analysis focusing on the role of the federal Earned Income Tax Credit. Perhaps the most influential single study is the Council of Economic Advisors (1999) report, although its findings that legislation played a central role in caseload declines have been questioned (see especially Ziliak et al. 2000). See Danziger (1999) for a good collection of early studies.

<sup>3</sup> An earlier analysis of welfare reform in Missouri, extending through 1999, is provided in Carrington, Mueser and Troske (2002). King and Mueser (2005) look at the employment experiences of welfare recipients in six cities over the period of welfare reform, but their analysis extends only through 1999.

that welfare reform has had on the longer-term well-being of recipients remains an open question.

This paper explores this question by examining the dynamics of welfare participation and employment in Maryland and Missouri from 1991-2004. Federal welfare reform replaced Aid to Families with Dependent Children (AFDC) with Temporary Assistance for Needy Families (TANF) in late 1996 in both states. But, like most other states, Maryland and Missouri had instituted substantial reform by that time, with the most important state reforms implemented in 1995. While the structure of welfare reform differed substantially across states,<sup>4</sup> those in Maryland and Missouri are representative of the general move toward more severe constraints on recipients and greater emphasis on employment. Missouri's welfare caseload displays a pattern very similar to that for the U.S. as a whole, reaching a peak in 1994, with a decline to approximately half the peak level by the end of the decade. In Maryland the decline from the caseload peak in the early 1990s was even greater, with the caseload in 2000 less than one-third its level in the early 1990s.

We first examine changes in the demographic and family characteristics of welfare recipients, and those moving onto and off of welfare over the period 1991 to 2005, spanning the period of active welfare reform. Aside from providing an initial indication of the impacts of welfare reforms, these analyses suggest the degree to which results may be influenced by changes in the characteristics of welfare recipients due to reform (Hoynes, 2001). We also

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<sup>4</sup> The difficulties in classifying states' reforms are illustrated by McKernan, Bernstein, and Fender (2005).

examine changes in the welfare and employment history of recipients moving onto and off of welfare over this period.

We then consider the experiences of three cohorts of welfare leavers, those leaving welfare in fiscal year 1993 (July 1992-June 1993), those leaving welfare in fiscal year 1997 (July 1996-June 1997) and those leaving in fiscal year 2002 (July 2001-June 2002). The first period identifies welfare leavers prior to welfare reform. At that point, the caseload was near its peak in both states, and the regulations governing welfare were essentially those of the standard AFDC program, which had changed relatively little since the early 1980s. The second period occurs after substantial policy change. Our ability to compare recipients prior to reform with recipients after reform is one of the main strengths of our analysis. Using these data we examine the dynamics of employment and welfare recidivism for welfare leavers as well as changes in the characteristics of welfare leavers' employers. This latter analysis is important because previous research has shown that employer characteristics, such as employment size-class, industry and total payroll are correlated with an employee's wages, benefits, wage growth, and employment stability (Krueger and Summers, 1988; Brown, Hamilton and Medoff, 1990; Davis and Haltiwanger, 1992; Troske, 1999). The third period is well after the implementation of the primary reforms and covers a period when the economy had stopped growing and had moved into a modest recession. A comparison of the detailed patterns for these cohorts allows us to directly consider changes occurring over the period of welfare reform as well as to identify the relative importance of the economy.

## **II. Previous Research Examining Welfare, Employment, and the Impact of Reform**

Concern with the work activities of welfare recipients goes back to at least the 1960s, when implementation of the federal Work INcentive (WIN) program required states to assure that recipients had access to job search services. Corresponding with this popular concern was a body of research examining the work disincentive effects of AFDC. Although early work suggested that the labor market was of secondary importance in explaining flows onto and off of welfare (Moffitt, 1992), by the early 1990s, new research found that 40-70 percent of exits from welfare in the mid-1980s were associated with employment (Blank, 1989; Harris, 1993; Blank and Ruggles, 1996). Analyses examining the determinants of welfare exits showed that measures indicating opportunities in both the labor and marriage markets were associated with welfare exits (Fitzgerald, 1991; Hoynes, 1997; Ribar, 2005).

Previous research also found that welfare recidivism was related to labor market conditions. Among welfare leavers with employment, the kind of job plays an important role in determining whether the individual returns to welfare, with those in higher-paying industries less likely to return (Lane and Stevens, 1995, 2001; Bartik, 1997; but see also Harris, 1996).

Research based on data from AFDC prior to reform also shows that welfare experiences do not necessarily preclude later labor market success. When individuals receiving AFDC at a given point in time are followed for several years, labor force participation and earnings increase (O'Neill and O'Neill, 1997) and some studies suggest that wages actually approach those of similar individuals who did not participate in AFDC (Moffitt and Rangarajan, 1989). Insofar as welfare recipients continue to fare less well than others, this appears to be the result of less stable employment (Gladden and Taber, 2000; Loeb and Corcoran, 2001).



Of course, these findings are based on examining AFDC recipients, who could continue to receive benefits indefinitely. In contrast, recipients under TANF face limits on the number of years they can receive benefits<sup>5</sup> and are, with some exceptions, required to work or to participate in work-related activities in order to remain eligible for benefits. Given these changes, much interest has focused on the employment of recipients and reform's impact on welfare exits, and on the difficulties that former recipients have obtaining stable employment to provide earnings self-sufficiency.

Reforms have been associated with substantial increases in the levels of employment for recipients (Department of Health and Human Services, 2000). We know that those who leave welfare are likely to be working, but that their earnings are often very low and that many of them are suffering substantial hardship (Tweedie, et al., 1999; Parrott, 1998; Acs and Loprest, 2004). In contrast to expectations, it does not appear that reforms have caused welfare caseloads to become more disadvantaged (Moffitt and Stevens, 2001), although since the implementation of TANF the proportion nonwhite has increased substantially (Zedlewski and Anderson, 2001).<sup>6</sup>

Following reforms, employment continues to play an important role in welfare exits, but existing studies provide little basis for examining changes in the dynamics of welfare use and employment occurring with reform. This is because most studies focus on recipients after

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<sup>5</sup> Federal TANF rules specify a lifetime limit of 60 months of receipt. Three states have passed legislation that provides cash funding for recipients beyond this time limit and several others allow for various exceptions to the 60-month limit. In contrast, seven states specify shorter lifetime limits, and more than a dozen others limit the number of consecutive months to less than the lifetime limit. Maryland and Missouri apply the 60-month limit without important modification. See McKernan et al. (2005), and Grogger and Karoly (2005).

<sup>6</sup> Payees in "child only" cases are not generally counted as TANF recipients, and we are not aware of any studies that consider their characteristics.

reform as opposed to comparing the behavior of recipients before and after reform. Two studies that do make this comparison are Loprest (2001) and Cancian, et al. (2002). Loprest (2001) uses a national sample to compare the experience of individuals leaving welfare in 1995-1997 with those leaving in 1997-1999. She finds that the levels of employment and earnings are, if anything, higher in the more recent period. Unfortunately, this does not provide a clear picture of the impact of reforms since most states had already enacted major reforms to their welfare system prior to or during the 1995-1997 period. Cancian, et al. (2002) use administrative data from Wisconsin and compare individuals leaving welfare in September 1995 with those leaving welfare in September 1997. Similar to Loprest, Cancian, et al. find that the rate of employment is higher in the later cohort, but, in contrast to Loprest, they find that earnings are lower. However, Cancian et al. are also unable to make a clear comparison between leavers prior to welfare reform and after welfare reform because Wisconsin had substantially reformed its welfare system prior to 1995.

Based on the national Survey of Income and Program Participation, Bavier (2001) provides comparisons of employment rates between leavers at different points in time as far back as the 1980s. He argues that post-reform employment rates for welfare leavers are not generally higher than during earlier periods of economic growth. He also does some limited comparison for years in the late 1990s that suggest leavers may actually be worse off after reforms. Grogger and Karoly (2005) identify the effects of welfare reform based on a review of experimental studies, observational studies focused on particular reforms, and studies that consider reform “as a bundle.” They find that reforms have increased employment for low-skilled individuals but that effects on income and recipients’ long-run well-being are less clear cut. They suggest that

there may be “tradeoffs among the goals of reducing dependency, promoting work, and alleviating need” (p. 153).

As we discuss in more detail below, one of the main advantages of our study relative to prior studies is that, given the extended time series available in our data and the timing of welfare reform in Maryland and Missouri, we are able to provide detailed comparisons of the welfare experience both before and after reforms were implemented.

### **III. Welfare Reform in Maryland and Missouri**

In both Maryland and Missouri, important welfare reform initiatives were implemented in 1995. In Maryland, the Family Investment Program was implemented county-by-county beginning in 1995, requiring up-front job search and including various child support provisions. In August 1996, statewide waivers were granted specifying work requirements; TANF was formally implemented in October. In 1997, federal time limits became effective.

Late in 1994, Missouri began implementation of major welfare legislation. The new legislation required recipients to agree to a plan for obtaining self-supporting employment within two years, raised allowable asset levels, increased efforts to establish paternity, required minor parents to live with their parents, established a wage supplementation program, and provided for sanctions for recipients failing to meet program requirements. Despite the apparent scope of the legislation, in part it codified changes already under way; in the short run it provided only moderate changes in the rules faced by a typical recipient. In April 1995, a federal waiver specifying work requirements was approved. Federal welfare reform replaced AFDC with Temporary Assistance for Needy Families (TANF) at the end of 1996, but associated policy

changes in Missouri were relatively small, since state reform had already occurred, and no state legislation was passed at that time. One of the important changes in 1996 was the imposition of a five-year lifetime limit on welfare receipt.

In both states, between 1993 and 1998, recipients faced increased restraints and growing pressure to participate in training and employment. The changes are reflected in the likelihood that a recipient would face sanctions for violations of the rules. Prior to 1994, in keeping with federal AFDC regulations, very few sanctions were applied in any state. By 1998, the proportion of the caseload facing sanctions was about 11 percent in both Maryland and Missouri, higher than the median state, with a rate of 5 percent, but still below about a third of the states (U.S. General Accounting Office, 2000, p. 52). In addition to the program changes enacted, there were important changes in the way caseworkers were trained and rewarded during the 1990s. Through the early 1990s, caseworkers were evaluated for accuracy in processing applicants and assuring that they were placed on the welfare rolls promptly. The legislative activity of the 1990s appears to have placed particular emphasis on the potentially temporary nature of welfare payments, and caseworkers were told to emphasize this to recipients.

Although there are numerous differences across states, neither Maryland nor Missouri are outliers in terms of the policies adopted. In particular, welfare recipients in both states faced increased financial incentives to work and a welfare bureaucracy that was motivated to move recipients towards self-sufficiency. Thus, an examination of welfare recipients in these states before and after welfare reform can tell us much about the broader impact of reform.

Beyond welfare reform, perhaps the most important policy change increasing work incentives over the period of our study was the dramatic increases in the federal earned income

tax credit (EITC), occurring over the period 1994-1996 (Zedlewski and Zimmerman, 2007). Maryland has had a state EITC since 1987, which was made refundable in 1998. As in most states with an EITC, the Maryland program provides a benefit that is calculated as a proportion of the federal program payment. Missouri does not have a state EITC.

#### **IV. The Maryland and Missouri Economies in Context**

Extrapolating from the experiences in Maryland and Missouri requires some understanding of how the economic environment faced by welfare recipients in these states compares with that of welfare recipients in the rest of the U.S. economy. Table 1 presents summary data on the economies of Maryland, Missouri and the United States as a whole, for 1991, before welfare reform began; for 1999, after important reforms had been in place for several years; and for 2004, following the 2001 national recession. These statistics are based on the annual Outgoing Rotation Group (ORG) files from the Current Population Survey (CPS). The table shows that the fraction of employment accounted for by broad industries in 1991 was quite similar for Missouri and the U.S. as a whole. Both Missouri and the U.S. moved away from manufacturing and towards services and construction. Maryland has a somewhat different industrial structure with a manufacturing employment percentage just over half the Missouri and the U.S. percentages and being overrepresented in professional services and government.

Table 1 also compares the racial compositions of the populations for these three areas. Whereas Missouri has a close-to-average share of African-Americans, other minorities are under-represented. In 1999, Asians account for only about 1 percent of the Missouri population, compared with 4 percent for the country as a whole, and Hispanics account for less than 2

percent of the Missouri population, compared with over 11 percent for the country as a whole. In contrast, Maryland has a much larger African-American population than Missouri or the U.S. as a whole, whereas the proportion Asian corresponds closely to the average for the U.S. Like Missouri, Maryland has a smaller proportion Hispanic than the U.S. as a whole. These patterns are largely driven by recent patterns of immigration that have been concentrated in the southwest.

The remainder of Table 1 compares the income and earnings of our two states with those of the U.S. population as a whole. The panels indicate that average personal and household income of Missouri is generally slightly below that of the United States as a whole, whereas the numbers for Maryland are substantially higher. These same patterns are observed in the data for average weekly earnings and average hourly wage.

In terms of the rural-urban division, Missouri is quite typical of the U.S., with two large metropolitan areas, Kansas City and St. Louis. Based on the 2000 Decennial Census the proportion metropolitan in Missouri is 68 percent while the proportion in the U.S. as a whole is 80 percent. In contrast, ninety-three percent of Maryland's population was defined as metropolitan in the 2000 decennial census. In sum, although Missouri is a fairly representative state from most demographic and economic perspectives, Maryland is clearly richer, more racially diverse and more urban than Missouri or the U.S. as a whole.

While Table 1 provides broad insight into the differences between our states and the rest of the U.S., it provides little insight to the precise timing of short-run labor market developments. Such temporary fluctuations are of obvious potential importance when interpreting the patterns of success and failure of welfare reform in Maryland and Missouri. For

this reason, Figures 1-3 report time-series summaries of how the states' labor markets evolved in comparison to the broader U.S. labor market. The charts are based on microdata drawn from the 1991-2004 CPS-ORG files. In these graphs we focus on women, since this is the group primarily affected by welfare reform.<sup>7</sup>

Figure 1 reports the unemployment rate trend for women between the ages of 20 and 60 for Maryland, Missouri and the U.S. The chart shows that while the Maryland and Missouri unemployment series fluctuate more, the general pattern of a falling unemployment rate between 1992 and 2000 and a rising unemployment rate from 2000 through 2004 is present in all three regions. Figure 2 reports the median hourly wage for working women between the ages of 20 and 60 over the same period. The chart shows that median female wages in Maryland, Missouri and the U.S. as a whole have moved in quite a similar fashion over this period. Welfare recipients, of course, may have labor market skills that are less comparable with the median female than they are with the lower tail of the female wage distribution. For this reason, Figure 3 plots the 25th percentile of the hourly wage distribution for Maryland, Missouri and the U.S. as a whole. The chart shows that the lower tail of the three distributions also moved in a similar fashion.

In sum, the evidence presented here suggests that the economies of Maryland, Missouri and the rest of the United States both started and ended the 1990s in a similar position, although workers in Maryland have higher wages throughout the period, and that the labor markets

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<sup>7</sup> One possibility is that welfare reform affected the female labor market itself. Therefore, differences in Figures 1-3 between the U.S. and Maryland and Missouri could be due to differences in the timing of welfare reform. To examine this possibility we have created similar figures using data for men instead of women with nearly identical results.

evolved in a similar fashion over this period. This suggests that the people affected by Maryland and Missouri welfare reform in the 1990s were operating in an economic environment that was fairly representative of general economic conditions in the U.S. over this period.

## **V. Data**

Our data on AFDC/TANF recipients come from administrative records maintained by the states of Maryland and Missouri. For both states, the structure of the information system changed over the period of our study. Our analyses focus on female payees in the AFDC-Basic program or its TANF successor who are at least 18 and at most 56 years of age.<sup>8</sup> “Child only” cases are omitted, since the payee in such cases receives a grant on behalf of children but does not have formal responsibility for them and is therefore exempt from the work or training requirements that parents face. Welfare recipients with only in-kind payments are also excluded.<sup>9</sup>

Since two-parent families receiving payments under the AFDC-UP program are omitted, the unit of our analysis is a single mother with children who receives cash welfare payments, or,

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<sup>8</sup> We limit the analysis to individuals who are at most 56 years old because we are focusing on subsequent employment and older workers may not face the same incentives to work. As a practical matter, given that most recipients are fairly young, this restriction has very little effect on our results.

<sup>9</sup> The decision to focus on cash recipients reflects both substantive considerations and data availability. We do not have data on several of the larger in-kind programs (housing and childcare subsidies) so we are not able to look at any comprehensive indicator of in-kind payments. In addition, we believe that cash payments are useful in identifying a meaningful class of program participants. Historically, cash payments have distinguished AFDC from a variety of means-tested subsidies, many of them operating under local rules and often with waiting lists. Under TANF, this distinction continues to have significance because states retained many salient features (e.g., grant levels) of the prior program, even as the number of cash recipients and therefore the overall importance of cash payments declined.



equivalently, a welfare case headed by such an individual. We have aggregated data into quarters, so that recipients are those who receive payments and met our other selection criteria in any month during a quarter. A recipient in a given quarter is defined as a welfare *arrival* or *entry* if she was not a recipient in the prior quarter; and she is defined as an *exit* or *leaver* if she is not a recipient in the subsequent quarter. Since our information on program participation is limited to Maryland and Missouri, an individual who had received welfare payments outside the state would be considered a new arrival, and welfare in the previous state would not be measured.<sup>10</sup>

Employment and earnings information for each state derives from “wage record” data maintained by the state agency in support of its Unemployment Insurance program.<sup>11</sup> For every individual employed in a covered job, the files indicate total quarterly earnings, along with selected employer information. While the vast majority of the employment for state residents is included in these files, self-employment, illegal or informal employment, and certain employment exempt from reporting requirements, as well as employment outside the state are not included.<sup>12</sup> We match recipient records from the welfare data to the wage record data using

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<sup>10</sup> Payees under 18 years of age are not included in our analysis, and so such cases are coded as a welfare entry on reaching 18. Since special rules apply to payees under 18, we believe it is most useful to view them as entering a new program at that point.

<sup>11</sup> See Hotz and Scholz (2002) for a discussion of the advantages and limitations of these data for studying the employment patterns of welfare recipients. As Edin and Lein (1997) show, prior to welfare reform, a large share of AFDC recipients received payments from undocumented employment. Since reforms increased incentives to hold formal, documented jobs, increases in reported employment for recipients may largely reflect substitution of formal for informal employment. As our focus is on welfare leavers, this bias is expected to be less important.

<sup>12</sup> In the case of Missouri, we have wage record data for Kansas as well as Missouri. Approximately 15 percent of the jobs held by welfare recipients in Jackson County, Missouri (the central county of Kansas City) were in Kansas. In contrast, very few residents of St. Louis,

Social Security Number. If we do not find a record for an individual in a given quarter in the wage record data, we consider the individual to be not employed.

Other work using welfare data from Maryland and Missouri suggests that the basic demographic structure of welfare caseloads, levels of employment for welfare recipients, and changes in these patterns over the 1990s are similar to other states. Mueser and King (2001) compare welfare patterns for Kansas City, Missouri and Baltimore, Maryland through the 1990s with those in four other major metropolitan areas in the Midwest and South and find broadly similar patterns across the six metropolitan areas. Dyke et al. (2006) evaluate job training programs for welfare recipients in Missouri and North Carolina, finding marked similarities in the structure of such programs and their impacts.

## **VI. Caseload Dynamics**

### *Patterns of Welfare Entry and Exit*

In this section, we examine changes in the caseload over the period of our study, movements onto and off of welfare, as well as the characteristics of the caseload and of those beginning and ending welfare spells. Figure 4 provides the basic information on the dynamics of the caseload and its change in our two states. Since there is appreciable seasonal variation in arrivals and departures, as well a variation due to small numbers, statistics are presented for a four-quarter moving average.<sup>13</sup> In Maryland, the caseload grew in the early 1990s to a peak of

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Missouri have jobs in Illinois. In the case of Maryland, a substantial concentration of population is on the border with the District of Columbia and Virginia, but welfare recipients are concentrated in Baltimore City and Baltimore County, so we expect that few commute to jobs outside the state.

<sup>13</sup> The quarter indicated in the figures is the fourth quarter of the year to which the average

just over 62,000 recipients in the third quarter of 1992, with the caseload remaining close to that peak through the end of 1994.<sup>14</sup> However, in the following two years, the caseload declined by about a quarter and continued a steep decline until about 2000 when the caseload stood at less than 20,000. Finally, since 2000, the caseload has continued to decline, although the decline is much more modest. Looking at the number of departures and number of arrivals, we see that the decline was a function both of declining arrivals and of increased departures.

In Missouri (Panel B) the caseload grew steadily in the early 1990s and reached a peak of just over 74,500 in the third quarter of 1994. In 1995, as in Maryland, the caseload began a steady and sharp decline. Again, paralleling Maryland, the caseload has continued to decline since 2000, but at a much slower rate. The caseload decline reflects both an increase in departures and a decline in arrivals.

The similarity in the patterns for the two states is striking. Panel C of Figure 4 presents the departure rate in the two states, showing the similarities in the patterns. It is clear, however, that changes were more dramatic in Maryland, where departure rates more than doubled from below 8 percent to approximately 20 percent over this period. In Missouri, departure rates were initially at around 11 percent and these increased to about one and one-half times that level.

The changes seen in the welfare caseload for Maryland and Missouri parallel those for the country as a whole (National Conference of State Legislatures, 2005). Where we have data

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applies. The appendices in Carrington, et al. (2002) show the extent of seasonal and other quarter-to-quarter variation in such data.

<sup>14</sup> Maryland replaced its data management software during the period 1995:1-1996:3. The unusual pattern of arrivals shown in the figure for the moving average over 1996:4-1997:3 reflects a single outlier in 1996:4, which undoubtedly reflects data inconsistencies not actual variation in flows.

available on the patterns of arrivals and leavers for local areas or for the U.S. as a whole, we see patterns that are very similar to these (Gittleman, 2001; Mueser and King, 2001; King and Mueser, 2005).

### *Changes in the Characteristics of the Caseload and Flows*

We are interested in how the experience of welfare leavers varies over the period of our study. One obvious source of differences is changes in the composition of this group. Did welfare reform alter the composition of the welfare population in Maryland and Missouri? If so, did those effects operate by altering who is attracted to or leaves welfare? Some observers suggested that under welfare reform the relatively able would be the first to move off of welfare, leaving behind those least prepared to enter the labor market.

Figures 5 and 6 provide information on the characteristics of those receiving welfare and on those entering and exiting welfare in Maryland and Missouri, respectively. Panels A and B in Figure 5 examine the proportion classified as nonwhite in Maryland, with treatment of missing differing in the two panels. Panel A treats those with missing race as white and Panel B treats those with missing race as nonwhite. The patterns in the panels are somewhat different, especially in the period when the software and data format were changing in Maryland. In both cases, however, nonwhites are underrepresented among those entering and exiting, a result of the longer periods on welfare for nonwhites. We observe an increase in the proportion nonwhite in the caseload. Both panels show an increase in the proportion nonwhite entering welfare. Panel A would suggest that in the period 1995-1998, whites were particularly likely to leave welfare.

Figure 6 provides comparable statistics for Missouri. We observe the same increase in proportion nonwhite occurring in Missouri as in Maryland, but, in contrast, since 2000 we

observe a large decline. The decline seems to be due to nonwhites leaving welfare at relatively higher rates in the early 2000s than previously. The proportion nonwhite among recipients declines to below 45 percent, lower than in the early 1990s at the beginning of our series.

In order to examine the reasons behind the increase in the proportion nonwhite in more detail, Appendix Figures A-1 and A-2 present the number of arrivals and departures separately for whites and nonwhites for Maryland and Missouri, respectively. Looking at Maryland, it is easy to see why the proportion nonwhite has grown.<sup>15</sup> By 2000, the number of white arrivals had declined by over 60 percent as compared with the early 1990s, whereas the decline for nonwhites was a still-substantial but much smaller 40 percent. Increases in exit rates for whites and nonwhites were similar, both nearly doubling (Panel B). In Missouri, the number of whites coming onto welfare declined by nearly 40 percent during this period, whereas for nonwhites the decline was less than 10 percent. The trends in exit rates partly compensate for this difference, with the exit rate for blacks increasing proportionally more from a lower rate. Notwithstanding differences between whites and nonwhites, perhaps the most important observation is that in both states although the overall decline in the white caseload is greater, for both whites and nonwhites changes in flows onto and off of welfare are large, with change in the number of arrivals and in the exit rate playing a role in observed caseload declines.

Returning to Figures 5 and 6, we observe a small increase in age of payee through the mid-1990s and then a moderate decline. Average age for both arrivals and departures is

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<sup>15</sup> The graphs treat the substantial number of Maryland recipients with unknown race as nonwhite. Although specific numbers change, alternative approaches to dealing with these missing cases produce substantively identical conclusions.

increasing. The change over time is modest relative to the range in ages from 20 to 40 we observe in both samples (standard deviation exceeds 7). Those exiting are about two years older than those entering, with the difference declining over time as individuals spend shorter periods receiving welfare.

Educational levels of recipients in Missouri changed very little prior to 2000 (Figure 6), but have increased by almost 0.2 years by the end of our series. Both arrivals and leavers have more schooling than the caseload as a whole, reflecting the shorter spells of educated recipients. The marked decline in the average educational level of leavers in the second half of 2002 reflects a single quarter (2002:3) and it corresponds with the first set of recipients who were removed from the rolls because of the imposition of the 60-month lifetime limit. Individuals terminated at this point were likely to have received welfare for extended periods prior to imposition of the time limit. The age of an average recipient's youngest child has declined by almost a half a year since 1995, consistent with regulations that make it harder to continue to receive welfare over longer periods. It is clear that recipients are leaving when their children are younger.<sup>16</sup>

Looking at the two sets of figures together, there is some evidence that the implementation of TANF in late 1996 had an influence on the dynamics, given that several graphs show marked changes in trend around that time. However, it is the stability rather than the change that is most notable. The relative stability in mean education for the caseload (in Missouri) up to 2002, suggests that reform did not differentially affect more able recipients. More generally, the stability suggests that the selection effects of welfare reform are not so strong as to vitiate comparisons over time in the experiences of welfare recipients.

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<sup>16</sup> Data on education and age of recipient's youngest child are not available in our longitudinal

## VII. Prior Welfare Experience and Employment for Welfare Recipients

Figures 7 and 8 provide information on the prior welfare and employment experience for the welfare population.<sup>17</sup> Panel A in both figures suggest a substantial decline in the extent to which welfare recipients have prior welfare experience. In the two prior years, the average recipient had received payments during approximately 70 percent of the time, which decreases gradually to just over 50 percent in both states. The decline was less marked for those exiting welfare, who became more like the average recipient. Many of the initiatives associated with welfare reform—most notably time limits—place emphasis on removing long-term recipients from welfare, and these statistics show the impact of such policies.

Panel B shows welfare payments as a proportion of the sum of such payments and earnings, where earnings are based on wage record data. We see that over the period welfare payments gradually became less important as a source of income. In Maryland, the contribution declines from nearly 80 percent to less than 60 percent, and in Missouri from nearly 70 percent to about 46 percent. There was a more modest decline among those leaving welfare, whose proportions are initially about 10 percentage points below the caseload average but are very similar by the end of the period. The prior reliance on welfare of those entering welfare declined slightly in both states.

Perhaps most striking is the increase in the extent of prior earnings for welfare recipients (Panel C). Among welfare recipients, the proportion of the prior eight quarters with positive

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extract of Maryland administrative records.

<sup>17</sup> In Maryland, we have no information on amount of the welfare grant for 1996:4-2003:4, which reduces the time series available for Panel B.

earnings was about 20 percent in Maryland and a bit under 30 percent in Missouri, and it increased by a full 20 percentage points in both, peaking in around 2002. From 2002 to 2005, we observe a modest decline of 5-10 percentage points. An increase is also observed for those leaving welfare and those entering. We also see that the leavers become more similar to the overall caseload during the 1990s.

The results in Figures 7 and 8 provide remarkably similar patterns for each of the three measures of welfare and employment history. Welfare reform is associated with both a large increase in the percent of welfare recipients who are working in a given quarter and with a fairly substantial decline in the fraction of a welfare recipient's income coming from welfare. There is a slight erosion in these employment measures since 2002, although the decline is small.

### **VIII. Comparing Three Leaver Cohorts**

#### *The Impact of Reforms on Welfare Leavers: Employment and Recidivism*

To consider how the experiences of welfare leavers have changed over time, we focus here on three cohorts leaving welfare July 1992-June 1993, July 1996-June 1997, and July 2001-June 2002. The first period predates major welfare reform in both states, and, with relatively few exceptions, the rules correspond to those of the AFDC system that had been largely unchanged since the early 1980s. In neither state were there signs of caseload decline. The second period is nearly two years after implementation of the states' major welfare reforms, which occurred in both states around 1995; formal implementation of the federal TANF program began in late 1996 in both states. During this period, the economy is growing and caseloads are declining, with levels at least 10 percent below their peaks. In the third period, the state economies pass through



a modest recession. Caseloads had declined appreciably since their peak, but the rate of decline in caseloads had slowed significantly.

The top panel in Figures 9 and 10 shows the proportion of leavers who are back on welfare in each of the next eight quarters. The solid line indicates the earliest period, the dashed line the middle period and the dotted line the last period.<sup>18</sup> A leaver is defined by receipt of welfare in a particular quarter and no welfare in the following quarter, so by construction this measure is zero for the first quarter after the quarter of exit. The lines show that in the second quarter about 10 percent of leavers are again receiving welfare and that this proportion increases for all of the cohorts up through the fourth quarter.

The difference between the first two cohorts is substantial in both states. Four quarters after leaving welfare, approximately 21-23 percent of former recipients in the first cohort are again receiving welfare. For the second cohort, the proportion is up to 8 percentage points lower. The decline in welfare receipt for this cohort in quarters 5-8 reflects the fact that some of those who return to welfare leave again, outnumbering the flow of those returning. In the final cohort, return probabilities are intermediate between the earlier two cohorts.

Panel B of Figures 9 and 10 provides employment rates for the welfare leavers in the three cohorts in the eight quarters after leaving. Although employment rates are about 10

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<sup>18</sup> The statistics in these figures aggregate the experiences of individuals leaving welfare in any of the specified quarters. For example, those who leave welfare in 1992:3 are followed for 1992:4-1994:3, while those who leave welfare in 1992:4 are followed for 1993:1-1994:4. This means that an individual who left welfare, returned, and then left again within 1992:3-1993:2 would be counted as a leaver twice in this analysis. (The number of such cases is small.) We were concerned about possible differences in the experiences of individuals leaving welfare in different quarters within each two-year period, so we calculated statistics in both panels of these figures separately for each quarter. Although small differences exist, these are dwarfed by the differences between the cohorts.

percentage points lower in Maryland than in Missouri, the patterns are strikingly similar. In the late 1990s, welfare leavers are much more likely to be working than prior to welfare reform. On the other hand, since 2000, with the slowing of the economy, the likelihood of employment has declined appreciably in both states, but in general it remains above the employment rate for the early 1990s.

If this increase in employment for more recent cohorts is primarily the result of the reformed programs' stringent work requirements, we might expect that the increased employment rate would be accompanied by a decline in earnings.<sup>19</sup> To examine this possibility, Figures 11 and 12 compare earnings over time for our three cohorts of welfare leavers.<sup>20</sup> The top panel presents the average earnings for all leavers, including those with no earnings. In both states, Panel A shows that earnings are appreciably higher for the second cohort, in the late 1990s after welfare reform, than in the first. However, looking at the post-2000 cohort, we see that earnings have declined. In Maryland, they have returned to their level of the early 1990s, although in Missouri earnings remain somewhat higher until the end of the follow-up period. These results suggest that the strong economy plays an important role in causing the higher earnings observed following welfare reform.

Panel B graphs average earnings for those with jobs.<sup>21</sup> We see here that Maryland and Missouri show somewhat different patterns. In Maryland, in the first (pre-reform) cohort,

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<sup>19</sup> Given that our earnings measure is total earnings in a quarter there are three ways earnings could change: a change in a worker's hourly wage, a change in the number of hours worked per day, or a change in the number of days worked in a quarter. Unfortunately, we are unable to determine what portion of the overall change is accounted for by each factor.

<sup>20</sup> Earnings are measured in 1999:2 dollars.

<sup>21</sup> Earnings vary substantially from quarter to quarter, in large part due to seasonal effects. Since

earnings of those with jobs are appreciably higher than are earnings of the other cohorts (Figure 11). This would suggest that the reforms may be forcing individuals into lower-paying jobs. Average earnings for those employed are even lower in the third period, perhaps reflecting the economic downturn. In contrast, Panel B for Missouri (Figure 12) shows relatively small differences in average earnings, with earnings slightly higher for both cohorts following welfare reform. It does not appear that Missouri's welfare reform has pushed more challenged individuals into the labor market.

Tables 2 and 3 provide information on the welfare recipients' industry affiliations when they leave welfare and whether these affiliations changed over the following two years. For each cohort, job characteristics are provided for the first quarter after leaving welfare (Columns (1), (3) and (5)) and for the eighth quarter after leaving welfare (Columns (2), (4) and (6)). By definition, none of those identified in the first quarter after leaving welfare are welfare recipients at that time, but the measures based on the eighth quarter after leaving welfare include individuals who returned to welfare. All statistics in the table focus on the characteristics of employers of welfare recipients, so individuals who are not employed are omitted.<sup>22</sup>

Panel A shows that welfare leavers are very likely to have jobs in retail trade and service firms, and that this proportion grew modestly between our cohorts.<sup>23</sup> Looking at the industry

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the cohorts graphed in these figures combine leavers in four quarters, they smooth these effects.

<sup>22</sup> In Tables 2 and 3, for workers with more than one job in a quarter, we provide information on the employer paying the highest earnings amount during the reference quarter.

<sup>23</sup> For the final cohort in Maryland, the distribution of industry would appear to differ dramatically from that in the earlier cohorts, but this is due to coding difficulties. For the recent cohort in Maryland, industry was coded using the North America Industry Classification System rather than the Standard Industrial Classification system, used for prior cohorts, and we were not able to make these comparable for all the categories presented here.

detail, we see that 9 to 14 percent of leavers are working in eating and drinking establishments in the quarter after leaving welfare in both Maryland and Missouri, with little trend over time. At over 13 percent, the initial proportion in manufacturing is nearly twice as high in Missouri as in Maryland, but the proportion declines by about half in both states over the period of our study. A dramatic increase occurred during the 1990s in help supply services (“temporary help”).<sup>24</sup>

If we compare the first quarter after leaving welfare with the eighth quarter, we see that the progression is quite similar for the three cohorts across both states. In general, over the two years following exit from welfare, there is a modest decline in employment in the least stable employment (e.g., retail trade, temporary help). As this pattern is largely unchanged for our later cohorts, we see no evidence in these tabulations suggesting that leavers in the recent period are more likely to remain in unstable or marginal jobs.

Panel B reports size statistics for firms hiring welfare leavers. Here we see that, among leavers in the two cohorts following welfare reform, appreciably more are working for the largest firms. Whereas in the earlier period, workers tended to move into larger firms in the two years after leaving welfare, in the late 1990s and early 2000s, there is little movement.

Turning to Panel C of Tables 2 and 3, we see that workers start in lower-paying firms and move to higher-paying ones. In the more recent periods, workers in Maryland are in somewhat lower-paying firms, whereas in Missouri, there is a slight move in the opposite direction.

Finally, Panel D shows that welfare leavers are less likely than in the past to be working in a firm with a large share of welfare recipients. In the two years following welfare exit, there is little

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<sup>24</sup> This growth in the employment of welfare leavers in the temporary help industry reflects both the overall growth in employment in this industry (Autor, 2003) and an increase in the relative reliance on such jobs for welfare recipients (Heinrich, Mueser and Troske, 2005).

change in the distribution, although in the most recent period recipients do move to jobs where they are slightly more likely to be working with other recipients. Such shifts are small, however, compared to shifts between cohorts (especially in Maryland). We concluded that welfare reform does not appear to have pushed leavers into positions with employers who specialize in hiring welfare recipients.

In sum, we observe that welfare leavers following reform are at least as likely to be employed as leavers prior to reform. The characteristics of the firms they work for provide no indication that those with jobs have been forced into inferior employment.

### *The Determinants of Recidivism*

As the conditions for departure from welfare shift, we might assume that welfare recidivism would have a different structure. To examine this possibility we estimate the probability of returning to welfare within two years for our set of welfare leavers using a probit model controlling for demographic characteristics, past welfare and work experience, location, and the attributes of an individual's job in the quarter immediately after leaving welfare.<sup>25</sup> Tables 4 and 5 present estimates of the marginal effects of these variables. The analysis is performed separately for our three cohorts of former welfare recipients in Maryland and Missouri. Specification (1) includes the standard demographic characteristics along with the time on welfare and the time working in the last two years. Time on welfare is measured as the proportion of quarters in the eight quarters prior to leaving that the individual was receiving welfare, and time working is measured in an analogous manner.

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<sup>25</sup> We also performed analyses predicting the chance of returning to welfare within one year, but the results were substantively indistinguishable from the two-year analysis.

Specification (2) controls for the economic conditions of the local labor market by including the unemployment rate for the county where an individual lives and for whether she lives in a urban or suburban county within a large metropolian area (the excluded group is individuals who live in a small metropolitan county or a rural county).<sup>26</sup> The urban counties consist of the counties containing the cities of Baltimore, St. Louis and Kansas City, Missouri, as well as St. Louis County, Missouri. Suburban counties are those in the metropolitan areas around these major cities as well as the Maryland suburbs of Washington, D.C. Specification (3) controls for the quarterly earnings received by former recipients in the initial quarter after leaving welfare. We include six dummy variables representing seven earnings categories. The excluded category contains individuals with no job—and therefore zero earnings—in the initial quarter off of welfare. Specification (4) includes controls for the industry of a recipient’s employer in the first quarter off of welfare along with controls for the size of the employer.

To see more clearly the relationship between individual characteristics and the probability of returning to welfare, and changes over time, we use the results from Tables 4 and 5 to predict the probability that an individual with various attributes returns to welfare within two years. The results from this exercise are presented in Tables 6 and 7. To obtain our base-line prediction we use mean values of the control variables computed across all three cohorts.<sup>27</sup>

The estimates of coefficients are taken from the specifications in Tables 4 and 5. For

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<sup>26</sup> The unemployment rate for an individual’s county is measured as the county-level quarterly unemployment rate averaged over the eight quarters immediately after an individual leaves welfare. County-level quarterly unemployment comes from the Bureau of Labor Statistics Employment and Earnings data. We report below on our test of alternative measures of labor market opportunity.

<sup>27</sup> Control variable means are provided in Appendix Table A-1.

example, the probability in Row (1), Column (1) of Table 6 is 0.378. This probability is calculated using the estimated coefficients from specification (1) for the 1992-1993 cohort times the means of the control variables calculated over individuals in all three cohorts. The estimate in Row (2) is obtained using the cohort-specific means for control variables, so that the difference between these rows indicates the importance of changes in recipient characteristics between cohorts.<sup>28</sup>

The first notable result is that the patterns of effects are quite similar for the two states. Recidivism rates are between 35 and 38 percent for the first cohort, they decline to 29 percent or below in the second cohort, and then increase—but not to the prior level—in the third cohort, with most estimates in the range 31-33 percent. Changes in characteristics are relatively unimportant, as the patterns in Rows (1) and (2) are very similar. A partial exception is the most recent cohort in both states, where it appears that the recidivism rates would be 1-2 percentage points lower if individual characteristics had not changed.

While these results mirror those seen in Panel A of Figures 9 and 10, Tables 6 and 7 show that we continue to see the fall in the recidivism rate following welfare reform even after controlling for demographic characteristics, local labor market conditions, and the characteristics of a leaver's employer. This finding shows that the fall in the probability of returning to welfare is not tied to *changes* in the characteristics of individuals leaving welfare, *changes* in the strength of the economy (as captured by our measures), or *changes* in the characteristics of

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<sup>28</sup> Since the model is not linear, the averages reported for different specifications are not identical, and the average reported in Row (2) does not correspond to the average recidivism rate for the cohort (see Appendix Table A-1). Since differences are small, the basic patterns are not affected.

welfare leavers' employers. Although the higher recidivism rates since 2000 suggest that the unmeasured labor market differences may well play a role, the economy is clearly not solely responsible for the decline occurring since the early 1990s.

When we compare the estimated impacts of individual characteristics and economic conditions across the cohorts, we see that, during this period of dramatic change in the welfare laws, the basic structure of the effects of these variables on the probability of returning to welfare is largely unchanged.<sup>29</sup>

Both the time on welfare and time working affect the probability that an individual returns to welfare. As one might expect, those with greater welfare experience are more likely to return to welfare. We also see that people who worked more in the past are *more* likely to return to welfare in the future, perhaps the reverse of expectations. Prior employment and welfare experience variables will be negatively correlated, so including welfare experience should influence the coefficient of time working. However, re-estimating the model dropping the welfare experience variable has little effect on the coefficient of prior work experience. Comparing across cohorts, we find that these variables play a somewhat less important role in predicting return to welfare for the 1996-1997 cohort than the others, with the difference particularly large for Maryland.

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<sup>29</sup> In Table 4, the estimated impact of being classified as unknown race for Maryland leavers shifts dramatically from positive to negative between the first and the second cohorts. This corresponds with implementation of a new data system, and the number so classified increases from 5 percent to 19 percent (see Table A-1). We have not been able to identify the reason for this growth in unclassified recipients, but it appears likely that the coefficient sign shift reflects changes in data management practices rather than changes in behavior.



One possible explanation for the observed impact of work experience is that welfare leavers with more quarters of prior employment are likely to leave welfare with low-paying jobs and therefore are more likely to return to welfare. The estimates for specification (4) (see the bottom rows of Tables 6 and 7) show that those who leave welfare with low-paying jobs are more likely to return to welfare than those with relatively high-paying jobs *and are more likely to return to welfare than those with no job*. The coefficients on the earnings dummy variables in Tables 4 and 5 show that it is not until an individual has earnings over \$2000-\$4000 in a quarter that she is less likely to return to welfare than an individual who has no job in the initial quarter after leaving welfare. While it may seem odd that women with zero earnings are less likely to return to welfare than those with modest earnings, previous research has found that welfare-leavers with zero post-welfare earnings have typically changed their household circumstances (e.g., marriage) in ways that offer a more persistent means of support than do very low earnings jobs (Moffitt, 1992; Blank and Ruggles, 1994).

Although the basic observation that having a low-paying job is associated with return to welfare is confirmed, it is of interest that the relationship between the probability of returning to welfare and *prior* work history is reduced only slightly when controls for type of job after departure from welfare are included in most specifications. Even after we control for industry and firm size, those with more quarters of employment are more likely to return to welfare. Controlling for current employment, an individual who has sought welfare despite consistent employment is less likely to obtain complete self-sufficiency than one with a more limited work history.

In order to further investigate this issue, we introduced controls for volatility of earnings

in the eight quarters prior to the quarter to capture instability in a recipient's employment history. In many specifications, we found the expected positive effect, confirming the view that those recipients with prior income variability were more likely to return to welfare. However, even with such controls, individuals who obtained low-paying jobs after leaving welfare were more likely than those without jobs to return to welfare. We also considered specifications in which the impact of prior earnings volatility was permitted to vary according to the earnings on the job obtained following welfare exit. Although several of the estimated coefficients associated with these interactions were statistically significant (more than would be predicted by chance), the coefficient estimates did not correspond with any meaningful pattern.

One obvious question about the structure of recidivism for the 1996-1997 cohort is how much of the lower recidivism rate is due to the strong economy. The effect that differences in economic conditions have on the rate of welfare recidivism is partly captured by the average unemployment rate in an individual's county of residence during the two years following leaving. The results in Tables 4 and 5 show differences between states. In Missouri, cross-county differences in unemployment rates do have a significant impact on the likelihood of returning to welfare, with a 1 percent increase in average unemployment causing between a 1 and 1.5 percent increase in the chance of return. In contrast, in Maryland we find very little evidence showing that changes in unemployment rates affect recidivism, as the estimated effect is not generally statistically significant. In neither state does including unemployment and other county level controls in the regression have much impact on the other coefficients. Furthermore,

average differences in unemployment between cohorts are small, so changes in unemployment play essentially no role in explaining the differences in recidivism across cohorts.<sup>30</sup>

We have tried a number of alternative specifications to capture the possible effects that economic conditions have on the probability of returning to welfare. As an alternative to the aggregate measure used above—the average unemployment rate in the eight quarters after departure—we allowed each of the eight unemployment rates to enter separately, in essence controlling for potential lag or lead effects. Substantive conclusions were not affected. Similar to Hoynes (2000), we have tried using the employment-to-population ratio and the average earnings in a county to capture local labor market conditions. In none of these alternative specifications does it appear that changes in economic conditions account for most of the observed changes in welfare recidivism.

Of course, these measures may not capture the true level of opportunities in the labor market for our recipients. As Black, McKinnish and Sanders (2003) show, conventional measures of the local labor market may suffer endogeneity bias. Although we cannot apply instrumental variables methods as they do, our comparison of periods with dramatic differences in labor market opportunity provides an additional indicator of the robustness of our results.<sup>31</sup>

Although our efforts to account for economic differences during the period suggest that

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<sup>30</sup> The mean of this variable varies between 6 and 7 percent in Maryland across the three cohorts and between 5 and 6 percent in Missouri. For both states, the standard deviation in each period is over 2 percentage points.

<sup>31</sup> In other work, one of us has examined labor market indicators based on the Census Bureau Quarterly Workforce Indicator (QWI) system. These data provide detailed information on labor market experiences of individuals by age and gender, and so may allow a more targeted approach to gauging the labor market (see Herbst and Stevens, 2007).

these do not play a decisive role, we have noted several cases where observed patterns for the first and third cohorts are more similar than the second. For example, in Maryland, the impact of prior work on recidivism is somewhat different in the middle cohort. Such differences may well reflect elements of the economic environment that we are unable to account for. Nonetheless, it is clear that however we treat differences in coefficients, recidivism is lower in the latter two periods than in the first. Overall then, much of the decline in the probability of returning to welfare would appear to be attributable to welfare reform and related policy changes.

## **IX. Summary and Conclusion**

We have five main findings in this paper. First, for the most part there have been only modest changes in the characteristics of welfare recipients or the characteristics of those entering and leaving welfare between 1991 and 2004, despite dramatic declines in the overall caseload. This suggests that welfare reform has not significantly changed the type of person receiving welfare, and analyses focusing on welfare participants will not be seriously biased by selection. Second, we find that there has been dramatic growth in the importance of employment for those in the welfare system. Not only are those leaving welfare more likely to be working than in the past but so are welfare recipients and those entering welfare. We also show that this growth in employment has led to a decline among welfare recipients in the fraction of their income coming from welfare payments. In each case, although we see signs of reversal since 2000, there is no indication that changes occurring in the 1990s have been undone. Third, when we examine the earnings of welfare leavers who are working, we find little evidence that welfare reform has pushed less-skilled workers into the labor market. The average earnings of those leaving welfare

after reform are at least as high as earnings prior to reform even during the recession occurring after 2000. On the other hand, we do observe, in Maryland but not Missouri, a decline in average earnings for those holding jobs after leaving welfare, suggesting that some kind of tradeoff between employment and earnings may have occurred. Fourth, we find that the type of firms employing welfare leavers has not changed much after welfare reform. It does not appear that after welfare reform recipients are any more likely to work for employers paying low wages or in industries with unstable employment. Finally, we find that since the early 1990s there has been a significant decline in the probability that a welfare leaver returns to welfare. Although the modest increase in the rate of recidivism since 2000 suggests that the high rate of economic growth of the late 1990s played a role in the declines observed in recidivism immediately following reform legislation, the economy does not appear to be the primary factor.

Our results imply that welfare reform has not led to dramatic changes in the dynamics of welfare entry and exit. Although individuals leaving welfare following reform earn low wages and tend to work in less stable jobs, this was true of welfare leavers in the early 1990s as well. If anything, welfare leavers after welfare reform appear somewhat better off than welfare leavers prior to welfare reforms: they are more likely to be working after leaving welfare, and they are much less likely to return to welfare than previously.

While the dynamics of welfare have not changed with welfare reform, clearly the choices of welfare recipients have been influenced by changes in welfare along with the growth of a number of other benefits, most importantly federal EITC, but also childcare subsidies and subsidized medical care. While we have no direct measure of the overall impact of welfare reform on the disadvantaged population most likely to be affected by changes, our results are

consistent with others, like Schoeni and Blank (2000), whose analysis implies positive impacts. In short, our results suggest that, in the face of these changes, welfare reform may have imposed little material harm for welfare recipients. Still, in the light of other changes occurring in the economy, there is little basis to conclude that welfare reform has substantially improved the material conditions for recipients or others at the bottom of the income distribution.

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**Table 1: Summary Data for Maryland, Missouri and the U.S.**

	1991			1999			2004		
	Maryland	Missouri	USA	Maryland	Missouri	USA	Maryland	Missouri	USA
Employment by Industry (in percent)									
Mining	0.00	0.23	0.59	0.00	0.12	0.42	0.00	0.21	0.37
Construction	7.53	4.88	6.32	6.91	7.65	6.73	8.18	7.87	7.82
Manufacturing	9.49	17.23	17.29	7.75	13.78	14.85	5.90	10.58	11.72
Transportation and Public Utilities	6.68	8.01	6.58	7.14	7.70	6.94	4.16	5.58	4.87
Trade	19.40	23.66	21.83	18.22	21.21	21.27	13.68	16.93	15.21
Finance, Insurance, Real Estate	6.66	5.68	6.26	6.88	6.28	6.36	6.39	7.11	6.95
Services	36.86	33.66	33.45	41.48	35.82	36.46	51.02	45.85	47.00
Government	11.88	3.26	4.65	10.49	4.87	4.35	10.22	4.07	4.42
Race (in percent)									
White	71.95	89.54	84.72	68.35	89.47	83.31	66.86	87.06	81.77
Black	25.30	9.25	11.42	27.25	9.11	11.96	27.06	9.93	11.67
American Indian, Eskimo, Aleut	0.03	0.40	0.61	0.33	0.38	0.82	0.29	0.36	0.75
Asian, Pacific Islander	2.28	0.60	2.93	4.08	1.04	3.90	4.61	1.50	4.48
Hispanic Origin (in percent)	2.85	0.56	8.60	3.89	1.22	10.42	6.77	2.65	12.58
Income / Earnings (1999 quarter 2 dollars)									
Average Weekly Earnings ^	622.93	483.76	539.81	681.91	551.72	585.54	710.17	572.76	608.04
Average Hourly Wage	15.64	12.17	13.61	16.85	13.50	14.51	17.34	14.35	15.17
Median Hourly Wage	13.19	9.90	11.33	14.17	11.46	11.92	14.47	12.26	12.26

*Source:* Annual Outgoing Rotation Group File of the Current Population Survey in the United States (1991, 1999, 2004). Employment is calculated for the noninstitutional, civilian population age 16 or over. ^ top coded at \$1923 (1991), \$2885 (1999), \$2885 (2004).

**Table 2: Characteristics of Welfare Leavers One and Eight Quarters After Leaving Welfare: Maryland**

	1992:3-1993:2		1996:3-1997:2		2001:3-2002:2.	
	1st Quarter After Leaving Welfare	8th Quarter After Leaving Welfare	1st Quarter After Leaving Welfare	8th Quarter After Leaving Welfare	1st Quarter After Leaving Welfare	8th Quarter After Leaving Welfare
	(1)	(2)	(3)	(4)	(5)	(6)
Percent Employed	42.1	40.3	53.6	53.2	52.4	44.9
Number Employed	9,348	8,941	16,536	16,413	7,420	6,335
<b>A. Industry of Employment</b>	Percent	Percent	Percent	Percent	Percent	Percent
Agric., Mining, Construction	1.2	1.3	1.3	1.6	1.0	1.1
Manufacturing	6.5	7.0	5.1	5.6	3.1	2.8
Trans., Com., etc.	2.1	2.4	2.4	3.1	8.0	8.5
Wholesale Trade	2.2	2.3	2.2	2.0	8.3	8.0
Retail Trade	29.0	26.6	33.8	28.1	19.3	18.1
<i>5311 Dept. Stores</i>	2.8	2.4	4.3	3.5	2.5	1.7
<i>5411 Grocery Stores</i>	4.6	4.3	5.8	4.7	1.7	1.3
<i>5812 Eating &amp; Drinking Places</i>	11.4	10.2	13.4	10.3	9.4	9.1
Finance, Ins., Real Estate	3.5	4.0	3.1	4.1	3.4	4.3
Services	50.5	50.8	47.8	50.2	53.6	52.7
<i>7011 Hotels, Motels</i>	4.3	3.7	3.5	3.1	2.9	2.7
<i>7363 Help Supply Services</i>	6.3	5.1	8.1	7.8	9.0	7.1
<i>8011 Office and Clinics of Doctors of Medicine</i>	1.6	1.8	1.2	1.7	1.5	1.9
<i>8051 Skilled Nursing Care</i>	6.6	6.4	4.8	4.9	8.4	8.2
<i>8062 Hospitals</i>	4.5	4.8	2.7	3.3	4.3	5.1
<i>8211 Elementary and Secondary School</i>	3.0	4.1	2.9	3.3	3.1	3.2
<i>8361 Residential Care</i>	1.6	1.9	1.8	2.0	1.5	1.7
Public Administration	4.8	5.5	4.2	4.8	2.8	3.7
Industry Not Ascertained	0.1	0.0	0.2	0.3	0.6	0.8
<b>B. Size of Firm</b>	Percent	Percent	Percent	Percent	Percent	Percent
1-19	12.0	11.8	10.1	10.0	7.4	7.8
20-99	19.6	19.4	18.3	18.2	16.8	16.7
100-249	19.1	17.7	16.1	14.9	15.4	14.8
250-999	23.0	23.7	23.6	23.9	26.0	24.8
Over 1000	26.4	27.4	31.8	33.0	34.4	35.9
<b>C. Quarterly Earnings in Firm**</b>	Percent	Percent	Percent	Percent	Percent	Percent
Below \$2000	16.7	17.8	25.3	20.3	21.1	17.2
\$2000-3999	34.6	32.1	37.9	33.5	34.4	32.7
\$4000-7500	30.9	29.2	25.8	29.2	29.9	31.4
Over \$7500	17.8	22.0	11.0	16.9	14.7	18.5
Mean quarterly earnings	4715	4815	3952	4642	4315	4766
<b>D. Welfare Recipients in Firm**</b>	Percent	Percent	Percent	Percent	Percent	Percent
Less than 2%	74.6	75.4	77.8	78.4	82.7	82.7
2-10%	17.2	16.4	15.1	14.8	12.8	12.6
Over 10%	8.2	8.2	7.1	6.7	4.5	4.7

Note: All dollars are adjusted for inflation to quarter 2 of 1999.

**Table 3: Characteristics of Welfare Leavers One and Eight Quarters After Leaving Welfare: Missouri**

	1992:3-1993:2		1996:3-1997:2		2001:3-2002:2	
	1st Quarter After Leaving Welfare	8th Quarter After Leaving Welfare	1st Quarter After Leaving Welfare	8th Quarter After Leaving Welfare	1st Quarter After Leaving Welfare	8th Quarter After Leaving Welfare
	(1)	(2)	(3)	(4)	(5)	(6)
Percent Employed	52.9	51.4	64.1	57.8	58.5	50.7
Number Employed	16,006	15,560	24,886	22,477	15,142	13,123
<b>A. Industry of Employment</b>	Percent	Percent	Percent	Percent	Percent	Percent
Agric., Mining, Construction	1.3	1.4	1.3	1.4	1.4	1.2
Manufacturing	13.4	14.0	9.5	10.3	5.8	5.5
Trans., Com., etc.	3.1	3.5	3.0	3.8	3.3	3.1
Wholesale Trade	2.6	2.8	2.7	2.7	1.5	1.5
Retail Trade	27.5	25.2	28.4	25.7	29.7	26.9
<i>5311 Dept. Stores</i>	2.3	2.8	3.2	3.1	3.6	3.2
<i>5411 Grocery Stores</i>	3.4	3.2	3.5	3.4	3.3	3.3
<i>5541 Gasoline Stations</i>	2.9	2.5	3.2	2.8	3.6	3.1
<i>5810 Eating &amp; Drinking Places</i>	13.8	11.6	13.2	11.1	13.4	11.7
Finance, Ins., Real Estate	2.7	3.3	3.3	4.3	3.2	3.6
Services	47.3	47.1	49.9	49.2	53.6	50.1
<i>7011 Hotels, Motels</i>	4.6	4.1	3.9	3.5	3.7	3.3
<i>7363 Help Supply Services</i>	5.2	6.2	8.2	6.9	7.1	5.4
<i>8051 Skilled Nursing Care</i>	9.4	7.7	8.6	7.7	9.5	8.9
<i>8052 Intermediate Care</i>	3.0	2.1	2.1	1.6	1.6	1.4
<i>8062 Hospitals</i>	3.2	3.7	3.1	3.7	3.2	3.1
<i>8322 Social Services</i>	1.3	1.6	2.2	2.5	2.8	3.0
<i>8361 Residential Care</i>	1.9	2.3	1.9	2.2	2.7	2.5
Public Administration	1.5	2.0	1.6	2.4	1.4	1.3
Industry Not Ascertained	0.7	0.6	0.3	0.1	0.2	6.8
<b>B. Size of Firm</b>	Percent	Percent	Percent	Percent	Percent	Percent
1-19	11.7	11.3	10.3	10.2	10.0	11.4
20-99	22.3	20.8	19.9	20.0	19.5	20.2
100-249	20.0	18.4	18.9	18.1	18.3	17.8
250-999	21.7	22.2	22.3	23.0	23.9	23.2
Over 1000	24.2	27.2	28.6	28.7	28.2	27.4
<b>C. Quarterly Earnings in Firm</b>	Percent	Percent	Percent	Percent	Percent	Percent
Below \$2000	30.5	29.6	31.6	25.3	26.6	25.4
\$2000-3999	41.6	37.6	39.7	38.1	41.3	40.5
\$4000-7500	21.4	24.8	21.8	26.0	23.4	23.2
Over \$7500	6.3	8.1	6.9	10.6	8.6	11.0
Mean quarterly earnings	3397	3656	3453	3973	3683	3891
<b>D. Welfare Recipients in Firm</b>	Percent	Percent	Percent	Percent	Percent	Percent
Less than 2%	74.8	76.7	78.2	78.4	79.2	77.1
2-10%	16.6	15.4	14.7	14.7	14.2	15.2
Over 10%	8.5	8.0	7.1	6.9	6.6	7.7

Note: All dollars are adjusted for inflation to quarter 2 of 1999.

**Table 4: Probit Estimates of Return to Welfare: Marginal Effects: Maryland**

Dependent Variable: Return to Welfare Within Two Years												
	1992:3-1993:2				1996:3-1997:2				2001:3-2002:2			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Intercept	0.043 (0.043)	0.161 (0.073)	0.116 (0.073)	0.119 (0.074)	-0.509 (0.042)	-0.696 (0.062)	-0.761 (0.063)	-0.776 (0.063)	-0.435 (0.056)	-0.301 (0.132)	-0.390 (0.134)	-0.407 (0.135)
Nonwhite	0.186 (0.019)	0.229 (0.021)	0.243 (0.021)	0.235 (0.022)	0.294 (0.020)	0.267 (0.021)	0.278 (0.022)	0.275 (0.022)	0.292 (0.030)	0.256 (0.033)	0.279 (0.033)	0.284 (0.034)
Unknown Race	0.647 (0.040)	0.641 (0.040)	0.630 (0.040)	0.632 (0.040)	-0.428 (0.024)	-0.463 (0.024)	-0.465 (0.024)	-0.463 (0.024)	-0.652 (0.079)	-0.620 (0.079)	-0.602 (0.079)	-0.599 (0.080)
Age	-0.030 (0.001)	-0.030 (0.001)	-0.029 (0.001)	-0.029 (0.001)	-0.019 (0.001)	-0.020 (0.001)	-0.018 (0.001)	-0.018 (0.001)	-0.021 (0.001)	-0.021 (0.001)	-0.020 (0.001)	-0.020 (0.002)
Number of Children Under 18	0.054 (0.009)	0.052 (0.009)	0.056 (0.009)	0.055 (0.009)	0.044 (0.009)	0.047 (0.009)	0.053 (0.009)	0.053 (0.009)	0.038 (0.011)	0.045 (0.011)	0.049 (0.011)	0.049 (0.011)
Dummy for Missing Number of Children Under 18					-0.218 (0.023)	-0.150 (0.024)	-0.162 (0.024)	-0.162 (0.024)	-0.340 (0.042)	-0.361 (0.042)	-0.399 (0.043)	-0.402 (0.043)
Time on Welfare in Last 2 Years	0.214 (0.027)	0.193 (0.027)	0.200 (0.028)	0.202 (0.028)	0.165 (0.025)	0.149 (0.025)	0.151 (0.025)	0.153 (0.025)	0.509 (0.035)	0.379 (0.037)	0.362 (0.037)	0.371 (0.038)
Time Working in Last 2 Years	0.259 (0.027)	0.234 (0.027)	0.317 (0.030)	0.316 (0.031)	0.042 (0.025)	0.019 (0.026)	0.124 (0.028)	0.123 (0.028)	0.153 (0.035)	0.097 (0.036)	0.205 (0.039)	0.205 (0.039)
County Unemployment Rate		-0.067 (0.738)	-0.135 (0.741)	-0.202 (0.745)		3.033 (0.673)	2.859 (0.677)	2.895 (0.680)		-2.089 (2.395)	-1.870 (2.412)	-1.966 (2.419)
Suburban County (Baltimore)		-0.099 (0.032)	-0.079 (0.032)	-0.074 (0.032)		0.104 (0.029)	0.135 (0.029)	0.138 (0.029)		0.019 (0.046)	0.053 (0.046)	0.064 (0.046)
Suburban County (Washington D.C)		-0.288 (0.038)	-0.268 (0.038)	-0.260 (0.038)		-0.153 (0.032)	-0.133 (0.032)	-0.131 (0.032)		-0.250 (0.050)	-0.213 (0.050)	-0.197 (0.051)
Urban County (Baltimore City)		-0.099 (0.030)	-0.072 (0.030)	-0.063 (0.030)		0.125 (0.031)	0.170 (0.031)	0.173 (0.031)		0.248 (0.071)	0.291 (0.072)	0.307 (0.072)
Earnings In Quarter After Leaving Welfare												
\$1-\$499			0.135 (0.043)	0.330 (0.143)			0.216 (0.033)	0.279 (0.072)			0.219 (0.045)	0.197 (0.147)
\$500-\$999			0.147 (0.048)	0.347 (0.145)			0.115 (0.037)	0.183 (0.073)			0.167 (0.050)	0.159 (0.149)
\$1000-\$1999			0.133 (0.033)	0.340 (0.140)			0.035 (0.027)	0.102 (0.069)			0.117 (0.040)	0.113 (0.146)
\$2000-\$2999			-0.049 (0.031)	0.157 (0.140)			-0.044 (0.026)	0.029 (0.069)			-0.087 (0.039)	-0.085 (0.146)
\$3000-\$3999			-0.239 (0.034)	-0.018 (0.141)			-0.338 (0.032)	-0.2509 (0.072)			-0.245 (0.043)	-0.222 (0.146)
\$4000 Or More			-0.410 (0.038)	-0.164 (0.142)			-0.520 (0.037)	-0.417 (0.074)			-0.466 (0.041)	-0.407 (0.145)
Industry Controls	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Controls for Firm Size	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
N	22211	22211	22211	22211	30844	30844	30844	30844	14231	14231	14231	14231
Log Likelihood	-14026.3	-13976.2	-13860.42	-13830.83	-15751.25	-15560.27	-15344.67	-15319.52	-8614.11	-8532.58	-8404.90	-8376.38

Note: Standard errors are in parentheses.

**Table 5: Probit Estimates of Return to Welfare: Marginal Effects: Missouri**

Dependent Variable: Return to Welfare Within Two Years												
	1992:3-1993:2				1996:3-1997:2				2001:3-2002:2			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Intercept	0.787 (0.065)	0.680 (0.070)	0.514 (0.071)	0.471 (0.072)	0.703 (0.059)	0.653 (0.063)	0.447 (0.064)	0.419 (0.064)	0.602 (0.070)	0.506 (0.080)	0.385 (0.080)	0.365 (0.081)
Nonwhite	0.106 (0.017)	0.148 (0.021)	0.157 (0.021)	0.159 (0.021)	0.175 (0.015)	0.248 (0.019)	0.262 (0.019)	0.261 (0.019)	0.116 (0.018)	0.151 (0.022)	0.162 (0.022)	0.162 (0.022)
Years of Education	-0.058 (0.005)	-0.056 (0.005)	-0.050 (0.005)	-0.047 (0.005)	-0.077 (0.005)	-0.075 (0.005)	-0.067 (0.005)	-0.065 (0.005)	-0.047 (0.005)	-0.047 (0.005)	-0.042 (0.006)	-0.040 (0.006)
Age	-0.029 (0.002)	-0.029 (0.002)	-0.027 (0.002)	-0.027 (0.002)	-0.025 (0.001)	-0.024 (0.001)	-0.022 (0.001)	-0.022 (0.001)	-0.024 (0.002)	-0.024 (0.002)	-0.023 (0.002)	-0.023 (0.012)
Number of Children Under 18	0.036 (0.008)	0.034 (0.008)	0.038 (0.008)	0.037 (0.008)	0.032 (0.007)	0.028 (0.007)	0.0298 (0.007)	0.027 (0.007)	-0.031 (0.008)	-0.032 (0.008)	-0.030 (0.008)	-0.031 (0.008)
Age of Youngest Child	-0.014 (0.002)	-0.152 (0.002)	-0.016 (0.002)	-0.016 (0.002)	-0.010 (0.002)	-0.011 (0.002)	-0.013 (0.002)	-0.013 (0.002)	-0.011 (0.003)	-0.011 (0.003)	-0.012 (0.003)	-0.012 (0.003)
Time on Welfare in Last 2 Years	0.350 (0.023)	0.361 (0.023)	0.340 (0.023)	0.343 (0.023)	0.267 (0.020)	0.293 (0.021)	0.278 (0.021)	0.280 (0.021)	0.124 (0.024)	0.133 (0.025)	0.118 (0.025)	0.118 (0.025)
Time Working in Last 2 Years	0.342 (0.023)	0.365 (0.023)	0.331 (0.025)	0.333 (0.025)	0.274 (0.021)	0.298 (0.021)	0.274 (0.023)	0.272 (0.023)	0.394 (0.025)	0.401 (0.025)	0.391 (0.027)	0.389 (0.027)
County Unemployment Rate		1.563 (0.316)	1.566 (0.317)	1.504 (0.318)		1.202 (0.386)	1.008 (0.389)	0.993 (0.390)		1.564 (0.624)	1.457 (0.625)	1.37 (0.627)
Suburban County		-0.084 (0.027)	-0.072 (0.266)	-0.068 (0.027)		-0.141 (0.025)	-0.132 (0.025)	-0.129 (0.025)		0.005 (0.031)	0.013 (0.031)	0.013 (0.031)
Urban County		-0.087 (0.021)	-0.061 (0.021)	-0.047 (0.021)		-0.160 (0.019)	-0.121 (0.019)	-0.115 (0.019)		-0.077 (0.022)	-0.054 (0.023)	-0.044 (0.023)
Earnings In Quarter After Leaving Welfare												
\$1-\$499			0.236 (0.030)	0.277 (0.048)			0.281 (0.027)	0.227 (0.042)			0.203 (0.032)	0.143 (0.052)
\$500-\$999			0.201 (0.035)	0.238 (0.050)			0.312 (0.030)	0.263 (0.043)			0.235 (0.037)	0.177 (0.055)
\$1000-\$1999			0.233 (0.023)	0.270 (0.043)			0.254 (0.021)	0.208 (0.038)			0.141 (0.028)	0.083 (0.050)
\$2000-\$2999			0.052 (0.023)	0.094 (0.045)			0.100 (0.021)	0.050 (0.039)			0.080 (0.028)	0.018 (0.051)
\$3000-\$3999			-0.195 (0.035)	-0.131 (0.054)			-0.097 (0.026)	-0.135 (0.043)			0.018 (0.029)	-0.046 (0.052)
\$4000 Or More			-0.436 (0.054)	-0.371 (0.068)			-0.357 (0.033)	-0.385 (0.049)			-0.167 (0.029)	-0.210 (0.054)
Industry Controls	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Controls for Firm Size	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
N	30092	30092	30092	30092	38719	38719	38719	38719	25729	25729	25729	25729
Log Likelihood	-18884.6	-18852.3	-18686.37	-18659.86	-22717.62	-22663.11	-22374.226	-22345.874	-15870.48	-15862.80	-15779.249	-15753.36

Note: Standard errors are in parentheses.



**Table 6: Probability of Returning to Welfare Within Two Years For Various Attributes: Maryland**

Specification in Table 3	1992:3-1993:2		1996:3-1997:2		2001:3-2002:2	
Predicted Probability for Various Groups	(1)	(4)	(1)	(4)	(1)	(4)
Average Individual in Sample	0.378 (0.009)	0.379 (0.011)	0.228 (0.008)	0.228 (0.009)	0.305 (0.014)	0.280 (0.023)
Average Individual in Cohort	0.359 (0.009)	0.358 (0.009)	0.213 (0.008)	0.206 (0.008)	0.320 (0.011)	0.315 (0.011)
White	0.327 (0.017)	0.315 (0.019)	0.168 (0.017)	0.171 (0.019)	0.235 (0.030)	0.214 (0.036)
Nonwhite	0.396 (0.011)	0.402 (0.012)	0.253 (0.010)	0.250 (0.010)	0.333 (0.014)	0.306 (0.023)
Unknown Race	0.604 (0.039)	0.600 (0.040)	0.131 (0.022)	0.123 (0.022)	0.138 (0.078)	0.132 (0.082)
One Child Under 18	0.364 (0.011)	0.365 (0.013)	0.220 (0.010)	0.216 (0.011)	0.296 (0.017)	0.269 (0.024)
Four Children Under 18	0.426 (0.022)	0.428 (0.023)	0.260 (0.023)	0.266 (0.023)	0.337 (0.027)	0.319 (0.033)
4.0 Percent County Unemployment Rate		0.380 (0.025)		0.207 (0.017)		0.296 (0.044)
7.5 Percent County Unemployment Rate		0.378 (0.010)		0.237 (0.012)		0.273 (0.046)
Percent on Welfare Previous 8 Quarters = 0	0.328 (0.020)	0.332 (0.021)	0.199 (0.019)	0.200 (0.019)	0.205 (0.024)	0.208 (0.030)
Percent on Welfare Previous 8 Quarters = 100	0.409 (0.013)	0.408 (0.015)	0.248 (0.011)	0.245 (0.012)	0.376 (0.021)	0.329 (0.029)
Percent Working Previous 8 Quarters = 0	0.344 (0.013)	0.338 (0.015)	0.224 (0.012)	0.215 (0.013)	0.287 (0.020)	0.257 (0.027)
Percent Working Previous 8 Quarters = 100	0.443 (0.020)	0.459 (0.023)	0.237 (0.018)	0.253 (0.021)	0.341 (0.026)	0.327 (0.033)
No Job when Leaving		0.351 (0.070)		0.233 (0.035)		0.292 (0.075)
Job with Quarterly Earnings \$1-\$500		0.479 (0.080)		0.327 (0.043)		0.362 (0.084)
Job with Quarterly Earnings \$3001-\$4000		0.344 (0.075)		0.164 (0.043)		0.220 (0.083)

Note: The probability is predicted using the mean value of attributes across all three cohorts. Standard errors are in parentheses.

**Table 7: Probability of Returning to Welfare Within Two Years For Various Attributes: Missouri**

Specification in Table 3	1992:3-1993:2		1996:3-1997:2		2001:3-2002:2	
Predicted Probability for Various Groups	(1)	(4)	(1)	(4)	(1)	(4)
Average Individual in Sample	0.366 (0.008)	0.349 (0.009)	0.292 (0.007)	0.290 (0.008)	0.318 (0.009)	0.321 (0.009)
Average Individual in Cohort	0.357 (0.008)	0.354 (0.008)	0.292 (0.007)	0.289 (0.007)	0.331 (0.008)	0.330 (0.008)
White	0.350 (0.010)	0.327 (0.012)	0.270 (0.009)	0.257 (0.011)	0.302 (0.012)	0.299 (0.013)
Nonwhite	0.392 (0.013)	0.386 (0.016)	0.330 (0.012)	0.347 (0.014)	0.344 (0.014)	0.357 (0.016)
One Child Under 18	0.354 (0.010)	0.337 (0.011)	0.282 (0.009)	0.281 (0.010)	0.328 (0.012)	0.331 (0.012)
Four Children Under 18	0.395 (0.018)	0.378 (0.018)	0.315 (0.016)	0.310 (0.016)	0.295 (0.018)	0.298 (0.019)
4.0 Percent County Unemployment Rate		0.340 (0.011)		0.284 (0.008)		0.313 (0.016)
7.5 Percent County Unemployment Rate		0.360 (0.009)		0.296 (0.013)		0.330 (0.013)
Years of Education = 9	0.418 (0.014)	0.391 (0.015)	0.357 (0.013)	0.344 (0.013)	0.358 (0.015)	0.355 (0.015)
Years of Education = 12	0.352 (0.008)	0.338 (0.009)	0.275 (0.008)	0.275 (0.008)	0.307 (0.010)	0.311 (0.010)
Percent on Welfare Previous 8 Quarters = 0	0.294 (0.015)	0.280 (0.015)	0.242 (0.015)	0.238 (0.015)	0.293 (0.015)	0.297 (0.016)
Percent on Welfare Previous 8 Quarters = 100	0.424 (0.013)	0.405 (0.013)	0.333 (0.010)	0.332 (0.011)	0.337 (0.015)	0.339 (0.015)
Percent Working Previous 8 Quarters = 0	0.311 (0.012)	0.296 (0.013)	0.252 (0.012)	0.250 (0.013)	0.258 (0.016)	0.261 (0.017)
Percent Working Previous 8 Quarters = 100	0.439 (0.016)	0.420 (0.017)	0.346 (0.013)	0.343 (0.015)	0.399 (0.014)	0.401 (0.015)
No Job when Leaving		0.331 (0.026)		0.279 (0.023)		0.315 (0.028)
Job with Quarterly Earnings \$1-\$500		0.437 (0.032)		0.360 (0.028)		0.367 (0.033)
Job with Quarterly Earnings \$3001-\$4000		0.285 (0.037)		0.236 (0.027)		0.299 (0.032)

Note: The probability is predicted using the mean value of attributes across all three cohorts. Standard errors are in parentheses.

Figure 1: Unemployment Rate for Women Age 20-60

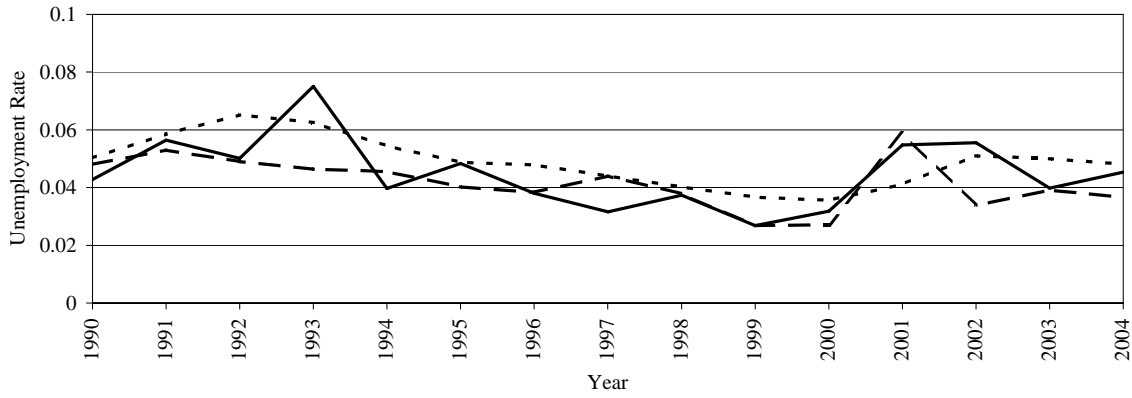


Figure 2: Median Hourly Wage by Year for Working Women Age 20-60

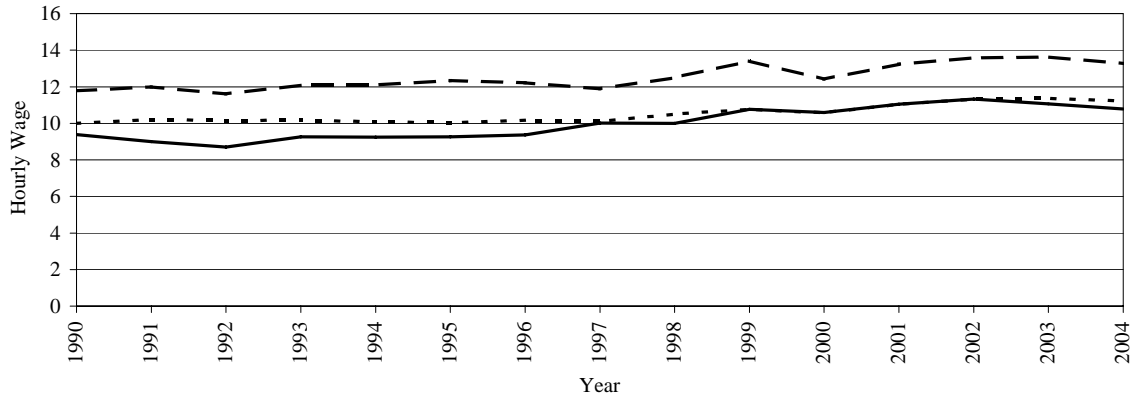
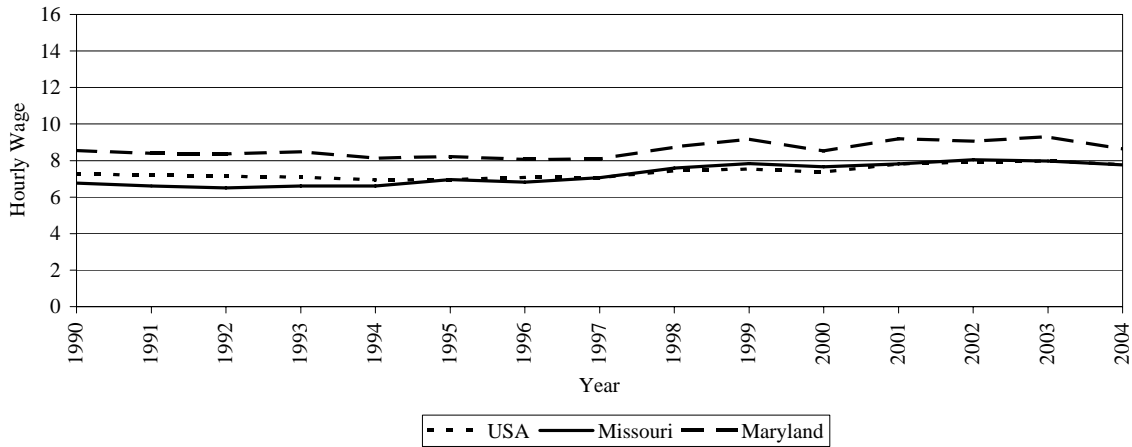
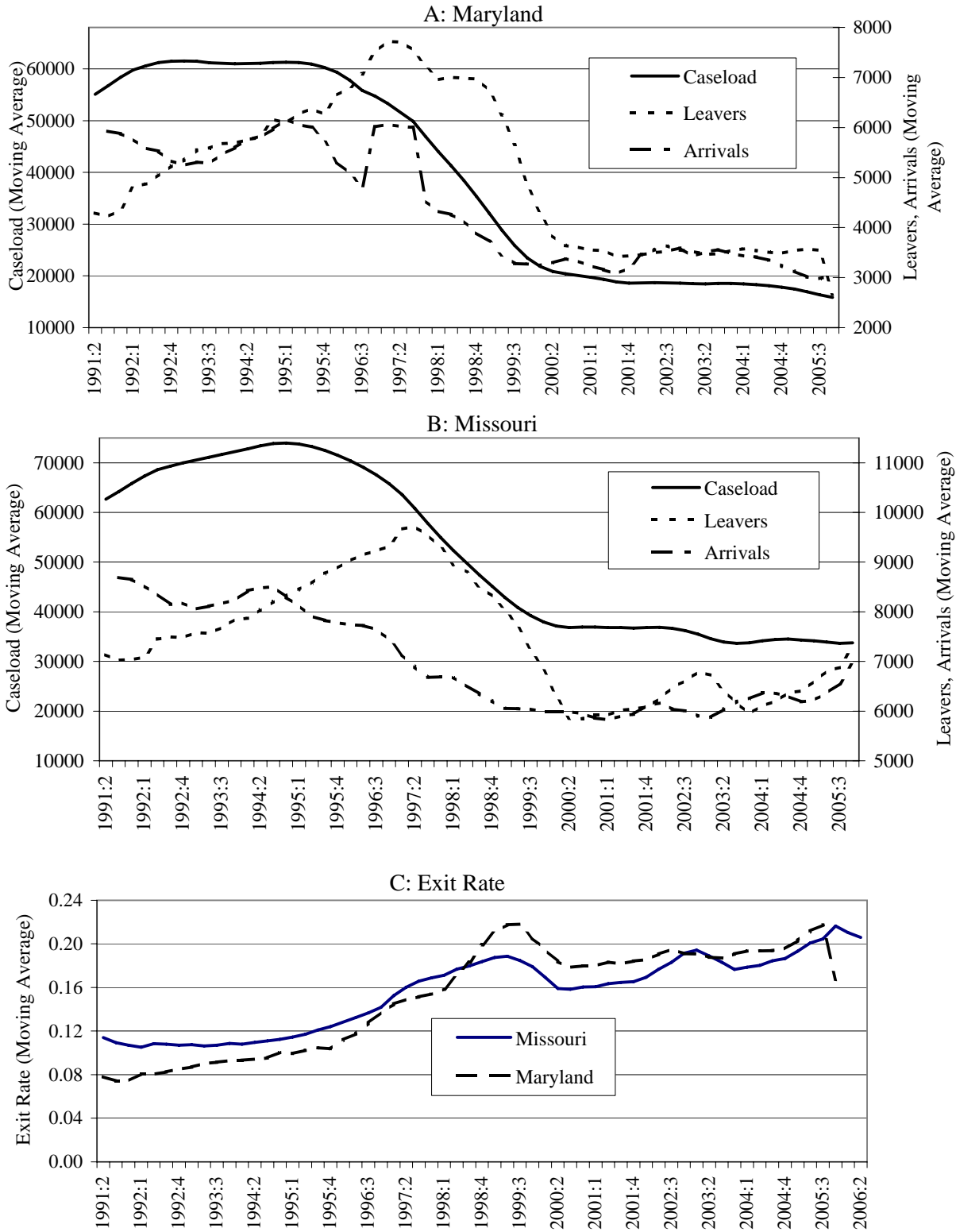


Figure 3: 25th percentile of Hourly Wage by Year for Women Age 20-60



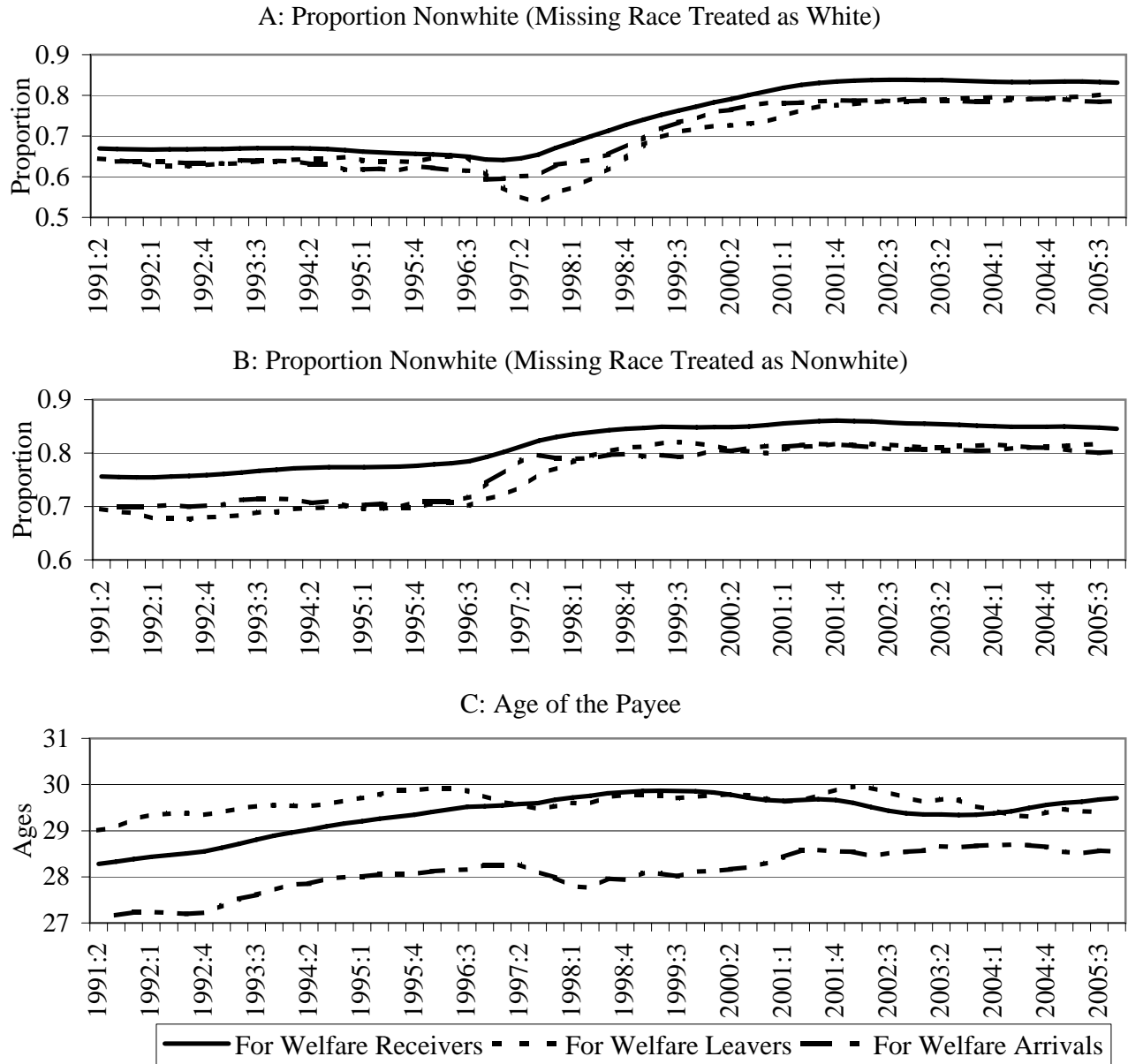
Source: 1990-2004 Annual Outgoing Rotation Group files from the Current Population Survey

**Figure 4: Caseload Dynamics**



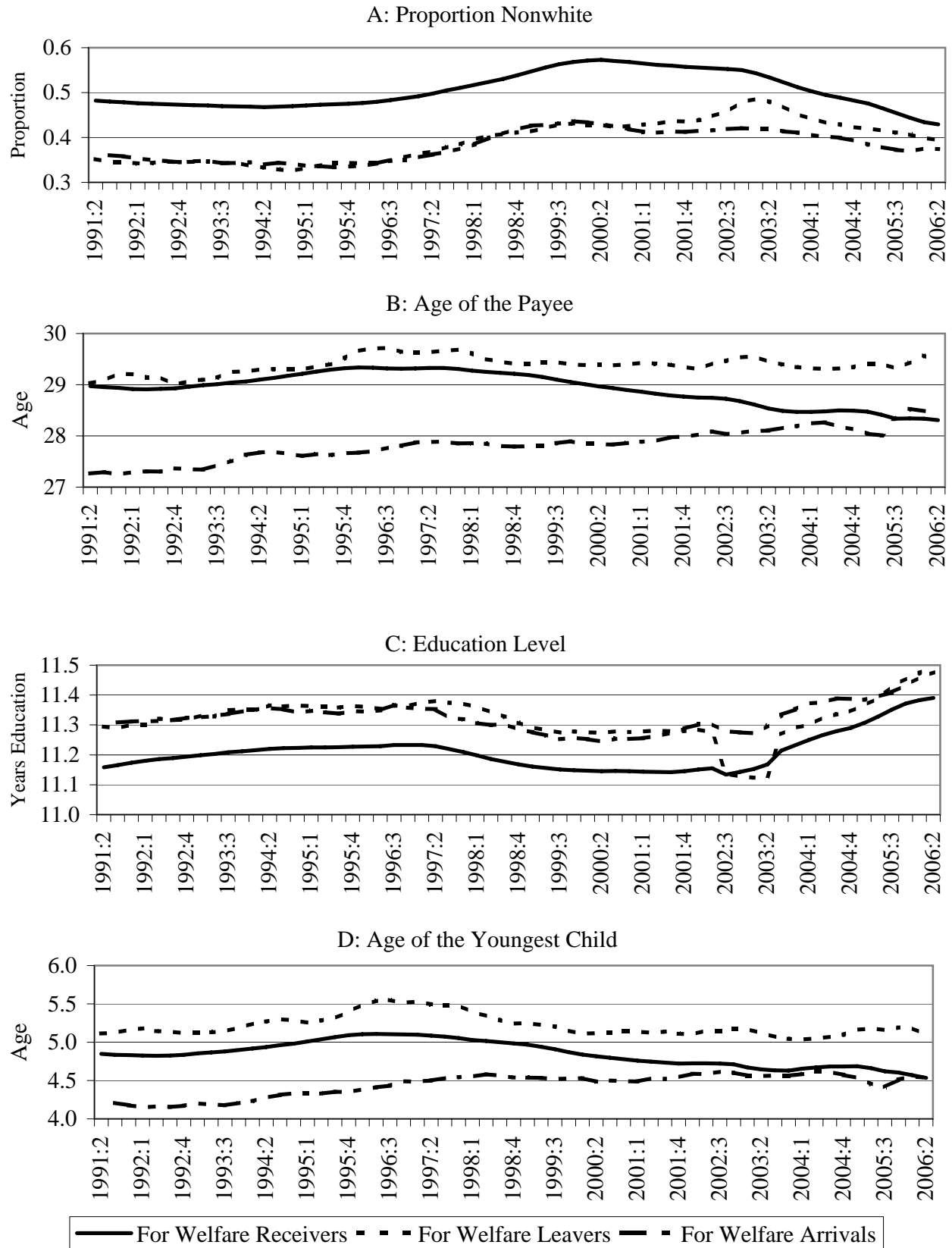
Note: All measures calculated as four-quarter moving average.

**Figure 5: Characteristics of Recipients, Arrivals and Leavers: Maryland**



Note: All measures calculated as four-quarter moving average.

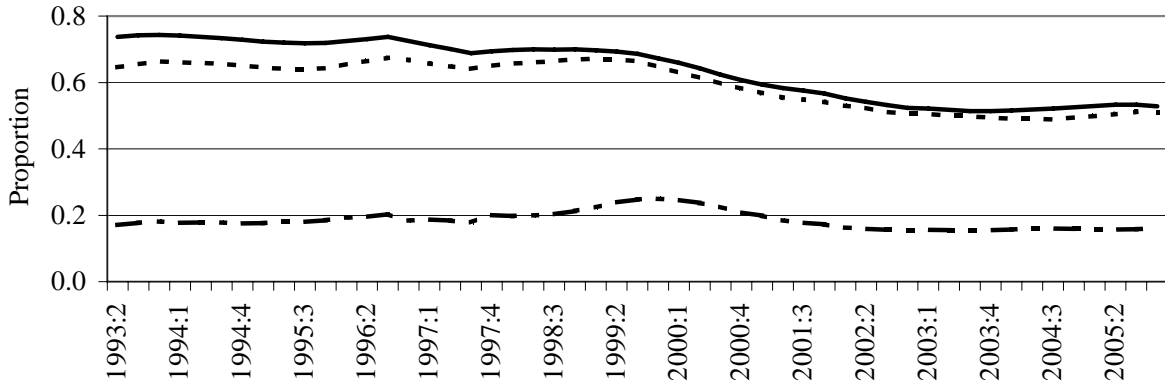
**Figure 6: Characteristics of Recipients, Arrivals and Leavers: Missouri**



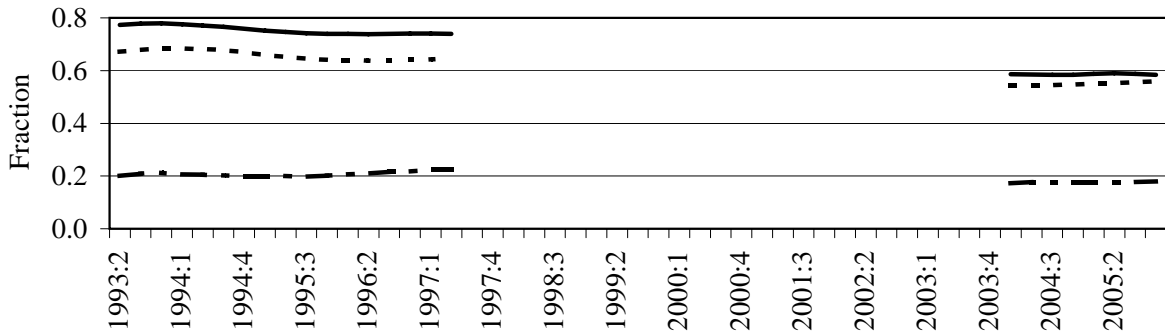
Note: All measures calculated as four-quarter moving average.

**Figure 7: Welfare and Employment History: Maryland**

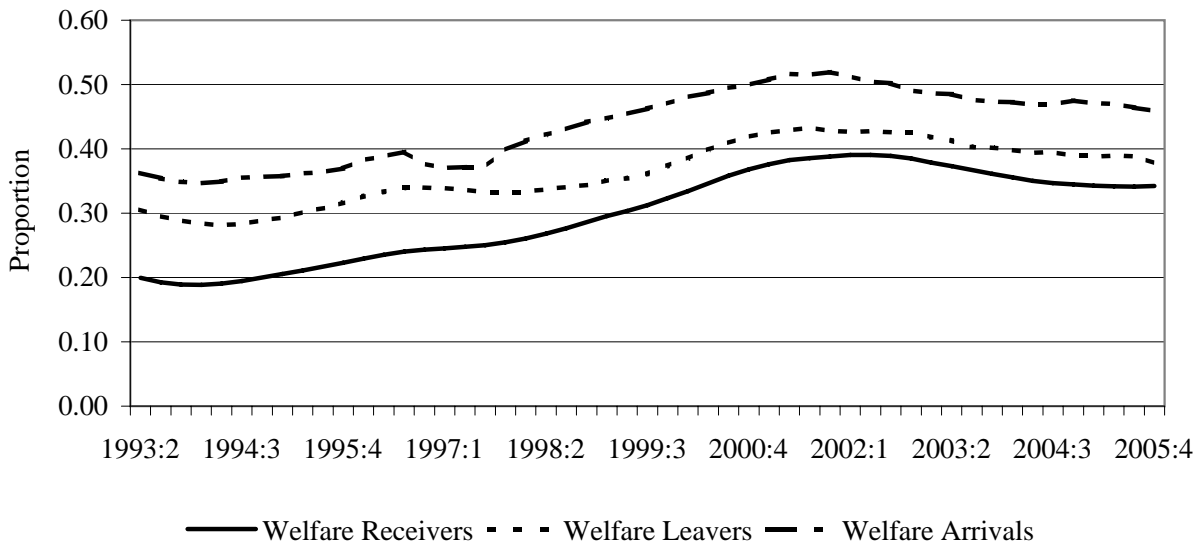
A: Proportion of Prior Eight Quarters on Welfare



B: Fraction of Income in Prior Eight Quarters Due to Welfare\*



C: Proportion of Prior Eight Quarters With Positive Earnings

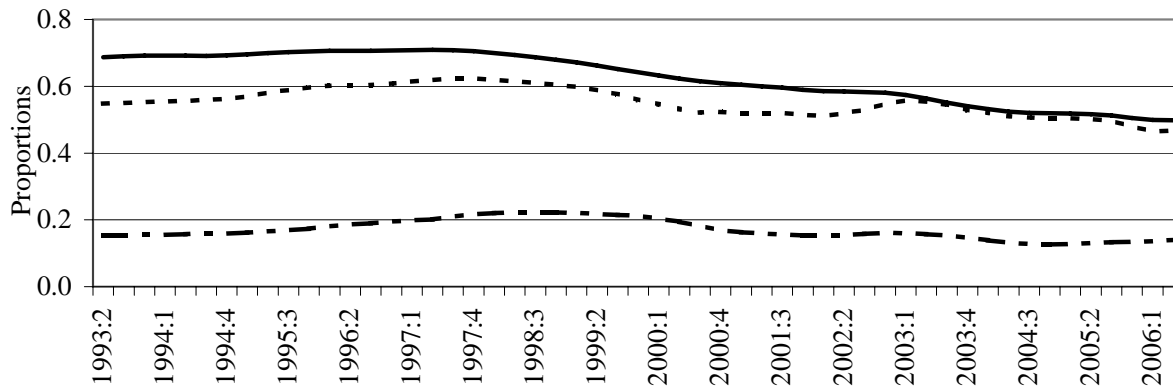


Note: All measures calculated as four-quarter moving averages

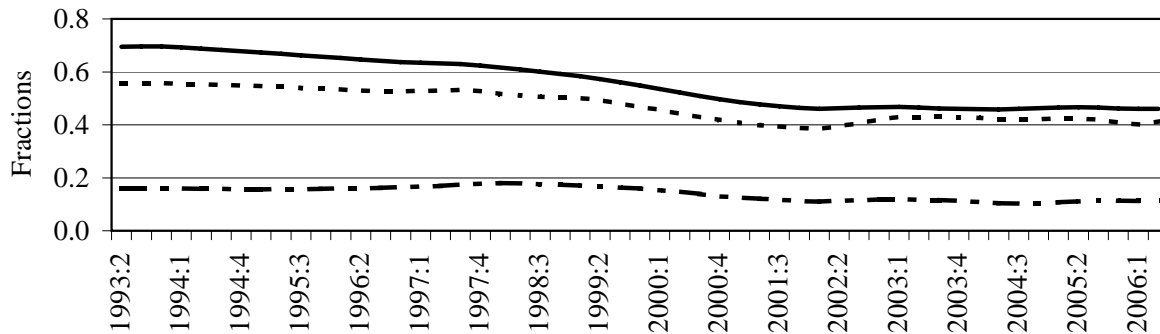
\*AFDC/TANF grant amounts for 1996:4-2003:4 are missing in Maryland data.

**Figure 8: Welfare and Employment History: Missouri**

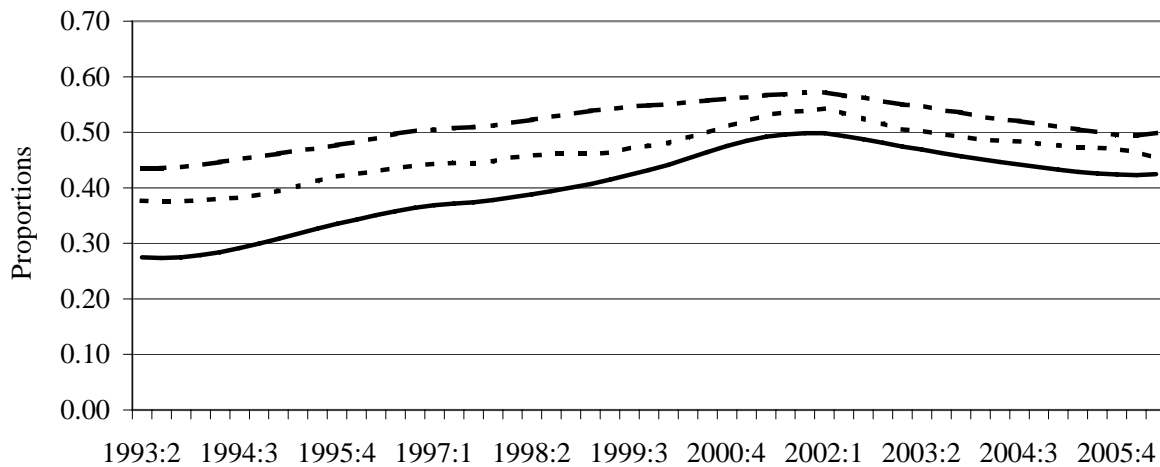
A: Proportion of Prior Eight Quarters on Welfare



B: Fraction of Income in Prior Eight Quarters Due to Welfare



C: Proportion of Prior Eight Quarters With Positive Earnings



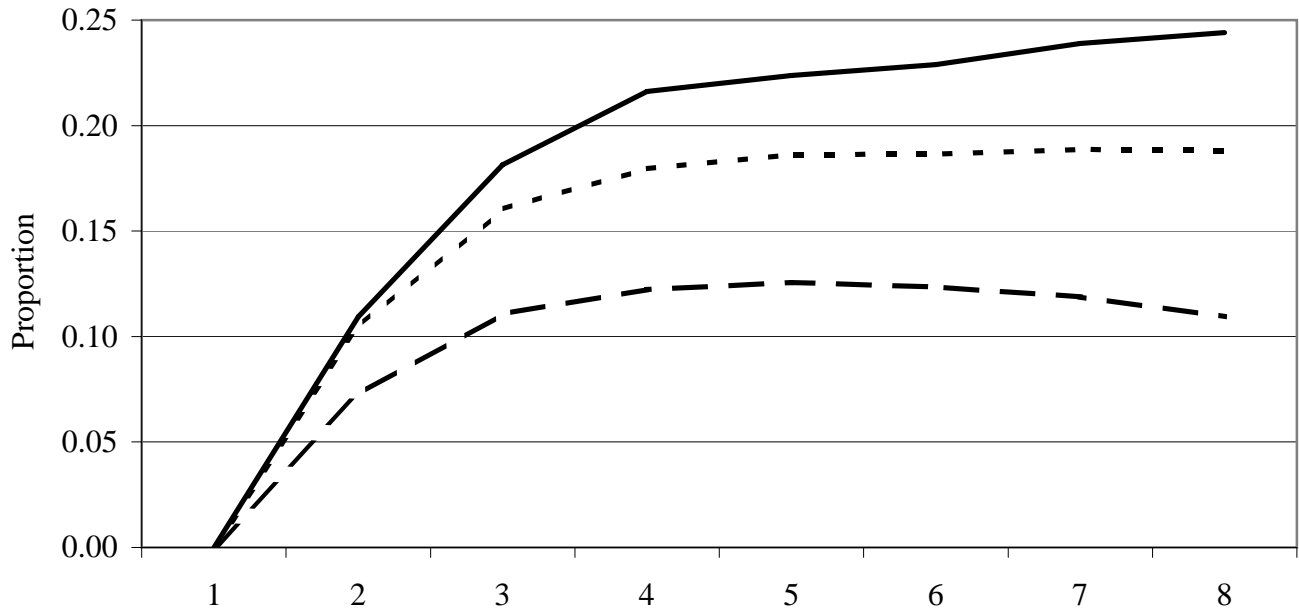
— Welfare Receivers    - - - Welfare Leavers    - . - Welfare Arrivals

Note: All measures calculated as four-quarter moving averages

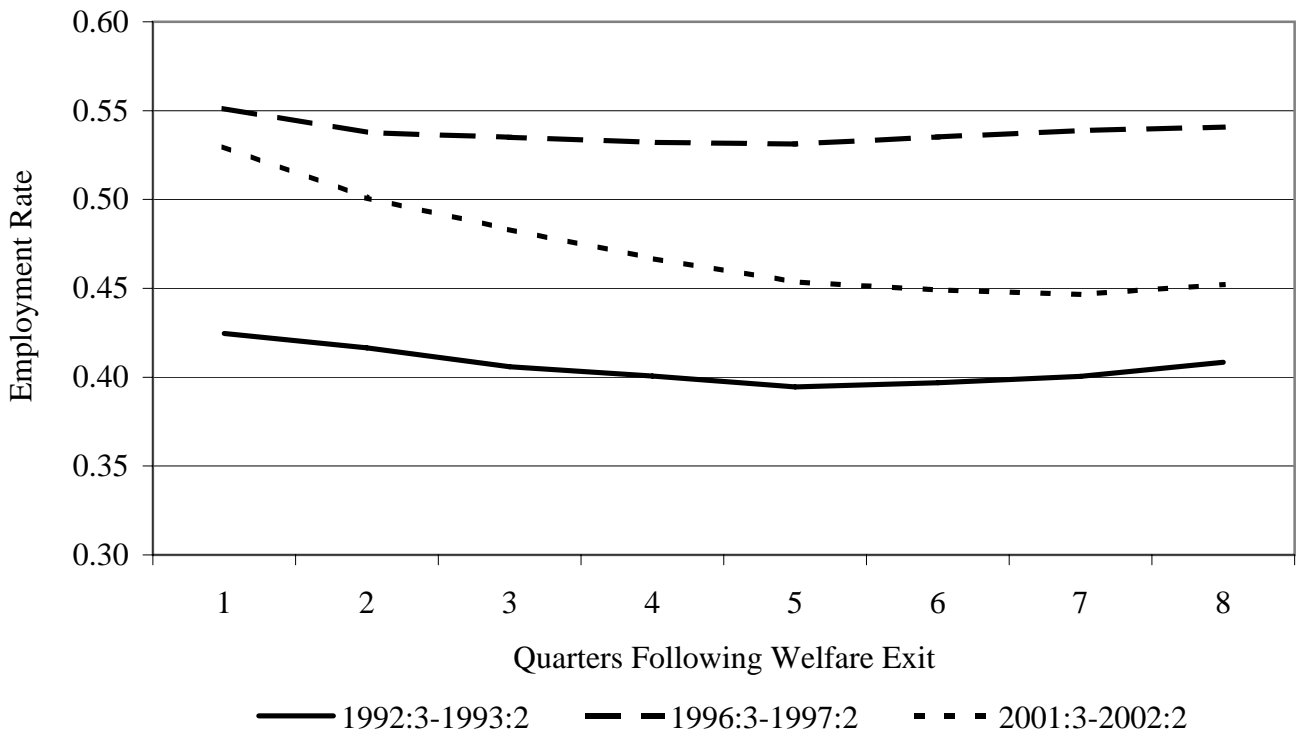


**Figure 9: Employment and Recidivism for the Three Cohorts: Maryland**

A: Proportion of Leavers Back on Welfare



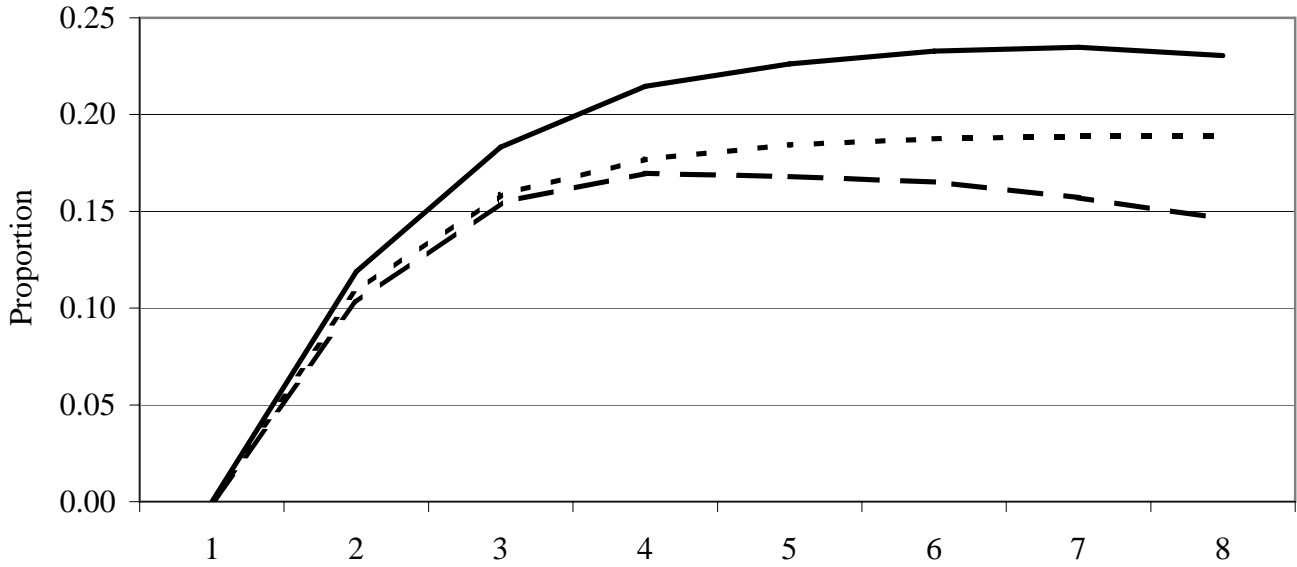
B: Employment Rate of the Leavers



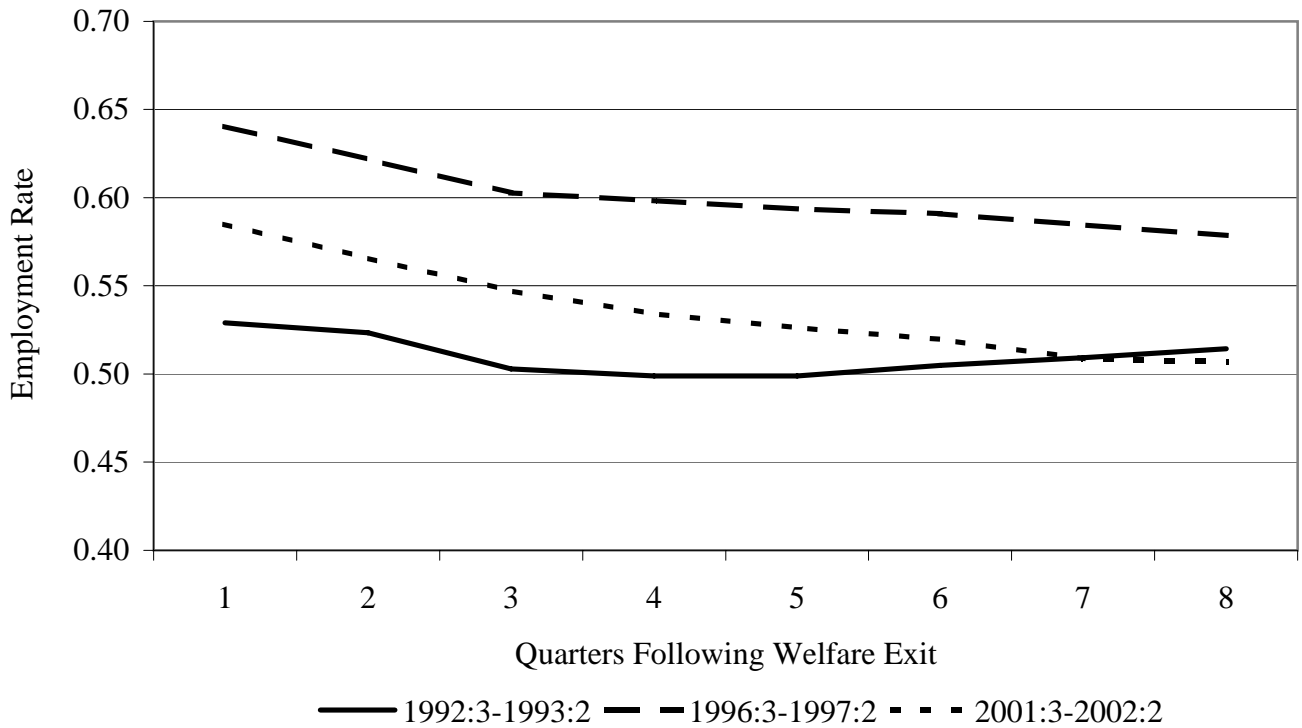
Note: All measures calculated as four-quarter moving averages

**Figure 10: Employment and Recidivism for the Three Cohorts: Missouri**

A: Proportion of Leavers Back on Welfare



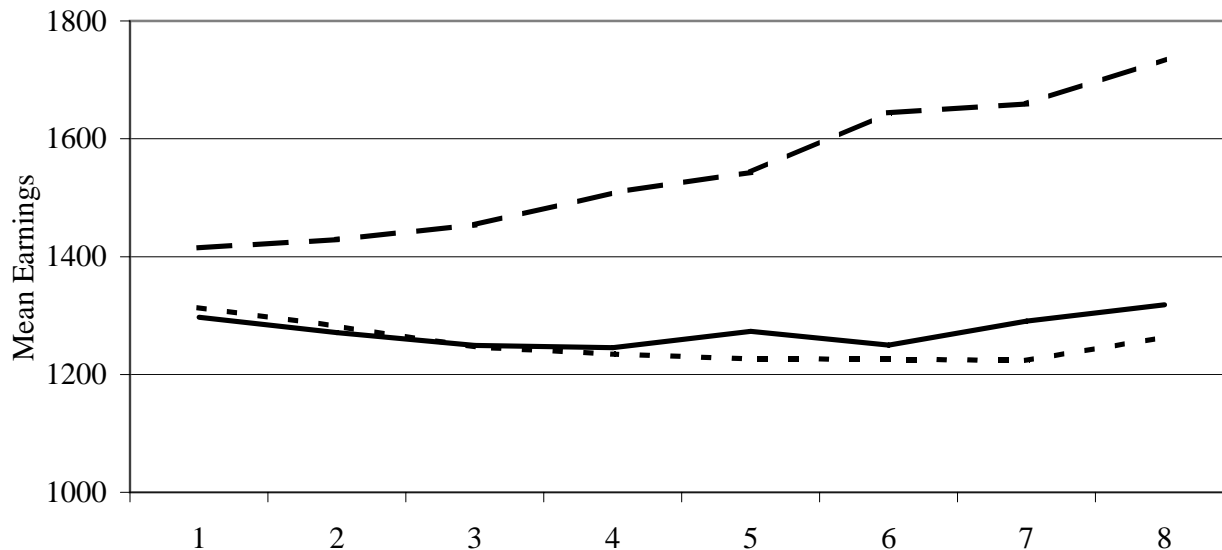
B: Employment Rate of the Leavers



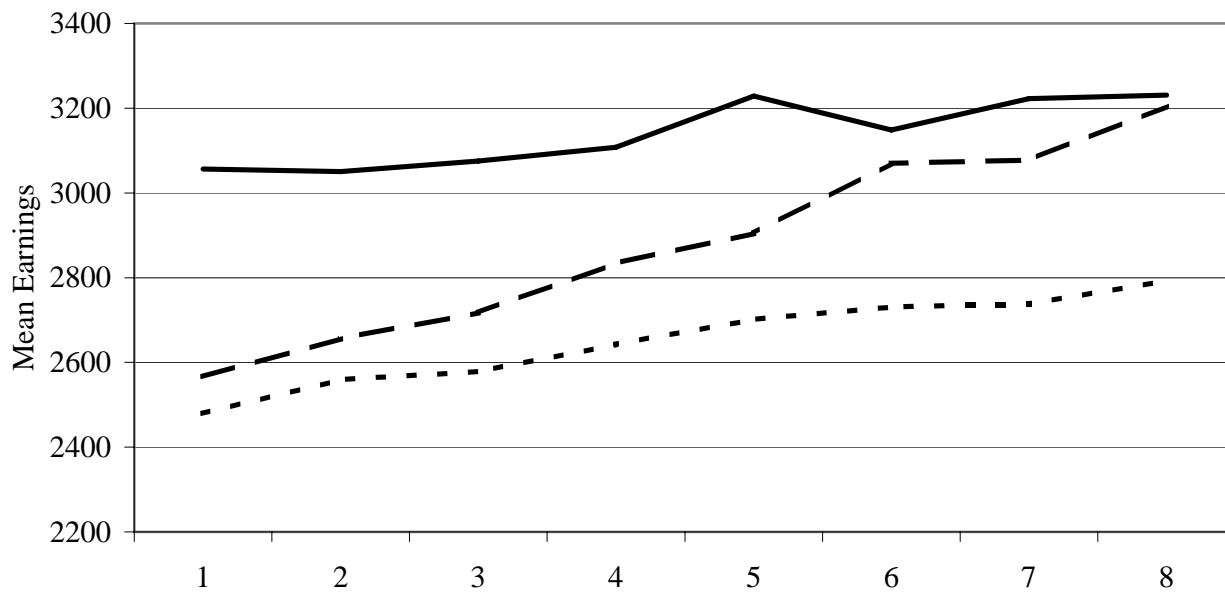
Note: All measures calculated as four-quarter moving averages. Earnings are adjusted for inflation to 1999:2.

**Figure 11: Mean Earnings of the Leavers in Three Cohorts: Maryland**

A: Including zeroes



B: Excluding zeroes



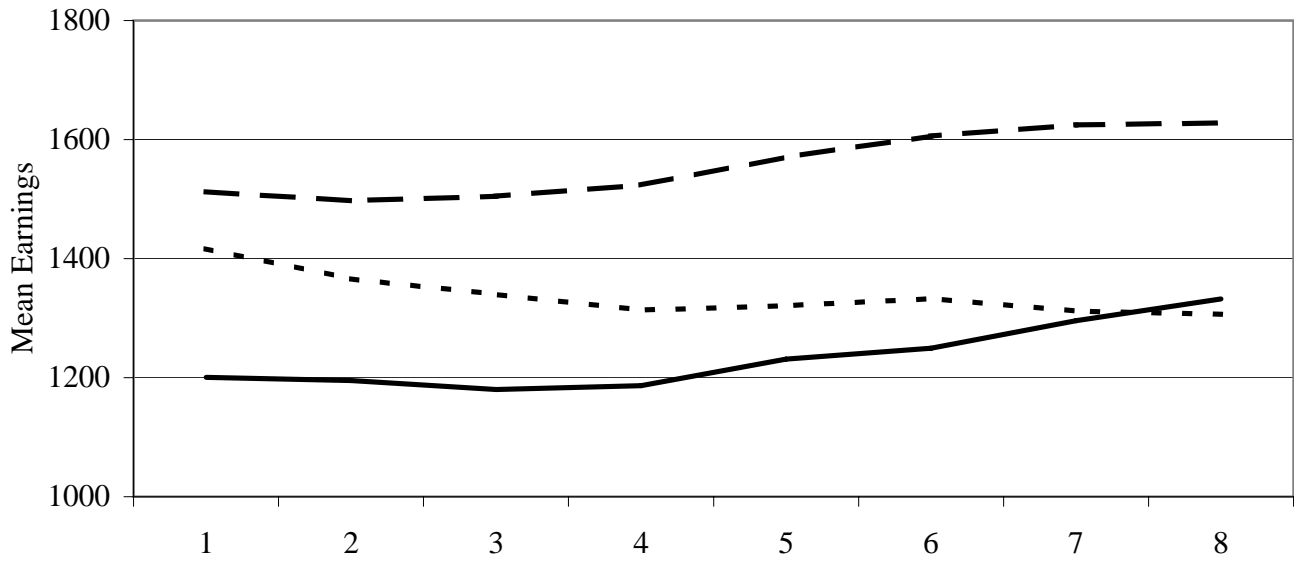
Quarters Following Welfare Exit

— 1992:3-1993:2    - - - 1996:3-1997:2    ···· 2001:3-2002:2

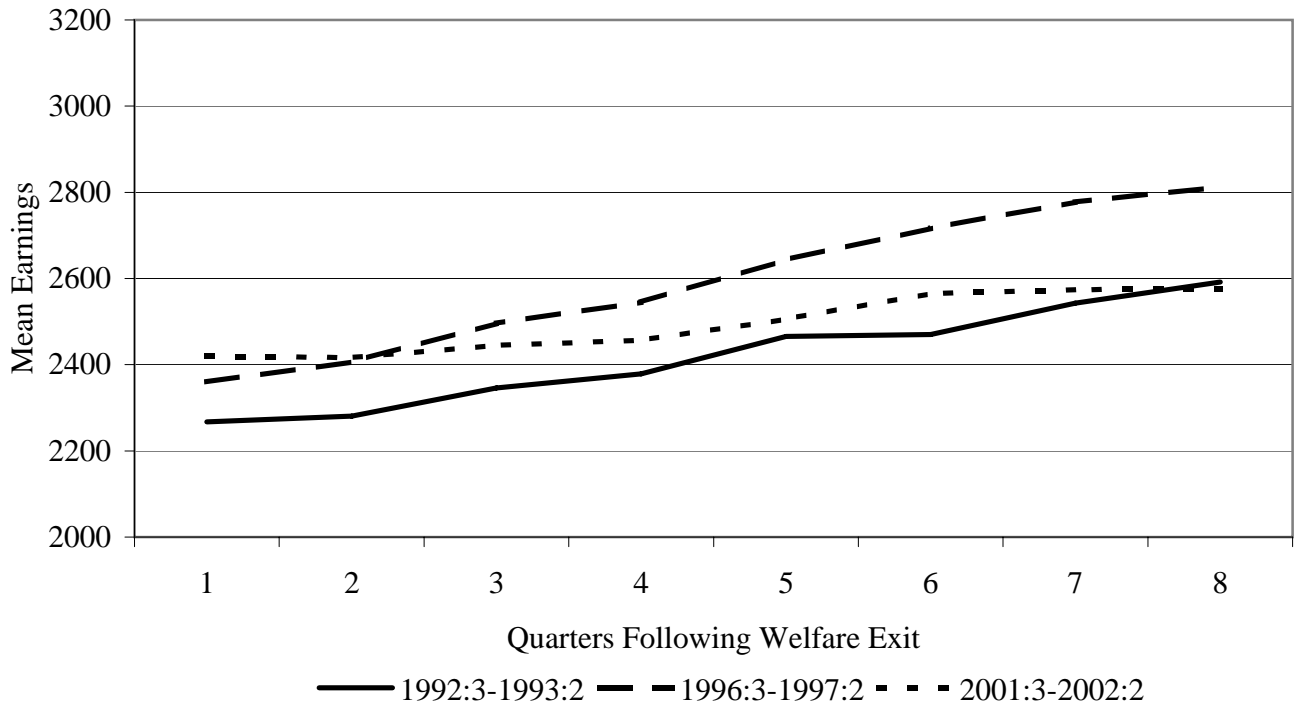
Note: All measures calculated as four-quarter moving averages, Earnings are adjusted for inflation to 1999:2.

**Figure 12: Mean Earnings of the Leavers in Three Cohorts: Missouri**

A: Including zeroes



B: Excluding zeroes

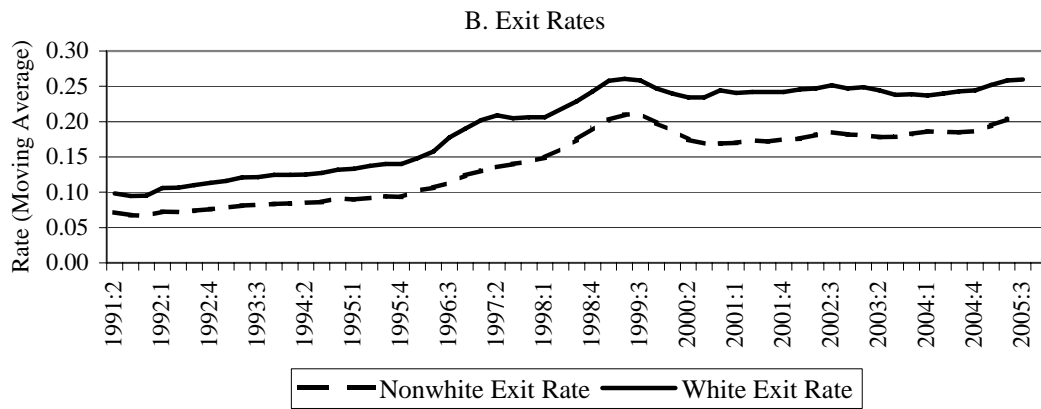
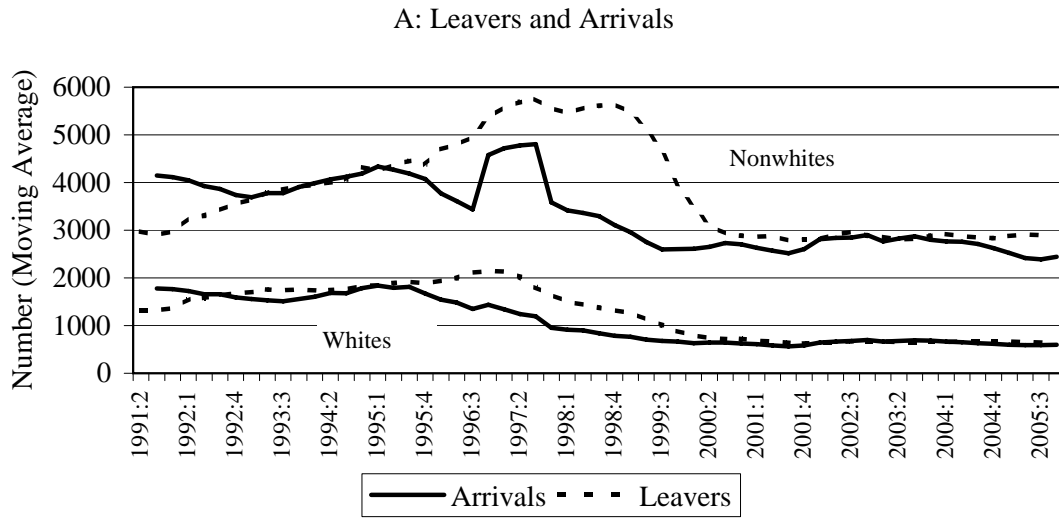


Note: All measures calculated as four-quarter moving averages. Earnings are adjusted to 1999:2.

**Appendix Table A-1: Means of Variables Used in Estimation**

	Maryland			Missouri		
	1992:3- 1993:2	1996:3- 1997:2	2001:3- 2002:2	1992:3- 1993:2	1996:3- 1997:2	2001:3- 2002:2
	(1)	(2)	(3)	(1)	(2)	(3)
Return to Welfare Within 2 Years	0.36	0.22	0.33	0.36	0.30	0.34
Nonwhite	0.68	0.74	0.82	0.34	0.37	0.45
Unknown Race	0.05	0.19	0.03			
Years of Education				11.32	11.38	11.27
Age	29.48	29.56	29.92	29.11	29.63	29.42
Number of Children Less Than 18	1.72	1.59	1.82	1.89	1.90	1.98
Dummy for Missing Number of Children Under 18		0.23	0.10			
Age of Youngest Child				5.13	5.50	5.16
Time on Welfare in Last 2 Years	0.65	0.65	0.52	0.55	0.62	0.52
Time Working in Last 2 Years	0.31	0.34	0.43	0.38	0.44	0.34
County Unemployment Rate	0.07	0.06	0.06	0.06	0.05	0.06
Suburban County (not Washington D.C)	0.22	0.22	0.20	0.11	0.11	0.09
Urban County (St. Louis, Kansas City)				0.40	0.41	0.46
Suburban County (Washington D.C)	0.19	0.22	0.15			
Urban County (Baltimore City)	0.40	0.36	0.54			
Earnings In Quarter After Leaving						
No job	0.58	0.45	0.47	0.47	0.36	0.41
\$1-\$499	0.04	0.07	0.07	0.07	0.07	0.08
\$500-\$999	0.03	0.05	0.05	0.05	0.06	0.06
\$1000-\$1999	0.08	0.12	0.09	0.16	0.16	0.11
\$2000-\$2999	0.10	0.13	0.11	0.16	0.18	0.12
\$3000-\$3999	0.09	0.09	0.09	0.06	0.10	0.11
\$4000 or More	0.07	0.08	0.12	0.03	0.07	0.12
N	22,211	30,844	14,231	30,092	38,719	25,729

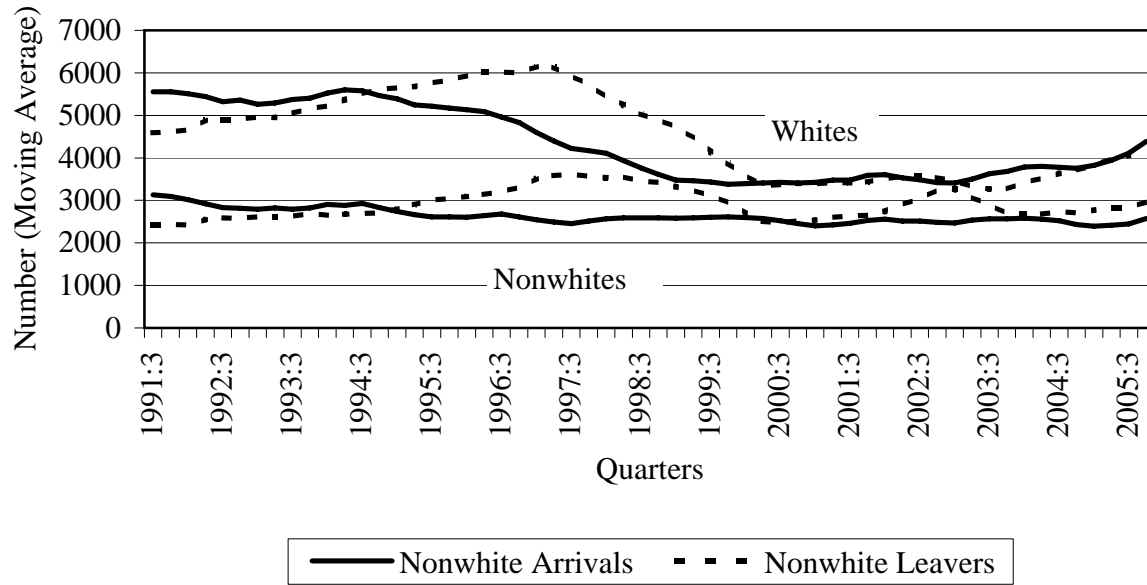
**Appendix Figure A-1: Caseload Dynamics by Race: Maryland**



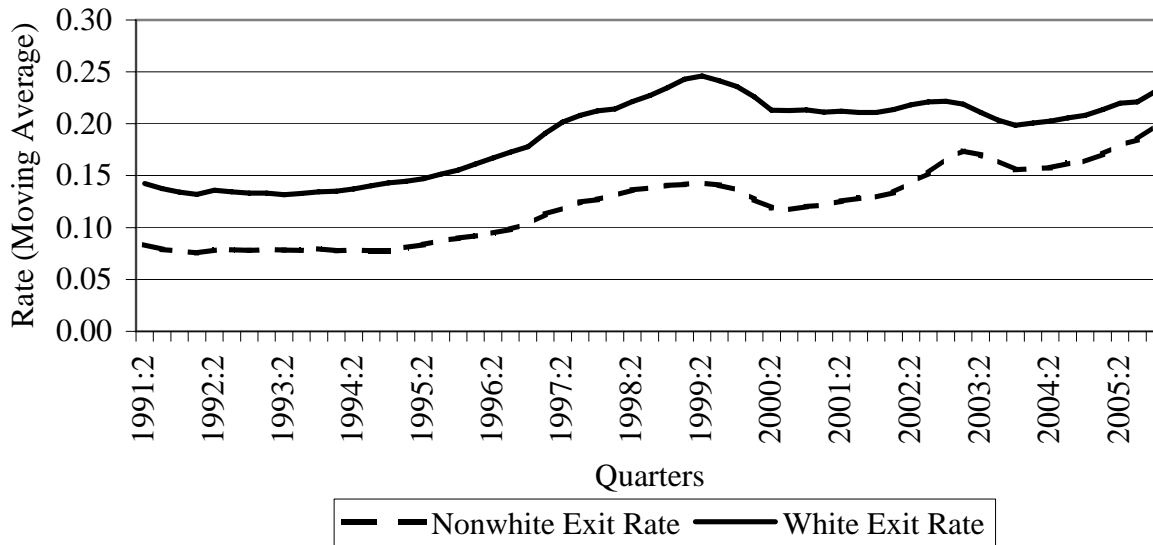
Note: Missing race is treated as nonwhite. All measures calculated as four-quarter moving averages.

## Appendix Figure A-2: Caseload Dynamics by Race: Missouri

### A. Leavers and Arrivals



### B. Exit Rates



Note: All measures calculated as four-quarter moving averages.