The Earned Income Tax Credit and Labor Market Participation of Families on Welfare*

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Abstract

In this paper we assess the relative effects of welfare policy changes, earned income tax credit (EITC) increases in 1990 and 1993, and changes in local labor market conditions on the behavior of families who received welfare benefits in California during the early part of the 1990s. The data on welfare recipients that we analyze are drawn from the California Work Pays Demonstration Project (CWPDP). The CWPDP incorporated experimental variation in the benefits package received by treatment and control households drawn from California's AFDC caseload in four counties during the first half of the 1990s. This experimental variation is used to help identify the effects of welfare changes from the effects of the EITC expansions and the effects of local labor market conditions over this same period. We use a variety of county-level labor market indicators to account for the influence that the local labor market had on the employment rates of heads of households in the CWPDP sample. We also exploit a change in the EITC in 1994 when the credit became significantly more generous for families with two or more children, relative to families with only one child. Our evidence is consistent with the EITC having large, positive effects on employment of adults from welfare families in California.

1. Introduction

In recent years there have been unprecedented changes in welfare. The 1996 Personal Responsibility, Welfare and Opportunity Reconciliation Act (PRWORA) abolished AFDC and created Temporary Assistance for Needy Families (TANF), a set of block grants to states with few restrictions. States are required to spend at least 75 percent of their "historic" level of AFDC spending, a 5-year lifetime limit is imposed on receipt of federally supported assistance (though hardship exemptions are included in the law), and states have to meet certain targets in moving portions of their caseloads into specific work activities. Between January 1993 and December 1999, welfare caseloads fell by 52 percent, to 2.4 million families from 5.0 million. These changes in welfare caseloads mirror changes in employment rates of single women, which rose to 76.5 percent in 1998-99 from 67.5 percent in 1989-90.[1]

While welfare reform is frequently linked with caseload reductions in popular media discussions,[2] a combination of three developments presumably account for these trends. First, aggregate GDP has increased since March 1991 (118 consecutive months through 2/2001), the longest economic expansion in U.S. history. While there appears to be considerable variation in the relationship of macroeconomic performance and poverty alleviation, a strong economy, all else equal, helps low-income workers. Second, many states experimented with their welfare systems even prior to PRWORA and innovations in welfare only increased following the abolition of AFDC. Most policy innovations in welfare reform have focused on increasing work among program participants. Third, there were sharp increases in the earned income tax credit (EITC) in 1990 and again in 1993. The EITC, by increasing the effective wage received by low-skilled

[1] We thank Maria Cancian for providing these employment rates from pooled CPS samples.

[2] See, for example, "Welfare Reform Is On a Roll; Working Poor Still Struggle, Study Says," *Washington Post*, p.1, 8/3/99 and "Welfare Law Buoys the 'Working Poor'," *USA Today*, p.1, 6/9/99.

workers, should induce people to enter the labor market.

At least two papers using household-level data systematically examine the effects of the economy, welfare reform and the earned income tax credit in explaining changes in labor market participation among single women with children.[3] Meyer and Rosenbaum (1999a) find that EITC changes account for 63 percent of the increase in the employment rate of single mothers from 1984 to 1996 and 37 percent of the increase from 1992 to 1996. Ellwood (1999) finds a somewhat smaller effect of the EITC, concluding "20% of the growth in work can be traced to the economy, perhaps another 50% is linked to welfare reform and the remaining 30% can be traced to the EITC and other work supports. Each of these might be too high or low by perhaps 10%" (page 25).

These papers, as well as several studies that focus solely on the labor market effects of the EITC, suggest the credit significantly increases labor force participation. Yet existing studies share features that leave room for useful new work on the effects of the EITC on labor market behavior.

First, data for the existing studies come either from the Current Population Survey (CPS) or the Survey of Income and Program Participation (SIPP). As discussed in Hotz and Scholz (2000b), the ratio of AFDC recipients reported in the CPS to administrative counts of recipients fell from 86.7 percent in 1990 to 79.6 percent in 1996. The ratio of AFDC dollars to administrative totals was 78.4 percent in the 1984 CPS and 67.7 percent by 1996. These trends raise a concern about the ability of studies using the CPS or SIPP to accurately characterize the tax and transfer environment facing low-income families.

Second, the national sampling frames from the CPS and SIPP make it difficult to account

[3] A larger set of studies seeks to explain changes in aggregate state welfare caseloads. These are surveyed in Blank (2000).

for local labor market characteristics that might significantly influence labor market outcomes. Bartik and Eberts (1999) criticize studies that include only unemployment rates to account for labor market conditions, writing, the "… unemployment rate by itself may be a woefully incomplete measure of economic conditions affecting potential welfare recipients." They instead develop a set of measures that are intended to reflect the availability of attractive jobs to welfare recipients (these include measures of state employment growth and the industrial mix of the state). Their central conclusion is that these more textured measures of the economic environment facing welfare families matter in understanding caseload changes. It is also difficult to characterize changes in AFDC/TANF over time (Ellwood, 1999 emphasizes this point), since welfare reform alters the ways programs are administered as well as the parameters of benefit schedules.

Third, CPS and SIPP sample sizes are fairly small for the population that arguably is of greatest interest to policymakers, women with children who are trying to make the transition from welfare to work. Hence, it is difficult to translate directly the results of existing studies to the effects of the EITC on the employment of families on welfare.

This paper addresses these concerns. We focus on a small geographic area—four counties in California that were the location of the California Work Pays Demonstration Project (the CWPDP)—to examine the labor market effects of the EITC. The CWPDP context and data are described in Section 2. Studying a specific geographic area allows us to incorporate a detailed set of local labor market conditions that are likely to have independent effects on labor market performance.

The CWPDP incorporated experimental variation in the benefits package received by treatment and control households. Consequently, we have a much more straightforward task than

others in parsing effects of welfare changes from the effects of other factors when examining labor market developments.

Unlike previous studies our sample is composed of welfare recipients. Focusing on welfare recipients raises a variety of methodological complications that are discussed later, but it has the virtue of focusing the analysis on a subpopulation of first-order policy importance. Given that we start with a sample of families with children, we also adopt a subtle approach to identifying the effects of the EITC. Previous studies typically identify labor market effects of the EITC by comparing women with children to women without children, accounting to the extent possible for underlying factors that might differentially affect the two groups.[4] The intuition underlining our study is different.

In 1994, the EITC became more generous than in previous years, increasing even more sharply for families with two or more children than it did for one-child families. If the EITC alters employment and earnings, all else being equal, we should expect to see a divergence in employment rates and earnings between one and two-or-more child families starting in 1994, as credit amounts available to these groups of families diverge. We also examine the strong hypothesis that if families with one child and families with two or more children are comparable, they should have similar labor market behavior prior to 1994. Section 3 of this paper presents descriptive information on this issue.

While the intuition for our strategy is straightforward, our empirical work is complicated by the fact that families in our sample are or have been on welfare. The problem that arises is simplest to see in the context of repeated cross-sectional data of AFDC recipients. Suppose the California economy is coming out of a recession and is growing rapidly in the period covered by

[4] As part of their sensitivity analysis, Meyer and Rosenbaum (1999a) examine differences in labor market effects generated by the EITC for families with two or more children relative to families with one child as is done in our

our data. As the economy expands, recipients with higher levels of human capital are more likely to find jobs and leave welfare. Families that remain on AFDC will have lower levels of human capital and other attributes attractive to employers, relative to the average recipient in earlier periods. Thus, over time, we may find the likelihood of working falls purely through a change in the composition of the sample. If these compositional issues vary by family size, our identification strategy would lead to misleading inferences.

We try to mitigate these problems with two approaches. First, we examine the robustness of our findings when we split our sample into "new" welfare recipients and continuing recipients. Second, we control for an extensive set of demographic characteristics of households and variables that index the timing and extent of their participation in welfare in an attempt to enhance the comparability of families with differing numbers of children. We discuss these sampling issues and our preliminary results in section 4. We show the EITC appears to have an economically (and statistically) significant, positive effect on employment rates of adults from families that were on welfare in California during the 1990s.

2. The EITC and the California Work Pays Demonstration Project

In 1999, taxpayers with two or more children could receive an EITC of 40 percent of income up to $9,540, for a maximum credit of $3,816. Taxpayers (with two or more children) with earnings between $9,540 and $12,460 receive the maximum credit. Their credit is reduced by 21.06 percent of earnings between $12,460 and $30,585. The EITC schedule in 1999 for families with two or more children is shown in Figure 1. Table 1 shows the complete evolution of income eligibility thresholds, credit rates, and phase-out (or implicit tax) rates.

A key development for the purposes of this paper was put in place as part of the 1990

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paper.

EITC expansions. After 1990, for the first time, families with two or more children were able to receive a larger EITC than they could if they had only one child. The difference through 1993, however, never exceeded $77. As part of the 1993 EITC expansion, the differences became much larger (see Table 1): in 1994 the maximum difference was $490, it was $1,016 in 1995, and $1,404 in 1996 (and indexed for inflation thereafter). This differential expansion by family size is the source of EITC variation that we examine later in this paper.

To receive the credit taxpayers file their regular tax return and fill out the six-line Schedule EIC that gathers information about qualifying children. The EITC is refundable, meaning that the Treasury pays it out regardless of whether the taxpayer has any Federal income tax liability. There are several basic tests for EITC eligibility. The taxpayer must have earned and adjusted gross income below a threshold that varies by year and by family size. To receive the credit available to families with children,[5] the qualifying child must be younger than 19, younger than 24 if a full-time student, or any age if totally disabled. The claimant must be the parent, the grandparent, or foster parent of the child.[6] The qualifying child must live with the taxpayer at least six months during the year (or 12 months if a foster child).

On of the goals of the EITC is to encourage employment among low-skill workers. To see how this might happen, consider Figure 2. Figure 2a shows total tax payments and marginal tax rates for two-parent, two-child California families in 1984.[7] We assume workers bear the full

[5]A small credit available for childless taxpayers between the ages 24 in 65 with very low incomes was added in 1994. The credit rate for these taxpayers is 7.65 percent and the maximum credit in 1999 is $347.

[6] Until late 1999, a foster child was any child for whom the claimant cared for "as if the child is his or her own." Now the caring stipulation still holds, but the child must also be placed in the home by an authorized placement agency.

[7] These calculations were made with the use of Internet TAXSIM, developed by Daniel Feenberg at the NBER. See Feenberg and Coutts (1993) for more information.

burden of payroll taxes, so the employer and employee share of payroll taxes was 13.1 percent.[8] The EITC was only 10 percent on incomes up to $5000, so the payroll tax exceeded the EITC for taxpayers with very low incomes. The EITC was phased out at a 12.5 percent rate beginning at $6,000. In addition, the 11 percent Federal marginal tax bracket started at around $6,000 of income. Thus, all but the lowest income families faced marginal tax rates of at least 28 percent. Some were significantly higher. Total tax payments are positive at all income levels.

Figure 2b shows the analogous figure for 1998, after the 1986 tax reform, and the 1990 and 1993 EITC expansions. The pattern of marginal and average tax rates in 1998 is strikingly more favorable to low-income workers compared to 1984. The marginal tax rate line is initially at -25.8 percent, reflecting the sum of the 14.2 percent effective payroll tax rate (the employer and employee payroll tax rates are now 7.65 percent) and the -40 percent EITC rate. The EITC subsidy ends around $10,000, leading to positive cumulative rates first equal to the 14.2 percent effective payroll tax rate and then 35.3 percent, reflecting the sum of the 14.2 percent payroll tax and the 21.1 percent EITC phase-out. Rates jump to 50.3 between $25,000 and $29,000 as this family enters the 15 percent bracket of the federal income tax.[9] California state income taxes are zero for all EITC-eligible households. The corresponding average tax burdens are shown in the bars. Two-parent, two-child California families would have negative combined income and payroll taxes up to roughly $17,200.[10] One might expect EITC-induced changes in the return to

[8]Employers and employees both contributed 7.0 percent of earnings as payroll taxes, but the incidence assumption implies that after-tax earnings would be 7.0 percent larger in the absence of payroll taxes, so the effective payroll tax rate was (.14 / 1.07) or 13.1 percent.

[9]The EITC phase-out rate is lower for taxpayers with one child, but because they only receive one child credit and have one fewer personal exemption, one-child families begin to pay the federal 15 percent marginal income tax rate at an income of roughly $19,000. Hence, EITC recipients with one child and incomes between $19,000 and $27,000 have cumulative marginal tax rates nearing or above 50 percent.

[10]Low-income families would generally file returns because their incomes exceed filing thresholds or to get back withheld taxes. With the $500 child credit along with exemptions of $2,250 and the standard deduction of $7,200, a married couple with two children will not have a positive income tax liability until their earnings exceed $24,866,

work to increase labor for participation between the mid 1980s and the late 1990s, other things being equal.

Hotz and Scholz (2000a) survey the literature on the labor market effects of the EITC, so we do not do so here. Collectively, existing studies imply elasticities of employment with respect to net income that range from 0.69 to 1.16.[11] Elasticities of this magnitude imply that wage subsidies like the EITC can substantially increase employment.

This paper adds to the literature on the effects of the EITC on the employment of low-income workers in three primary ways. First, it is the first EITC paper to use data other than the CPS or SIPP. By all accounts the SIPP and CPS are high quality, but there appears over time to have been an erosion of their coverage of program participation, and their sampling frames make it difficult to account in a detailed way for local labor market conditions and welfare rules and institutions that may affect the employment of low-income workers. Second, ours is the first EITC paper to use experimental variation to account for the effect of altering the benefit package available to welfare recipients. Third, ours is the first paper to focus on a population of welfare recipients, which allows us to explicitly examine the effects of the EITC in helping people move from welfare to work. Of course, our focus on welfare recipients also raises methodological concerns, since entry into welfare (and hence our sample) may be driven by observable and unobservable factors. As we discuss in greater detail below, we address problems that might arise from the influence of unobservables in two primary ways. We examine the robustness of our results to a different point-in-time sample and to a sample of new entrants, conditioning on observable characteristics. We also use information on prior earnings and welfare use to try to proxy for

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even without the EITC, but they will be required to file a tax return as long as their income exceeds $11,700.

[11] We were not able to compute a employment elasticity from Ellwood's study that is methodologically comparable to elasticities from the other studies.

underlying employment propensities of our sample.

2.1 The California Work Pays Demonstration Project

In 1992 and 1993 California altered several aspects of its Aid to Families with Dependent Children program, including reducing available cash benefits. Since the AFDC benefit reductions were greater than federal regulations allowed, the state was required to obtain a federal waiver. The waiver included an evaluation, which led to the California Work Pays Demonstration Project (CWPDP). Data on AFDC and food stamp participation for aid recipients in four counties—Alameda, Los Angeles, San Bernardino, and San Joaquin—were gathered in the County Welfare Administrative Database (CWAD).

The four counties chosen as research counties for the CWPDP have distinct characteristics relating to their geography, populations, welfare caseloads, and welfare departments. Los Angeles and Alameda Counties contain major urban centers of California, and San Joaquin and San Bernardino counties are their neighboring rural areas. San Joaquin represents the agricultural region known as the Central Valley, while San Bernardino is part of Southern California's desert region and is the geographically largest of the four counties. Los Angeles County has the largest population of any California county with nearly nine million residents in 1990. San Bernardino and Alameda Counties each have 1.2 to 1.5 million residents and San Joaquin has approximately 500,000 residents. Not surprisingly, Los Angeles County has the highest welfare caseload, with more than 285,000 cases in 1992; the other three counties have caseloads in the 30,000-60,000 range with San Joaquin's caseload being the smallest. However, San Joaquin County had the highest percentage of its population on AFDC of all three counties in 1990. In addition, San Joaquin County has an unusually high percentage of unemployed parent cases (20 percent). Unemployed parent cases make up 10 to 15 percent of the caseloads in the other three counties.

The sampling of cases for the CWPDP evaluation in these four counties began in December 1992. Fifteen thousand cases on AFDC in the four counties were randomly selected to be a part of the study. One-third of these cases were assigned to a control group that were subject to the provisions of the State's AFDC program, including benefit levels, that were in place as of September 1992. Two-thirds were assigned to the treatment group that, along with AFDC recipients throughout California, were subject to the changes in the State's AFDC program granted by the Federal government under several waivers. A sample of the new cases that entered the AFDC caseloads in the four analysis counties also were drawn into the sample and randomly assigned to either the control or treatment statuses starting in 1993. Thus, the full CWPDP sample consists of households on aid in October 1992 and the 1993 through 1997 replenishment, or "new entrant," cases.

The CWPDP continued until the latter part of the 1990s. Upon passage of the PRWORA, all states had the option to continue their waiver demonstrations or terminate them. California chose to stop enrolling new entrants into the CWPDP as of March 1997 and, with the passage of California's welfare reform program, CalWORKs, the CWPDP was concluded as of the end of December 1997. Beginning in January 1998, all households in the CWPDP, including control group members, were subject to the provisions of California's TANF program and the other provisions of CalWORKs.

2.2 The CWPDP Sample and Data

In the empirical analysis that follows, we distinguish between two groups, or subsamples, within the overall sample generated for the CWPDP. We first define a Point-in-Time sample, as all households in the October 1992 sample who are continuing welfare recipients. The second is a sample of New Entrants to AFDC. These new entrants are recent entrants in any year from

1992 through 1997. The new entrant cases, when added to the point-in-time sample, can be used to define the caseload at any time.

Cases in the Point-in-Time sample over-represent long term welfare recipients, at least relative to the new entrants samples. While some fraction of the households in the new entrants sample eventually may become long-term recipients, the majority of new entrants end up leaving the welfare rolls in a relatively short time. Given compositional differences between the two samples, we might observe different labor force participation responses to the EITC, welfare provisions and local labor market conditions across samples.

Our household data come from several sources. Data on the demographic characteristics of families and individuals that constitute assistance units come from the County Welfare Administrative Database. We also use data on welfare participation *prior* to enrollment in the CWPDP that come from California's Medi-Cal Eligibility Data System (MEDS).[12] MEDS provides AFDC participation histories of individuals in the CWPDP sample from 1987 until their entry into the CWPDP.

We measure labor force participation using quarterly data on employment (and earnings) from the California Employment Development Department (EDD) Base Wage Files. The EDD Base Wage File contains employer-reported taxable wage payments for jobs covered by unemployment insurance (UI) and disability insurance (DI).[13] Hotz and Scholz (2000b) provide an extended discussion of what is known about the accuracy and coverage of unemployment insurance data for the low-income population. In brief, UI data do not cover all workers, including the self-

[12] The MEDS is a statewide administrative system that contains information on monthly participation in the state's Medicaid program (Medi-Cal), AFDC/TANF programs, as well as the Food Stamps, SSI and California's General Assistance (GA) programs.

[13]The file generally includes individuals paid cash wages of more than $100 in a calendar quarter, and domestic workers paid cash wages more than $750 in a calendar quarter. As noted in the text, certain types of workers are exempt from UI/DI coverage and are not included in the Base Wage File.

employed, military, federal employees, independent contractors and other employment arrangements. Nevertheless, employment rates derived from UI data appear to be similar to those that result from survey data. We expect UI-based employment rates to be lower because of coverage problems with flexible workers/independent contractors. Surveys also suffer from nonresponse; however, so undercounts in both data sources typically are comparable in the studies we reviewed, making the UI-based rates similar to survey-based rates.

Two overall sample restrictions are necessary due to gaps or inconsistencies in the data. First, data in the CWAD are maintained for persons who were in the case at the time of sampling as well as for persons who enter the case after the sampling date. Persons in this latter group were not submitted for a match to Base Wage File records; we exclude these persons from our analysis since we cannot observe their earnings. Second, administrative difficulties in San Joaquin County resulted in incomplete information for the treatment cases. We also exclude these cases from the analysis.

Beyond these overall sample restrictions, other sample complications arise. First, between 23 and 38 percent of the sample are households in which no adult is a member of the AFDC assistance unit.[14] These child-only cases occur when the children are eligible for AFDC but the adults who live with the children are ineligible. The adults may be undocumented workers or may have been sanctioned out of the case for violating aid regulations. We want to eliminate these child-only cases from our analysis sample, since we do not have Base Wage File earnings for the adults in the household. Furthermore, the children in these cases are likely ineligible for the EITC: even if a child had earnings, that child is not eligible to claim the EITC if she is a

[14]We define a child as being 18 years old or younger throughout the year. This age limit corresponds to the age of a qualifying child for EITC purposes. The range noted in the text arises from differences across our subsamples. Thirty-eight percent of the FG cases in the 1993 new entrant sample are child only cases while 23 percent of the U cases in the 1992 sample were child only.

qualifying child for EITC purposes of another person. Consequently, we eliminate all children from the sample, leaving only adults.

Second, depending on the subsample, zero to 5 percent of the households have three or more adults in the AFDC assistance unit at the time of sampling. These "complex" households are a potentially interesting group to study, since the scope for manipulating family structure to access different sources of money would seem to be the greatest for this group. However, we drop these households from our analysis because they may represent multigenerational families and we have limited information (and often no reliable information) about relationships among assistance unit members. Without knowing more about family relationships, we are unable to construct useful decision rules about which adult can claim a child for purposes of the EITC. [15]

2.3 CWPDP Sample Characteristics

Table 2 shows the characteristics of our samples after the restrictions are imposed. Roughly, two-thirds of the households are AFDC-FG cases, with the remainder being AFDC-U cases. The ethnic and racial composition of the cases varies by AFDC status (FG versus U) at the time of their enrollment in the CWPDP, with blacks being more prevalent in AFDC-FG cases while AFDC-U cases are more likely to be White, Hispanic or Asian. AFDC-FG and AFDC-U cases also differ with respect to the number of children present in the assistance unit at the time of enrollment, with U cases typically having more children. Anticipating our analysis of the effects of the EITC on employment, a sizeable share of the cases in the CWPDP had two or more children at the time of enrollment. The percentages range from 49.6 percent for AFDC-FG cases in the new entrant sample to 82.5 percent of the AFDC-U cases in the point-in-time sample. Fi-

[15] We also did not include those cases for which we were unable to determine the date at which they entered the CWPD. In addition, we deleted those individuals whose were missing a date of birth when we constructed our measures of whether any adults in an assistance unit worked.

nally, at the bottom of Table 2, we record the percentage of cases where we were able to match cases in UI/EDD earnings records, the data that we use to measure employment. Across AFDC statuses and types of samples, we find very high match rates.

2.4 The Provisions on the Welfare System Faced by CWPDP Experimental and Control Group Members from 1992 through 1997

In this section, we briefly describe the provisions of the welfare system that prevailed in California during the period of the CWPDP. As noted above, the State of California was granted a series of waivers to its AFDC program by the U.S. Department of Health and Human Services during the early part of the 1990s. The waivers allowed the following changes:

Reduction of Maximum Aid Payment: The maximum amount of AFDC cash aid was reduced by a total of 15 percent.

Elimination of the 100 hour (per month) work limitation for remaining eligible for AFDC-U: This change does not affect the eligibility for the AFDC Unemployed Parent program (AFDC-U), but does affect conditions under which one remains eligible. This change affected only AFDC-U cases; the rule was not in effect for AFDC-FG cases.

Removal of time limit for $30 and 1/3 income disregard: This change became effective in July 1993. Prior law required that if AFDC recipients earned income after four months on AFDC, they were subject to a 100 percent benefit reduction rate (BRR). The new law removed the 4-month time limit and allowed eligible AFDC recipients to keep $30 plus one-third of their earnings.

Implementation of Cal-Learn program: This program encouraged pregnant teens and teen parents to stay in or return to school by providing child care, transportation, and other assistance, and by creating disincentives for bad grades or for dropping out of school.

Increase in personal resource limits and allowance of savings accounts for education: This provision raised the limits on personal resources and automobile stock that AFDC recipients can hold and remain eligible for AFDC. It allows recipients to retain up to $5,000 per family in a restricted account to be used for a child's post secondary education, for down payment on a home, or for starting a business. These new rules do not apply to resources allowed at the time of eligibility determination, in which case the old rules still apply.

Implementation of the California Alternative Assistance Program (CAAP): This provision enables AFDC-eligible persons to decline an AFDC cash grant, but still receive Medi-Cal (the Medicaid program in California) and child care assistance.

Changes in employment services programs: Several provisions were implemented to make California's Job Opportunities and Basic Skills (JOBS) training program and the Greater Avenues for Independence (GAIN) program more work-oriented.

The treatment group in the CWPDP, as well as the AFDC caseload in the rest of the State, was subject to the above changes over the period we analyze. As a result, any experimental-control outcome comparison for the CWPDP sample reflects the combined effect of the bundle of changes noted above. Thus, we are not able to distinguish between the effects of the reduction in the Maximum Aid Payments (i.e., the AFDC guarantee levels) and the Benefit Reduction Rates. Nor can we distinguish the latter two features from the other changes that were made under the CWPDP. Nonetheless, we note that static models of labor supply would predict, under reasonable assumptions about income and substitution effect,[16] that the combination of the *reduction* in the guaranteed levels of AFDC benefits and the *elimination* of the time limits on 33 percent benefit reduction rate would tend to increase the propensity of adults on welfare to work. Furthermore, we note that the second and third provisions in this waiver only applied to AFDC-U cases, reinforcing the notion that the primary changes confronting one-parent (AFDC-FG) households were the reduction in the welfare benefit guarantee and the reduction in the benefit reduction rates.

Low-income households in California (and elsewhere) are potentially eligible for other social assistance programs that may affect their decisions to work. These other programs, such as Medi-Cal, Food Stamps and SSI, did not change much or at all over this period. They also generally did not vary across California's 58 counties. Thus, we have a limited ability to examine the effects of other programs on the labor force participation of CWPDP sample members. One exception arises with the welfare-to-work program, Greater Avenues for Independence (GAIN),

[16] In particular, the assumptions would be that the effect of an increase in income, all else equal, reduces an individual's labor supply and propensity to participate and that the substitution effects associated with a wage change

that prevailed in California during the period we analyze. While the program was implemented statewide, it was administered at the county level. Consequently counties implemented different programs and were free to change them over this period.[17]

Tables 3 and 4 provide statistics on two sets of indicators that highlight GAIN implementation differences in our four analysis counties. Table 3 shows the distributions of welfare-to-work activities across counties and years. There are substantial differences. In 1992 most recipients in Alameda County were assigned vocational training. By 1997, they emphasized job club and job search activities. Los Angeles County emphasized basic education programs in 1992. By 1997, they too emphasized job club and job search activities. In Table 4, we display the average monthly GAIN enrollments, by county, as a percentage of each county's AFDC caseload. Again, one sees that the GAIN programs in these counties differed in the extent to which they served the AFDC population. We use these indicators in our multivariate analyses to account for welfare program differences confronting adults in the CWPDP sample.

2.5 Local Labor Markets

As noted in the Introduction, some of the changes in welfare caseloads and employment rates of low-skilled workers during the 1990s may be attributable to changes in the labor market conditions. To account for the role of the economy, we examine several labor market characteristics, including the overall employment rate in the county; the share of employment in manufacturing, service and retail trade; and income per worker in each sector. The trends and differences across counties in these measures are presented in Figures 3 through 7.[18] As is clear from

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dominate the income effects of such a change.

[17] For more on the GAIN program and the differences in its implementation in California's counties, see Riccio, et al. (1989) and Hotz, Imbens, and Klerman (2000).

[18] These data were obtained from the website of the Labor Market Information Division (LMID) of the State of California's Economic Development Department.

these figures, labor market conditions varied over the period covered by our sample.

Employment growth rates were strong in the second half of 1980s, but starting in 1991, California experienced a severe economic downturn. A natural concern is that these cyclical effects could account for employment changes in the sample. The figures also illustrate the fact that the 1991 recession appears to have differentially affected different parts of the state. In particular, Los Angeles County experienced the deepest downturns and some of the most rapid rates of recovery as measured by changes in employment across the various sectors. The one exception to this pattern was in changes in government employment, which includes employment at military installations. The rates of decline in employment were highest in Alameda and San Bernardino counties, with the latter county still experiencing employment declines in this sector as late as 1998. Thus, another important feature of the temporal variation is that it was different across regions within the state.

We account for these local labor market factors in our empirical model of employment.

3. The Trends and Patterns in Employment Rates for the Welfare Population

Our empirical work focuses on the effects of welfare changes, local labor markets and the EITC on employment. We start the analysis with two tables that highlight in a simple way the data that we use for the analysis and the empirical patterns that are present.

3.1 Employment Rate Trends and Differences across the CWPDP Experimental and Control Groups

Panels A and B of Table 5 show treatment-control differences in employment rates for AFDC-FG and AFDC-U families for the years 1993 through 1997 for our two samples: the point-in-time (as of October 1992) sample and the new entrants sample. Several trends stand out. First, the employment rates of both experimental and control group members increase over the

1990s in both samples. Second, in the point-in-time sample the treatment group tended to have higher employment rates than the control group and these differences grew and were more likely to be statistically significant toward the end of the sample period. These patterns do not hold for our New Entrants sample (Panel B). This difference across our samples raises the possibility that the composition of the caseload may have changed over the period we consider. We analyze this issue in more detail below.

3.2 The EITC

Panels A and B of Table 6 present descriptive statistics that highlight the intuition for our examination of the EITC. Panel A corresponds to the point-in-time sample while Panel B corresponds to the new entrants sample. In each panel, we split the sample into families with one child and families with two or more children. Absent cohort or welfare entry effects—a major qualification that we address in the following sections—we expect, if the EITC stimulates employment, to see higher employment for two-plus child families relative to one-child families as the EITC differential between the two types of families increases beginning in 1994.

As can be seen in the panels of Table 6, changes in employment rates before and after 1994 suggest that the EITC expansion may have had a significant, positive effect on the employment rates. In particular, participation rates for families with two or more children rise steadily and by 1997 and 1998, have increased 6 (8) percentage points relative to the participation rates of one-child families in the AFDC-FG (AFDC-U) sample. Both estimates are significant at usual levels. The differences in differences have similar patterns in the new entrants sample, but they are smaller and less precisely estimated. Of course, these patterns may be the result of other factors changing over this period, including the economy, the welfare system and compositional issues related to entry and exit of our sample. We refine our analysis of these effects in the next

section.

4. Multivariate Analysis of Relative Effects of EITC, Welfare and Labor Market Conditions

In this section we present a more refined analysis of the relative effects on labor force participation of the EITC expansions, the provisions of California's welfare and welfare-to-work systems, and local labor market conditions using the CWPDP data. We begin by outlining the empirical model and estimation strategy that we employ.

4.1 The Empirical Model

The simple, mean-differences or differences in mean-differences estimators in Tables 5 and 6 that illustrate the effects of EITC expansions and the effects of AFDC changes on employment rates do not adjust for demographic differences across counties or changes to the caseloads across time. Nor do they directly adjust for any differences in labor market conditions. Finally, the nature of the sampling procedures used to draw households into the CWPDP may also affect the generalizability of the estimates in these two tables to other welfare populations.

To control for the influence of these extraneous factors, we make use of regression methods. Let Emp_{ict} denote an indicator variable for whether an adult in the i^{th} household from county c is *employed* in (calendar) year t,[19] where $Emp_{ict} = 1$ if an adult works and 0 otherwise. We are interested in how employment choices of welfare households (Emp_{ict}) are affected by changes in the provisions of the AFDC program and in the generosity of the EITC. Let T_{it}^{AFDC} and T_{it}^{EITC} be indicator variables denoting the AFDC and EITC "regimes" that the i^{th} household is subject to in year t. As noted above, a household's employment choices also are likely to differ as a function

[19] Note that for households headed by a single adult—typically a female head of household—this is an indicator of whether the person works in the particular year. In households headed by two adults, such as is the cases for households who qualify for the AFDC-U program, e_{ict} denotes whether at least one (or both) adults work in a particular year.

of their demographic characteristics, X_{ict}; the prevailing labor market conditions in their county of residence in year t, L_{ict}; the household's "attachment" to welfare—which we index by the vector, W_{ict}—that affects the likelihood of the household being selected into the CWPD analysis sample; and other, unobserved factors, ε_{ict}. That is, household employment choices are assumed to be a function of the following variables:

$$Emp_{ict} = f(T_{it}^{AFDC}, T_{it}^{EITC}, X_{ict}, L_{ict}, W_{ict}, \varepsilon_{ict}) . \quad (1)$$

We want to isolate the effects of changes in the AFDC and the EITC regimes on the average employment rates of households who are or have been on the California AFDC caseload during the 1990s, the period over which we observe variation in these regimes. To proceed, we parameterize $f(\cdot)$ as the following linear function of its arguments:

$$Emp_{ict} = \sum_t \alpha_t T_{it}^{EITC} + \sum_t \beta_t T_{it}^{AFDC} + \gamma' X_{ict} + \delta' L_{ict} + \phi' W_{itc} + \varepsilon_{ict} . \quad (2)$$

Since *Emp* is a dichotomous dependent variable, the specification in (2) constitutes a linear probability model of employment choices. We assume that ε_{ict} is independent across households but adjust standard errors on the regression coefficients for correlations within a household across time.

To identify the effects of AFDC changes, we exploit the fact that households enrolled in the CWPD Project were randomly assigned to two different AFDC regimes, where the *experimentals* ($T_{it}^{AFDC} = 1$) were subject to the AFDC reforms instituted at the end of 1992 and the *controls* ($T_{it}^{AFDC} = 0$) continued to be subject to the provisions of the program in place prior to 1993.

To identify the effects of expansion of the EITC, we exploit the fact that households with two or more children could receive a higher credit than those with just one child as of 1994, while both types of households faced almost the same credit schedule prior to 1994. Thus, in

terms of the specification in (2), T_{it}^{EITC} is defined to be equal to 1 if a household had two or more children and 0 if they had only one child and the differential effects are captured by the β_t's for t = 1994, … , 1998.[20]

The validity of this identification strategy rests on two assumptions: (a) that the fertility rates of low-income households do not change in response to this change in the EITC and (b) that the composition of our analysis sample, i.e., those households coming onto welfare, does not systematically change so as to alter the relative labor force propensities of families with one child compared to families with two or more children. As we have argued above, assumption (a) seems reasonable, although we cannot completely rule out that this tax change results in a fertility increase among low-income households. We address assumption (b) by examining the robustness of results across different samples and, in some specifications, using information on welfare use prior to entry into our samples.

In appendix Table 4, we provide a list of the variables, and their definitions, that we use for the *X*, *L*, and *W* vectors in (2). Most of them are self-explanatory, but the welfare attachment variables require further explanation. First, dummy variables are constructed for each entry cohort onto welfare. These variables are meant to capture differences in entry cohorts across years caused by changes in economic conditions. For example, the typical family entering welfare may differ between recessions and expansions. Second, dummy variables are included that indicate the time that has transpired between the year in which labor force participation is measured and the beginning of the family's welfare spell at the time of selection into the CWPDP (for some specifications this value can be negative). These variables are intended to control for differences in labor force participation associated with the passage of time after initial AFDC receipt. In par-

[20] We restrict our sample to households with at least one child at the time of selection into the CWPDP.

ticular, we expect labor force participation to increase as the time from entry grows.

We estimate this model on the point-in-time and new entrants samples. Since the point-in-time sample is substantially larger, it yields more accurate estimates. However, as Bane and Ellwood (1986) noted, the point-in-time caseload over-represents households with longer welfare spells. As such, looking at their exit rate from welfare to work may not reflect the long-run effect of the EITC expansion. We address this concern with the new entrant samples. For 1992 through 1996, we observe a random sample of families starting new welfare spells, generating a sample that should more closely resemble the typical entrant onto welfare.

Finally, if our identification strategies are valid, we should find that the employment rates of households with two or more children compared to those with only one child should be stable in years prior to the EITC expansion. Similarly, the employment rates of households assigned to experimental ($T^{AFDC} = 1$) status should not be different than those assigned to the control status ($T^{AFDC} = 0$) in *years prior to* random assignment. To test these implications of our identification strategies, we obtained employment data on the households in our sample for the years 1986 through 1993 from the same administrative data source (California's UI Base Wage records). For these same years, we track the number of children in each case using the birth dates of children in an assistance unit. Then, we expand the regression specification in (2) to model employment rates over the period 1986-1998 and estimate separate coefficients on T^{AFDC} and T^{EITC} for years 1987 through 1993 (1986 is the omitted year). We test whether we can reject the hypotheses that the pre-1993 coefficients on these variables are equal to zero.

4.2 Empirical Results

Table 7 shows a specific, complete set of regression results. The sample used in the table is the 4-county caseload from October 1992. The dependent variable indicates whether or not an

adult in the household participated in the labor market (i.e., had positive EDD earnings) during the year.

All specifications have a similar structure. We condition on available household characteristics. The estimates in Table 7 are generally consistent across specifications and samples. As expected, given the fact that we examine whether either adult in two-adult households were employed during a year, the employment rates are higher in AFDC-U households than in AFDC-FG households. These employment rates decline with the average age of adults in the household and are generally lower in Asian households relative to other ethnic groups. Finally, we find that employment rates also decline monotonically with the number of children in the household.

We also include location and year dummies in each specification. There are no significant county patterns. The year dummies have the qualitative pattern one would expect after seeing Figure 4: labor force participation rates rise relative to the excluded year of 1993.

The focus of our work is on three sets of variables that reflect the effects on labor force participation rates of (i) the California Work Pays Demonstration Project, (ii) EITC expansions and (iii) local labor market conditions.

4.2.1 The California Work Pays Demonstration Project

We examine the effects of the CWPDP making use of a series of "treatment by year" interaction terms. The experimental (or treatment) cases received the changes of the CWPDP along with the rest of AFDC recipients in California, while the control cases received benefits under the old system. The employment rates of the treatment group were between 5.9 and 2.7 percentage points higher than for the control group. Each estimate is statistically significant at usual levels of confidence.[21] These are fairly large policy effects, given the employment rates never ex-

[21] Our results differ from Becerra, Lew, Mitchell, Ono (1998) who, in the final report on the California Work Pays

ceed 47 percent in the AFDC-FG sample and never exceed 58 percent in the AFDC-U sample.

The regression results also show the effect of a brief, "reverse experiment" that occurred as the CWPDP was concluded in December 1997 and the control group was subsequently covered by the same benefit package as the treatment group. As would be expected if the CWPDP experiment were influencing employment rates of adults in our samples, treatment-control differences fell by 41 percent between 1997 and 1998, the first year that the AFDC/TANF package available to the two groups was the same.

As noted earlier, the CWPDP incorporated a bundle of changes to the welfare package. Given the structure of the experiment we cannot disentangle the effects of specific changes. To give a sense of the magnitudes involved, in 1993 the average AFDC benefit was $4,610 for AFDC-FG cases and was $5,843 for AFDC-U cases in our sample, in 1984 dollars (the unit for all dollar amounts in the paper). A 15 percent reduction in benefits, therefore, would result in an average annual benefit reduction of roughly $692 for AFDC-FG households and $876 for AFDC-U households, again, in 1984 dollars (from Hill, *et. al,* 1999). The CWPDP also extended beyond four months the so called "30 and 1/3 provision," which allowed recipients to keep one-third of earned income (and also the first $30), rather than having their AFDC benefits fall by a dollar for every dollar of income that is earned. With this extension, forward-looking potential workers in the treatment group might realize the return to work would increase after four months, relative to the *status quo*. While recognizing the change in the 30 and 1/3 provisions and other elements of the CWPDP package, we view the 15 percent benefit reduction as being the most significant element affecting AFDC-FG households. The primacy of the benefit reduction is less clear for AFDC-U cases, since the CWPDP also removed the rule that limited benefits to those in

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Demonstration Project, find small, often insignificant, positive labor market effects for AFDC-FG cases and somewhat larger, significant positive effects for AFDC-UP cases. In specifications not shown (but available on request),

AFDC-U cases who work fewer than 100 hours.

4.2.2 EITC Expansions

We examine EITC changes by looking at dummy variables indicating the household has two or more children interacted with year dummies. Relative to one-child families, labor force participation rates of families with two or more children differ, as indicated by the negative and significant child dummies. The patterns of the year-child interactions, however, are striking. The interaction terms show that employment rates for those with two or more children increase steadily relative to families with one child, just as the EITC increases for these families. Specifically, employment rates increase by 1.6 percentage points in 1995, 2.6 percentage points in 1996 and 6.3 percentage points in 1997, relative to employment rates for one-child families. The 1996 estimate is statistically significant at the 6 percent level and the later estimates are significant at the 1 percent level. These increases mirror the increase in the EITC differential available to families with two or more children, which equal $344 in 1994, $693 in 1995 and $930 in 1996, again in 1984 dollars.

These results are very similar to the results generated by an alternative specification (not shown, but available from the authors on request) where we replace the two-plus child by year interactions with a variable giving the maximum EITC benefit available to the family given their number of children. The coefficient on the EITC variable indicates that a $1,000 increase in the EITC would increase labor force participation by 5.1 percentage points (with a t-statistic of 3.8). The patterns of the regressions coefficients are what one would expect if the EITC increases labor force participation of California families receiving welfare.

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we find similar results to those reported for both U and FG cases.

4.2.3 Labor Market Characteristics

We include a set of local labor market characteristics, which, along with the year dummies, attempt to capture the effect of local labor market conditions and the business cycle on employment rates. Across specifications, these coefficients move around a great deal so there is no definitive story that emerges from these local labor market conditions.

4.2.4 Sensitivity Analysis

The results described above are generally consistent across different specifications. In this subsection, we discuss a set of alternative specifications. In appendix tables we present a full set of results similar to those in Table 7, but that are estimated on a pooled sample of new AFDC entrants. We then present two similar specifications that use extensive prior information on welfare and employment patterns of sample members. These specifications address the concern that potentially unusual compositional issues could account for our results. We show that prior to the EITC expansions and CWPDP, labor force participation rates differ in levels between families with one or two or more children but these level differences do not change until the EITC begins to diverge for these two types of families. We also show there are no prior treatment-control differences.

4.2.4.1 New Entrants Sample

Appendix Table 1 presents a complete set of results for a sample of new entrants to AFDC from 1992 through 1996. Patterns of coefficients on other covariates are similar to the specification in Table 7, though they are somewhat stronger.

CWPDP treatment-control differences are smaller and somewhat less precisely estimated in the new entrants sample than in the point-in-time sample. Significant differences of around 3.2 to 4.0 percentage points arise in 1993 to 1996, but they disappear by the last two years of the

sample. Recall the experiment ended in December 1997. Also, no new entrants were added to our sample after 1996.

The EITC estimates are larger, reaching 7.8 percentage points rather than 6.3 percentage points. The employment rates for families with two or more children increase steadily relative to families with one child, just as the EITC increases for these families. The estimates are significant at usual levels of confidence and economically large, exceeding 6.5 percentage points by 1995 and later. The EITC coefficient when the two-plus child by year interactions are replaced by the maximum EITC benefit are 8.1 percentage points for every $1,000 increase in the EITC. Again, these are larger than the EITC estimates from the Point-in-Time sample.

The coefficients on labor market conditions move around a great deal compared to the point-in-time sample.

4.2.4.2 Use of Prior Year Information

The spirit of the specifications in Table 7 and Appendix Table 1 is that, after conditioning on other characteristics, employment rates for families with one child are similar to employment rates for families with two or more children outside of the differential expansions of the EITC. Analogously, prior to the CWPDP, the employment rates of treatment households are similar to those of the controls.

We have earnings data for workers in the sample back to 1986. Consequently, in appendix Tables 2 and 3 we extend the previous specifications to also examine labor force participation prior to the EITC expansion and CWPDP. Households that are too young to receive welfare in an earlier year are dropped from the sample, so, for example, an 18 year old in the 1993 point-in-time sample would not be an observation when estimating the probability of being employed in 1987.

A complication arises with this specification—a family with two or more children in the point-in-time or new entrants sample does not necessarily have two children in the earlier years. To address this issue, we go to person-level information that accompanies the case data to find out the birth dates of the children. If a child had not yet been born in the earlier year, we reclassify the household as appropriate (as having one or two or more children). While the case level information is used directly in benefits administration, the person-level information is not. Perhaps as a consequence, there are a substantial number of inconsistencies between the person-level and case-level data. The samples used in appendix Tables 2 and 3 and in parts of Tables 8 and 9 drop observations with inconsistencies between the person and case records. Roughly 60 percent of cases are included after dropping observations where person records fail to match case records.

As mentioned in section 5.1, we also include a series of duration dummies in these specifications that try to account for level differences and intertemporal differences in employment rates across cohorts that entered welfare at different times.

Results for EITC effects across the two samples are given in Table 8. Beyond time-invariant differences in levels, there are no significant differences in employment rates between families with two or more children relative to one-child families prior to 1994. This suggests that there are no obvious differences in the incidence of employment between families with one child and families with two or more children prior to 1993.

The EITC's effects on employment are much stronger than the estimates reported in Table 7 once we account for prior employment and time on welfare. The key interaction terms in Table 9 range from 5.1 to 8.5 percentage points between 1994 and 1997 and again mirror the phased in increase in the EITC for families with two or more children. The magnitudes of the

EITC estimates in the new entrants sample are somewhat smaller and less precisely estimated when we condition on the length of time since the case entered welfare (from the most recent spell), but again, the sample size of the new entrants sample used in appendix Table 3 is roughly only half the size of the sample used as the basis for appendix Table 1.

We examined one last consideration in our sensitivity analysis. We were concerned that perhaps the labor force participation behavior of families with three or more children might differ substantially from the behavior or families with two children, so the EITC differences reported earlier arose from spurious differences driven by families with three or more children. Dropping families with three or more children from the sample, in specifications very similar to those reported in Table 7 and Appendix Table 1, produces comparable to slightly larger estimates of the effects of the EITC on labor force participation.

4.3 The Relative Magnitudes of the CWPDP, EITC and Labor Markets

In this section we present a very preliminary, suggestive calculation of the relative importance of the effects of the CWPDP, EITC expansions and local labor markets on employment rates of adults in families from the California caseload. We emphasize that this is currently offered in the spirit of a back of the envelope calculation, to help readers assess the relative magnitudes of the empirical results. The calculations will be refined in subsequent drafts.

We focus first on the results for the point-in-time sample. As shown in Table 6, between 1993 and 1998, employment rates increased by 13 (19) percentage points for AFDC-FG families with one child (two or more children). The comparable increases for AFDC-U cases are 18 percentage points for one-child families and 27 percentage points for families with two or more children.

The estimates using the maximum EITC variable suggest that a $1,000 increase in the

maximum EITC increases employment between 5.1 to 8.1 percentage points. We will use the midpoint of 6.6 percentage points. The maximum EITC increased $417 over this period for one-child families and by $1,308 for families with two or more children when measured in 1984 dollars. These EITC increases could account for roughly 21 percent ($417 \times .0066 \times 100/13$) of the labor force participation increase for one-child AFDC-FG families and 45 percent ($1308 \times .0066 \times 100/19$) of the increase for AFDC-FG families with two or more children. The corresponding numbers for AFDC-U cases are 15 percent and 32 percent.

The CWPDP increased labor force participation rates by as much as 5 percentage points. Roughly 60 percent of the sample is composed of experimental cases, suggesting that the CWPDP accounted for roughly 3 percentage points of the increase in employment rates in our sample. This is 23 percent of the increase for one-child AFDC-FG families and 16 percent of the increase for AFDC-FG families with two or more children. The corresponding numbers for AFDC-U cases are 17 percent and 11 percent.

These illustrative calculations suggest that the EITC and CWPDP changes can account for roughly 44 (61) percent of the changes in employment for AFDC-FG households with one child (two or more children). They can account for 32 (43) percent of the changes in labor force participation for AFDC-U households with one child (two or more children). This suggests changes in the economy account for at most, since it is the residual, 39 to 56 percent of the changes in employment for AFDC-FG households and 57 to 68 percent of the changes in employment for AFDC-U households. It is little surprise that AFDC-U household have greater sensitivity to economic conditions, both because they have two potential workers in the family and because at least one member must have recent labor market experience.

5. Conclusions

The EITC transfers a large amount of money to working poor families and reduces poverty. There is also a considerable amount of evidence that the credit not only redistributes resources, but also encourages employment, thereby avoiding one of the negative behavioral incentives of traditional income transfer programs. Our paper develops new evidence that adds to these results. Ours is the first EITC paper to use data other than the CPS or SIPP. We also are the first EITC paper to use experimental variation to account for the effect of altering the benefit package available to welfare recipients. Finally ours is the first paper to focus on a population of welfare recipients, which allow us to explicitly examine the effects of the EITC in helping people move from welfare to work.

Across several specifications we find striking, positive effects of the EITC on employment. We adopted a subtle identification strategy, one that has not previously been the primary focus of other papers. In particular, we base our analysis on identifying changes in employment rates for welfare households with two or more children relative to households with one child. Both cross tabulations and regression analyses that condition on a large number of characteristics show changes in employment that mirror statutory changes in the EITC. We view the evidence as being strongly supportive of the proposition that the EITC has played an important role in increasing the employment rates among low-skilled workers, particularly those who received or are receiving AFDC/TANF.

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Table 1: Earned Income Tax Credit Parameters, 1979-1998 (in nominal dollars)

Year	Phase-in Rate (%)	Phase-in Range	Maximum Credit	Phase-out Rate (%)	Phase-out Range
1975-78	10.0	$0-$4,000	$400	10.0	$4,000 - $8,000
1979-84	10.0	0-5,000	500	12.5	6,000 - 10,000
1985-86	11.0	0-5,000	550	12.22	6,500 - 11,000
1987	14.0	0-6,080	851	10.0	6,920 - 15,432
1988	14.0	0-6,240	874	10.0	9,840 - 18,576
1989	14.0	0-6,500	910	10.0	10,240 - 19,340
1990	14.0	0-6,810	953	10.0	10,730 - 20,264
1991[a]	16.7[1] 17.3[2]	0-7,140	1,192 1,235	11.93 12.36	11,250 - 21,250 11,250 - 21,250
1992[a]	17.6[1] 18.4[2]	0-7,520	1,324 1,384	12.57 13.14	11,840 - 22,370 11,840 - 22,370
1993[a]	18.5[1] 19.5[2]	0-7,750	1,434 1,511	13.21 13.93	12,200 - 23,050 12,200 - 23,050
1994	23.6[1] 30.0[2] 7.65[3]	0-7,750 0-8,245 0-4,000	2,038 2,528 306	15.98 17.68 7.65	11,000 - 23,755 11,000 - 25,296 5,000 - 9,000
1995	34.0[1] 36.0[2] 7.65[3]	0-6,160 0-8,640 0-4,100	2,094 3,110 314	15.98 20.22 7.65	11,290 - 24,396 11,290 - 26,673 5,130 - 9,230
1996	34.0[1] 40.0[2] 7.65[3]	0-6,330 0-8,890 0-4,220	2,152 3,556 323	15.98 21.06 7.65	11,610 - 25,078 11,610 - 28,495 5,280 - 9,500
1997	34.0[1] 40.0[2] 7.65[3]	0-6,500 0-9,140 0-4,340	2,210 3,656 332	15.98 21.06 7.65	11,930 - 25,750 11,930 - 29,290 5,430 - 9,770
1998	34.0[1] 40.0[2] 7.65[3]	0-6,680 0-9,390 0-4,460	2,271 3,756 341	15.98 21.06 7.65	12,260 - 26,473 12,260 - 30,095 5,570 - 10,030
1999	34.0[1] 40.0[2] 7.65[3]	0-6,800 0-9,540 0-4,530	2,312 3,816 347	15.98 21.06 7.65	12,460 - 26,928 12,460 - 30,580 5,670 - 10,200

Source: Committee on Ways and Means, U.S. House of Representative, *Green Book*, *1998*, U.S. Government Printing Office, page 867. 1998 and 1999 parameters come from Publication 596, Internal Revenue Service

[a] Basic credit only. Does not include supplemental young child or health insurance credits.

[1] Taxpayers with one qualifying child.

[2] Taxpayers with more than one qualifying child.

[3] Childless taxpayers.

Table 2: Sample Characteristics for the California Work Pays Demonstration (CWPD) Project

Variables	**Point-in-Time (October 1992) Sample**		**New Entrants Sample**	
	AFDC-FG Cases	***AFDC-U Cases***	***AFDC-FG Cases***	***AFDC-U Cases***
Cases in Samples	5,102	2,401	3,040	2,070
Adults in Samples	5,750	4,726	3,433	3,771
Distn. of Cases by No. of Adults:				
1 Adult	62.3%	3.6%	57.7%	6.6%
2 Adults	37.7%	96.4%	42.3%	93.4%
Distn. of Cases by No. of Children:				
0 Children	1.2%	0.3%	7.5%	3.7%
1 Child	36.0%	17.2%	42.9%	28.9%
2 Children	29.7%	33.3%	26.6%	35.0%
3+ Children	33.1%	49.2%	23.0%	32.4%
% of Adults in Case that are Male	5.6%	48.7%	9.1%	49.5%
Ethnic/Racial Composition of Cases:				
White	26.2%	40.4%	33.0%	40.5%
Hispanic	24.7%	19.2%	29.2%	36.9%
Black	40.9%	7.3%	31.4%	8.0%
Asian	7.7%	32.9%	6.0%	14.2%
% of Cases with UI Earnings Match	98.4%	99.5%	96.6%	98.8%

Table 3: Distribution of Average Monthly Participation in Various GAIN Activities in the CWPDP Counties, 1992-1997
[Source: GAIN25 Data, State of California]

Year	Job Club & Job Search Activities	All Other Job Search Activities	Basic Education Programs	Vocational Training	On The Job Training	Pre-Em-ployment Preparation	Supported Work & Transitional Employment
Alameda							
1992	16%	11%	29%	31%	0%	12%	0%
1993	19%	10%	28%	32%	0%	11%	0%
1994	23%	6%	29%	34%	0%	8%	0%
1995	19%	22%	22%	26%	0%	11%	0%
1996	49%	12%	15%	13%	0%	11%	0%
1997	52%	14%	5%	22%	0%	7%	0%
Los Angeles							
1992	29%	4%	45%	20%	0%	0%	0%
1993	24%	3%	49%	22%	0%	2%	0%
1994	42%	4%	31%	19%	0%	2%	0%
1995	61%	7%	16%	12%	0%	4%	0%
1996	71%	3%	10%	11%	0%	5%	0%
1997	77%	0%	7%	9%	0%	6%	0%
San Bernardino							
1992	27%	21%	36%	10%	0%	5%	0%
1993	30%	19%	37%	10%	0%	4%	0%
1994	40%	19%	27%	10%	0%	3%	0%
1995	49%	21%	21%	4%	0%	4%	0%
1996	57%	24%	12%	2%	0%	5%	0%
1997	58%	26%	4%	5%	0%	7%	0%
San Joaquin							
1992	14%	6%	48%	16%	9%	7%	0%
1993	12%	11%	48%	18%	6%	5%	0%
1994	13%	10%	44%	15%	8%	9%	0%
1995	10%	10%	40%	12%	18%	10%	0%
1996	20%	8%	27%	11%	20%	13%	0%
1997	33%	8%	13%	11%	22%	12%	0%

Table 4: Average per month Enrollment in GAIN as percentage of Total AFDC Enrollment in the CWPDP Counties, 1992-1997
[Source: GAIN25 Data, State of California]

Year	Alameda	Los Angeles	San Bernardino	San Joaquin
1992	7%	9%	16%	27%
1993	8%	10%	9%	26%
1994	10%	14%	13%	24%
1995	7%	13%	19%	27%
1996	10%	13%	20%	31%
1997	17%	18%	24%	39%

Table 5: Employment Rates (%) for Treatments and Controls, 1993-1998

Panel A: Point-in-Time (October 1992) Sample

	AFDC-FG Cases			AFDC-U Cases		
Year	*Experimentals*	*Controls*	*Difference*	*Experimentals*	*Controls*	*Difference*
1993	27.59	26.93	0.66	31.67	29.94	1.73
	(0.81)	(0.98)	(1.27)	(1.22)	(1.49)	(1.93)
1994	33.26	32.11	1.15	39.20	35.99	3.21
	(0.86)	(1.03)	(1.34)	(1.28)	(1.56)	(2.02)
1995	38.17	35.15	3.02**	45.10	42.36	2.74
	(0.88)	(1.05)	(1.37)	(1.30)	(1.61)	(2.07)
1996	42.45	37.72	4.73***	50.10	43.95	6.15***
	(0.90)	(1.07)	(1.39)	(1.31)	(1.62)	(2.08)
1997	46.34	41.30	5.04***	57.23	52.65	4.58**
	(0.91)	(1.08)	(1.41)	(1.30)	(1.63)	(2.08)
1998	45.88	41.83	4.05***	57.98	54.35	3.63*
	(0.90)	(1.08)	(1.41)	(1.29)	(1.62)	(2.07)
N	3,034	2,068		1,459	942	

Notes: Standard errors in parentheses.
* denotes statistically significant at 10% level; ** denotes statistically significant at 5% level; *** denotes statistically significant at 1% level.

Panel A: New Entrants Sample

	AFDC-FG Cases			AFDC-U Cases		
Year	*Experimentals*	*Controls*	*Difference*	*Experimentals*	*Controls*	*Difference*
1993	31.42	30.05	1.37	38.34	33.75	4.59
	(1.59)	(1.86)	(2.44)	(2.19)	(2.66)	(3.44)
N	853	609		493	317	
1994	37.60	33.21	4.39**	48.21	45.42	2.79
	(1.38)	(1.62)	(2.13)	(1.75)	(2.27)	(2.87)
N	1,226	840		811	480	
1995	40.38	37.77	2.61	53.33	50.59	2.74
	(1.30)	(1.56)	(2.04)	(1.58)	(2.06)	(2.60)
N	1,419	961		992	589	
1996	42.47	41.28	1.19	56.22	51.76	4.46*
	(1.23)	(1.49)	(1.93)	(1.47)	(1.91)	(2.41)
N	1,620	1,095		1,142	682	
1997	42.10	43.01	-0.91	55.13	54.97	0.16
	(1.16)	(1.41)	(1.83)	(1.38)	(1.80)	(2.27)
N	1,803	1,237		1,306	764	
1998	39.88	40.66	-0.78	52.22	51.83	0.39
	(1.15)	(1.40)	(1.81)	(1.38)	(1.81)	(2.28)
N	1,803	1,237		1,306	764	

Notes: Sample sizes increase over time as new entrants are added to the AFDC caseload.
Standard errors in parentheses.
* denotes statistically significant at 10% level; ** denotes statistically significant at 5% level; *** denotes statistically significant at 1% level.

Table 6: Employment Rates (%) by Family Size, 1993-1998

Panel A: Point-in-Time (October 1992) Sample

Year	AFDC-FG Cases				AFDC-U Cases			
	One child	*2+ Children*	*Difference (2+ - One)*	*Diff in Diff (199X - 1993)*	*One child*	*2+ Children*	*Difference (2+ - One)*	*Diff in Diff (199X - 1993)*
1993	33.13	24.02	-9.11***		38.35	29.47	-8.88***	
	(1.10)	(0.75)	(1.33)		(2.40)	(1.02)	(2.61)	
1994	36.72	30.48	-6.24***	2.87	44.17	36.78	-7.39***	1.49
	(1.12)	(0.81)	(1.39)	(1.92)	(2.45)	(1.08)	(2.68)	(3.73)
1995	40.81	34.60	-6.21***	2.90	48.30	43.19	-5.11*	3.77
	(1.15)	(0.84)	(1.42)	(1.95)	(2.46)	(1.11)	(2.70)	(3.75)
1996	43.74	38.69	-5.05***	4.06**	51.46	46.92	-4.54*	4.34
	(1.16)	(0.86)	(1.44)	(1.96)	(2.46)	(1.12)	(2.71)	(3.76)
1997	45.81	43.56	-2.25	6.86***	56.07	55.30	-0.77	8.11**
	(1.16)	(0.88)	(1.46)	(1.97)	(2.45)	(1.12)	(2.69)	(3.74)
1998	46.08	43.21	-2.87**	6.24***	56.55	56.61	0.06	8.94**
	(1.16)	(0.88)	(1.46)	(1.97)	(2.44)	(1.11)	(2.68)	(3.74)
N	1,838	3,205			412	1,982		

Notes: Standard errors in parentheses.
* denotes statistically significant at 10% level; ** denotes statistically significant at 5% level; *** denotes statistically significant at 1% level.

Panel B: New Entrants Sample

Year	AFDC-FG Cases				AFDC-U Cases			
	One child	*2+ Children*	*Difference (2+ - One)*	*Diff in Diff (199X - 1993)*	*One child*	*2+ Children*	*Difference (2+ - One)*	*Diff in Diff (199X - 1993)*
1993	42.21	36.01	-6.20***		51.75	49.68	-2.07	
	(1.37)	(1.24)	(1.84)		(2.04)	(1.34)	(2.44)	
1994	44.90	36.94	-7.96***	-1.76	53.42	53.12	-0.30	1.77
	(1.38)	(1.24)	(1.86)	(2.62)	(2.04)	(1.34)	(2.44)	(3.45)
1995	43.05	40.32	-2.73	3.47	56.43	55.63	-0.80	1.27
	(1.37)	(1.26)	(1.86)	(2.62)	(2.03)	(1.33)	(2.42)	(3.44)
1996	44.13	41.25	-2.88	3.32	54.09	57.35	3.26	5.33
	(1.38)	(1.27)	(1.87)	(2.63)	(2.04)	(1.32)	(2.43)	(3.44)
1997	44.59	41.78	-2.81	3.39	52.75	57.20	4.45*	6.52*
	(1.38)	(1.27)	(1.87)	(2.63)	(2.04)	(1.32)	(2.43)	(3.45)
1998	42.06	39.12	-2.94	3.26	49.92	53.98	4.06*	6.13*
	(1.37)	(1.26)	(1.86)	(2.62)	(2.04)	(1.33)	(2.44)	(3.45)
N	1,303	1,508			599	1,395		

Notes: Standard errors in parentheses.
* denotes statistically significant at 10% level; ** denotes statistically significant at 5% level; *** denotes statistically significant at 1% level.

Table 7: Regression Estimates for Adult Employment Rates for Years Since Enrollment into CWPD through 1998[1]

Point-in-Time Sample

Variable	*Coefficient Estimate*	*Standard Error*	*t-Value*
Intercept	-1.877	0.362	5.19
EXP_{93}	0.059	0.009	6.83
EXP_{94}	0.032	0.012	2.79
EXP_{95}	0.030	0.012	2.59
EXP_{96}	0.051	0.012	4.19
EXP_{97}	0.046	0.012	3.78
EXP_{98}	0.027	0.013	2.14
$2+Kids_{94}$	0.006	0.012	0.50
$2+Kids_{95}$	0.016	0.013	1.27
$2+Kids_{96}$	0.026	0.013	1.94
$2+Kids_{97}$	0.063	0.014	4.53
$2+Kids_{98}$	0.064	0.014	4.47
AFDC-U	0.148	0.010	14.27
Adults	0.042	0.026	1.65
Mean Age, Adults	-0.004	0.000	8.58
Female	0.055	0.026	2.14
White	-0.044	0.036	1.21
Hispanic	-0.007	0.037	0.18
Black	0.044	0.036	1.20
Asian	-0.071	0.037	1.93
Kid2	-0.052	0.011	4.93
Kid3	-0.059	0.012	4.98
Kid4	-0.102	0.012	8.50
Alameda	-0.088	0.066	1.32
San Bernardino	-0.012	0.084	0.14
San Joaquin	0.127	0.090	1.41
Yr94	0.075	0.014	5.55
Yr95	0.113	0.018	6.40
Yr96	0.129	0.022	5.97
Yr97	0.134	0.028	4.70
Yr98	0.100	0.036	2.76
GAIN Prop.	0.098	0.020	4.78
Employmt. Rate	0.626	0.315	1.99
Empl. Share, Manu	0.057	0.600	0.09
Empl. Share, Service	0.846	0.741	1.14
Empl. Share, Retail	5.367	1.129	4.75
Inc/Worker	0.021	0.017	1.25
Inc/Worker, Manu	0.006	0.006	1.02
Inc/Worker, Service	-0.013	0.009	1.35
Inc/Worker, Retail	0.022	0.017	1.34

Variable	*Coefficient Estimate*	*Standard Error*	*t-Value*
New Entrant in Yr87	0.003	0.019	0.13
New Entrant in Yr88	0.023	0.019	1.22
New Entrant in Yr89	0.021	0.023	0.91
New Entrant in Yr90	0.016	0.028	0.60
New Entrant in Yr91	0.070	0.033	2.12
New Entrant in Yr92	0.072	0.039	1.86
Dur(+2)	0.005	0.008	0.64
Dur(+3)	0.016	0.013	1.24
Dur(+4)	0.026	0.020	1.31
Dur(+5)	0.035	0.026	1.35
Dur(+6)	0.052	0.032	1.61
Dur(+7)	0.068	0.039	1.75
Dur(+8)	0.083	0.045	1.83
Dur(+9)	0.083	0.052	1.60
Dur(+10)	0.100	0.059	1.70
Dur(+11)	0.103	0.066	1.56
Dur(+12)	0.131	0.073	1.80

[1]Sample includes all households in CWPD, *except* experimentals from San Joaquin County, those households that did not include an adult, and households that contain three or more adults. Employment outcomes are analyzed in years *after* enrollment into CWPD.

Table 8: Effects of CWPD Treatment on Work Rates (Regression Adjusted)

Year	Full Analysis Sample[1]		Analysis Subsample of Households with Valid Birth Dates[2]	
	Point-in-Time Sample	***New Entrant Sample***	***Point-in-Time Sample***	***New Entrant Sample***
1987			-0.001	-0.007
1988			0.013	-0.005
1989			-0.013	-0.010
1990			-0.021	0.039
1991			-0.028*	0.012
1992			-0.038**	-0.013
1993	0.059***	0.040*	-0.002	0.020
1994	0.032***	0.040**	0.028	0.046*
1995	0.030***	0.035**	0.026	0.042*
1996	0.051***	0.032*	0.050***	0.035
1997	0.046***	0.007	0.042**	0.004
1998	0.027**	0.007	0.032	0.018

[1]Sample includes all households in CWPD, *except* experimentals from San Joaquin County, those households that did not include an adult, and households that contain three or more adults. Employment outcomes are analyzed in years *after* enrollment into CWPD.

[2]Sample consists of subset of households from Full Analysis Sample for which valid birth dates are available for all children in household at time of being on welfare. Employment outcomes are analyzed for *all* years from 1987 through 1998.

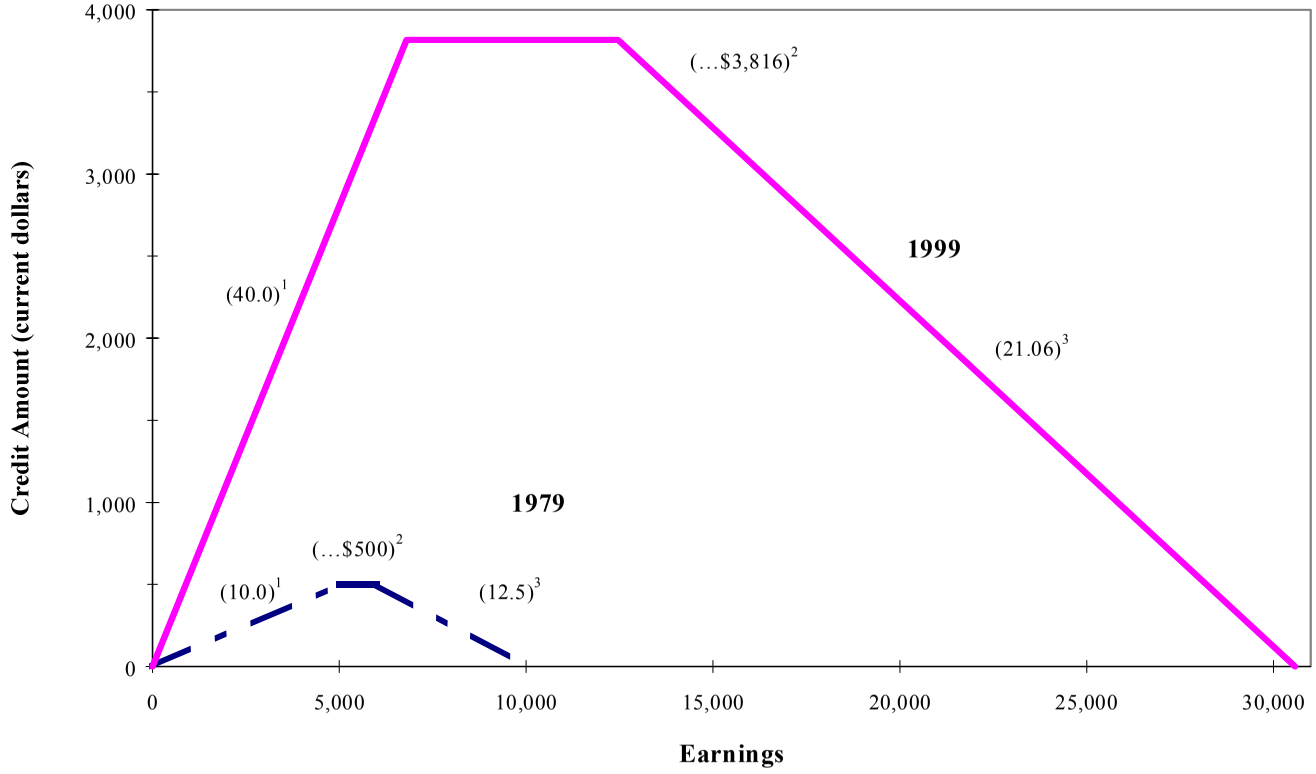
Table 9: Effects of 1994 EITC Expansion on Work Rates (Regression Adjusted)

Year	Full Analysis Sample[1]		Analysis Subsample of Households with Valid Birth Dates[2]	
	Point-in-Time Sample	***New Entrant Sample***	***Point-in-Time Sample***	***New Entrant Sample***
1987			0.005	-0.021
1988			0.025	0.013
1989			0.001	0.002
1990			-0.001	-0.011
1991			0.031	-0.018
1992			0.031	-0.008
1993			0.031	-0.005
1994	0.006	0.026	0.054**	0.020
1995	0.016	0.066***	0.051**	0.029
1996	0.026*	0.078***	0.067***	0.043
1997	0.063***	0.073***	0.085***	0.070**
1998	0.064***	0.070***	0.080***	0.047

[1]Sample includes all households in CWPD, *except* experimentals from San Joaquin County, those households that did not include an adult, and households that contain three or more adults. Employment outcomes are analyzed in years *after* enrollment into CWPD.

[2]Sample consists of subset of households from Full Analysis Sample for which valid birth dates are available for all children in household at time of being on welfare. Employment outcomes are analyzed for *all* years from 1987 through 1998.

Figure 1. The Earned Income Tax Credit for a Family with Two or More Children in 1979 and 1999



Notes:

[1] Subsidy rate.

[2] Benefit reduction (implicit tax) rate.

[3] Maximum benefit for two or more children.

Figure 2a: Taxes and Marginal Rates, Family of 4, California, 1984

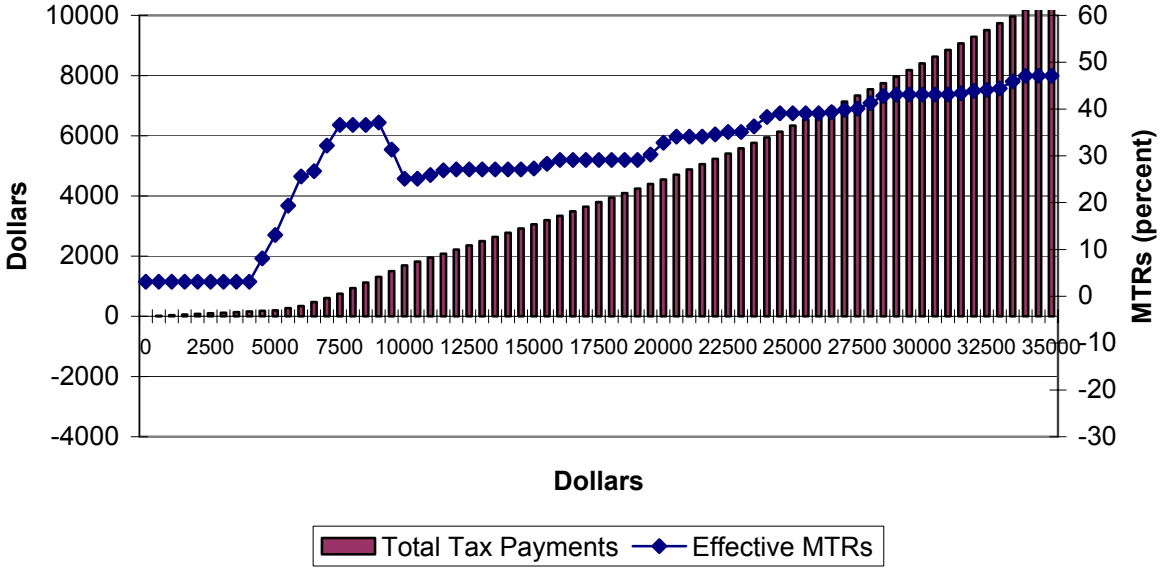


Figure 2b: Taxes and Marginal Rates, Family of 4, California, 1998

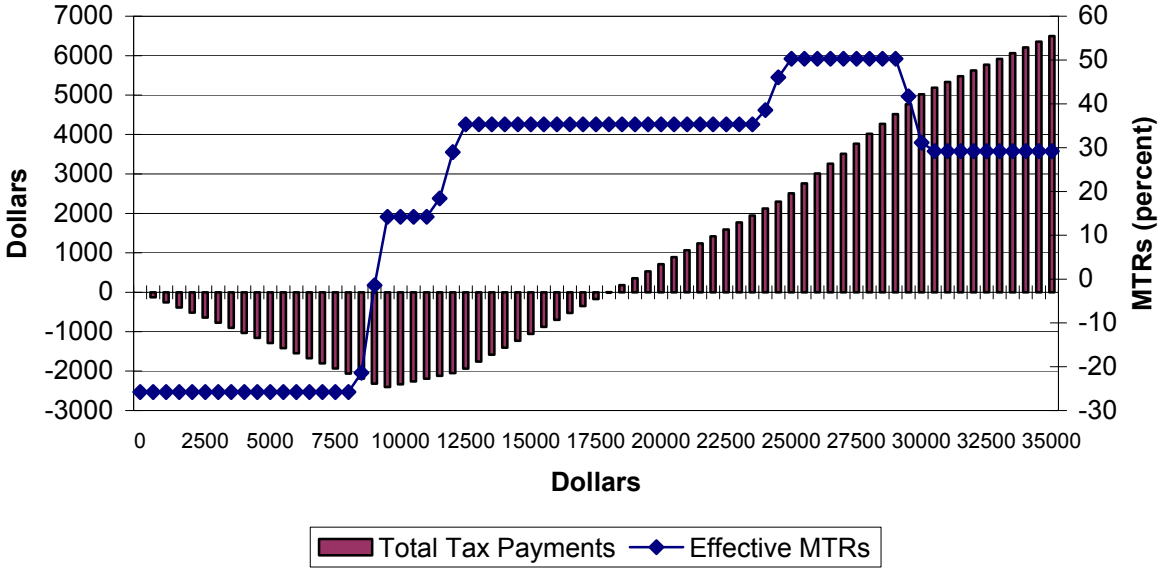


Figure 3

Annual Employment to Population Ratios, 1984 - 1998

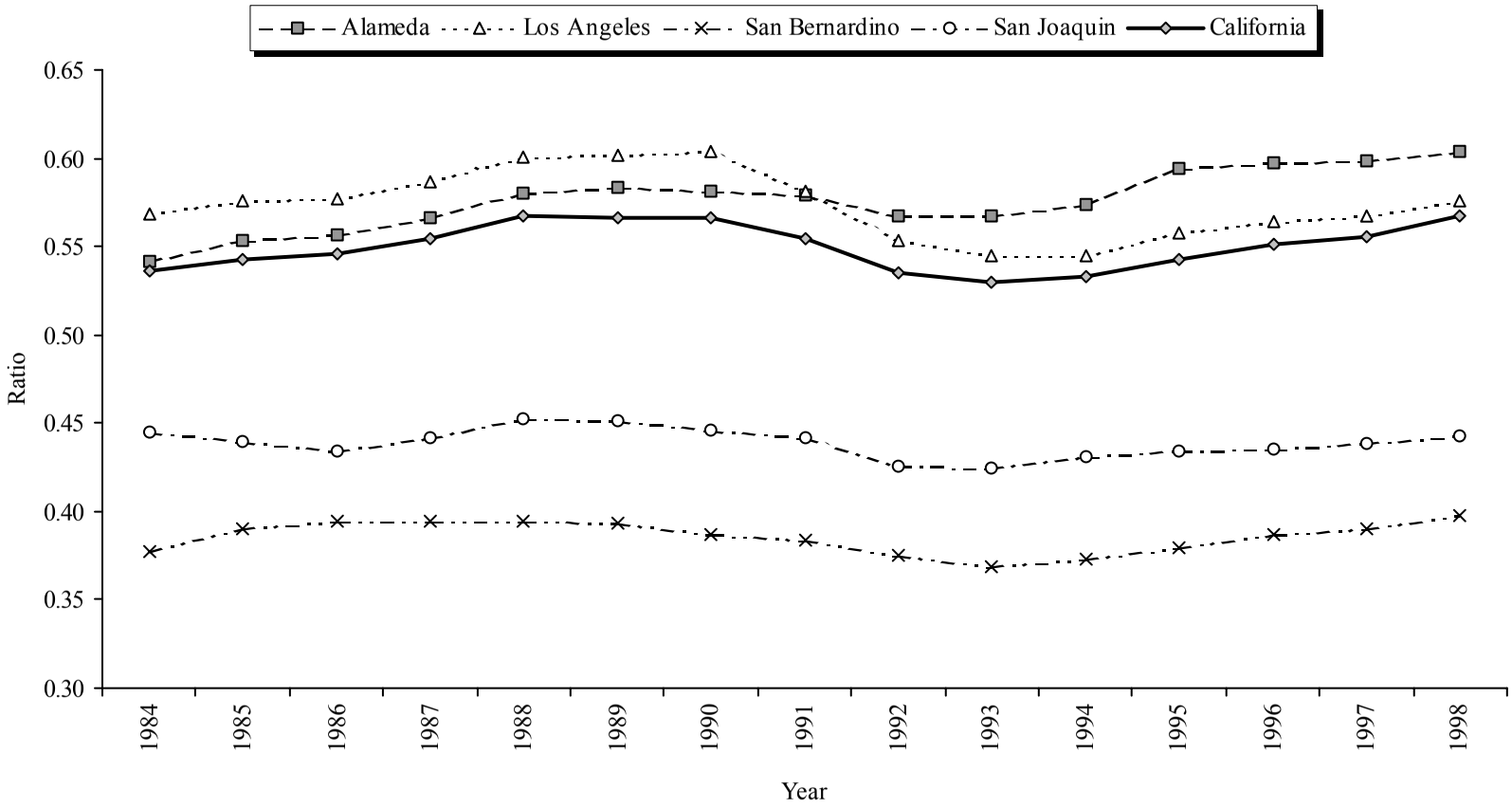


Figure 4

Annual Growth Rates in Employment: All Industries, 1985 - 1998

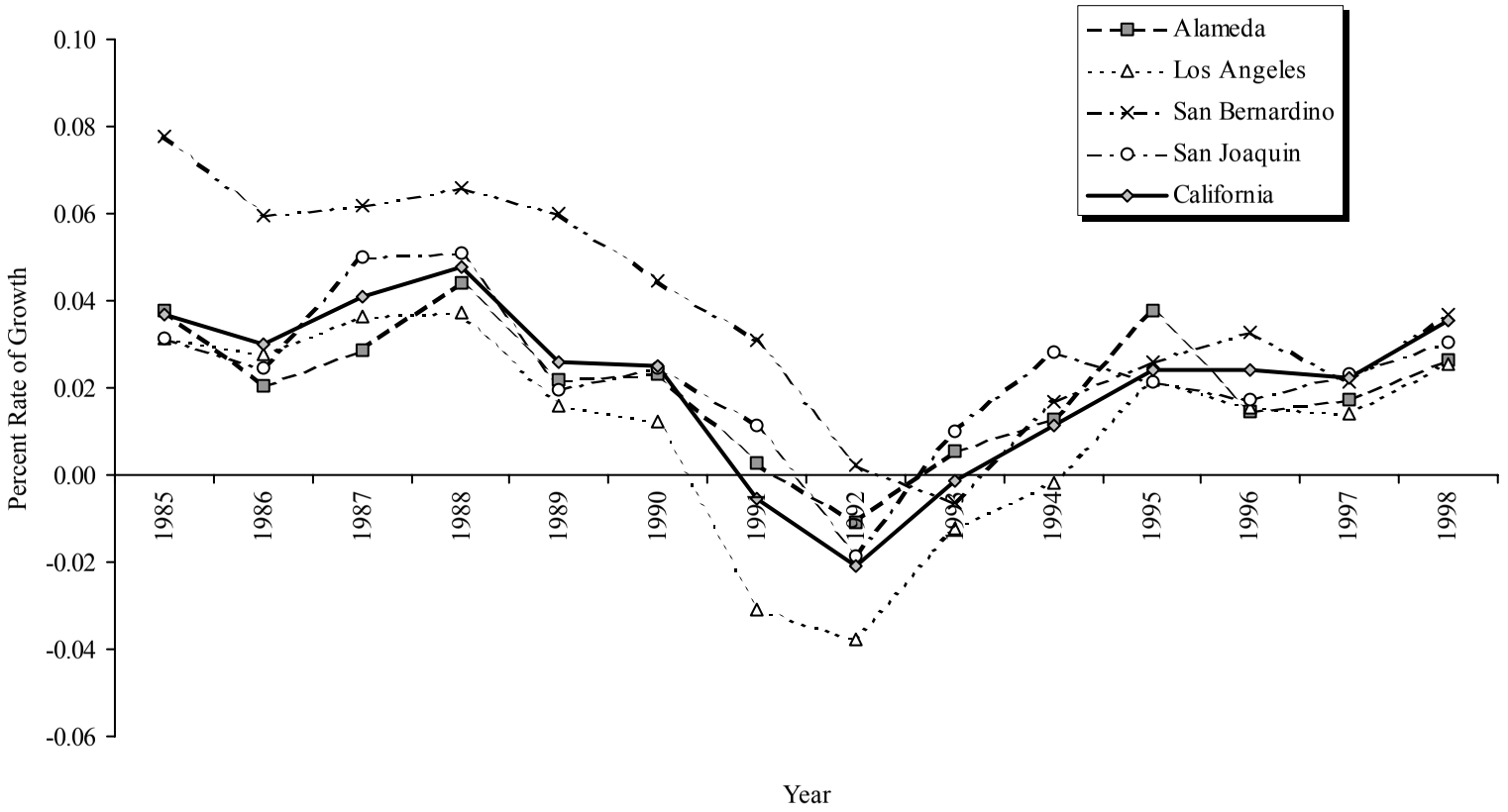


Figure 5

Annual Growth Rates in Employment: Manufacturing, 1985 - 1998

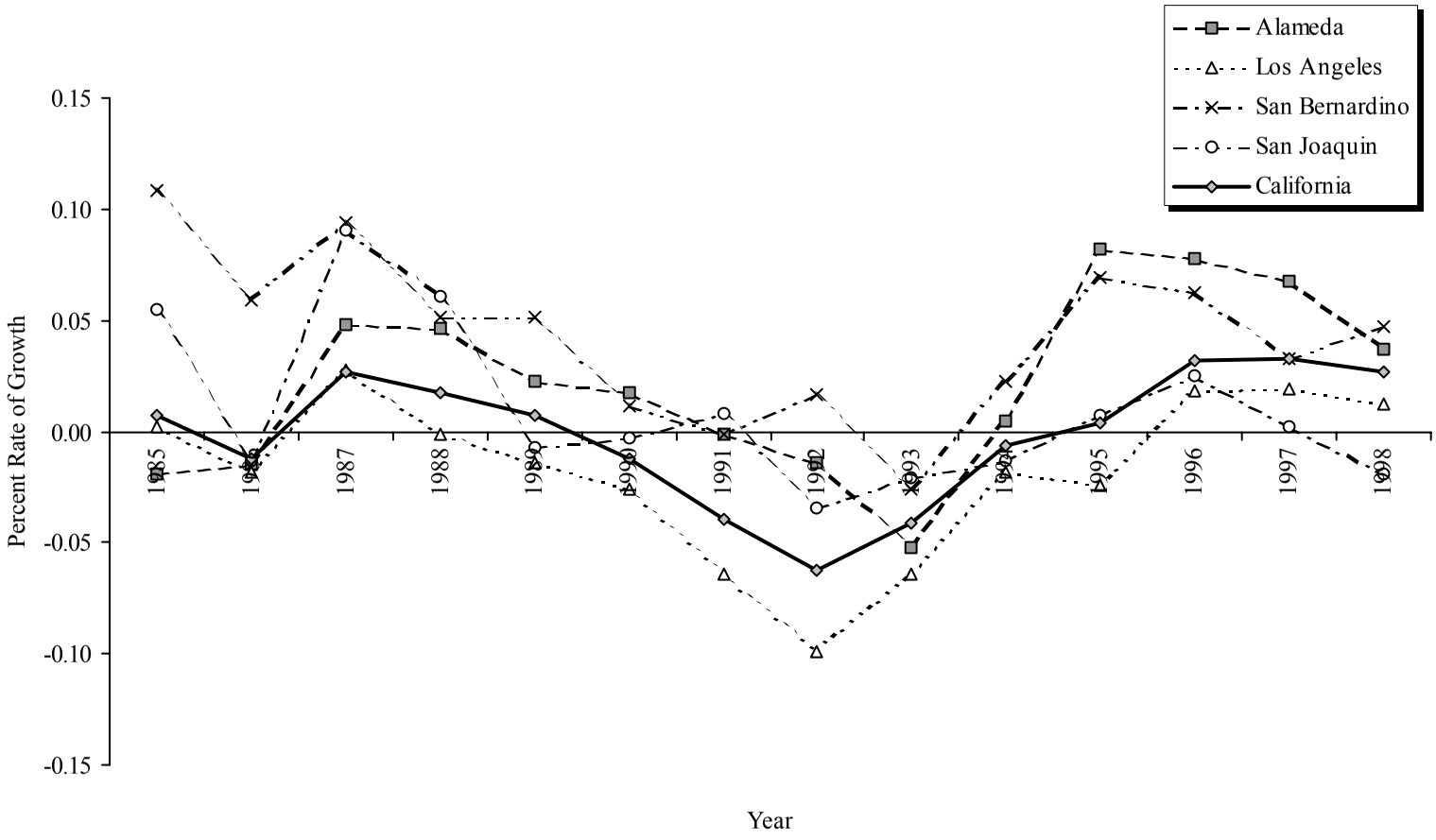


Figure 6

Annual Growth Rates in Employment: Services, 1985 - 1998

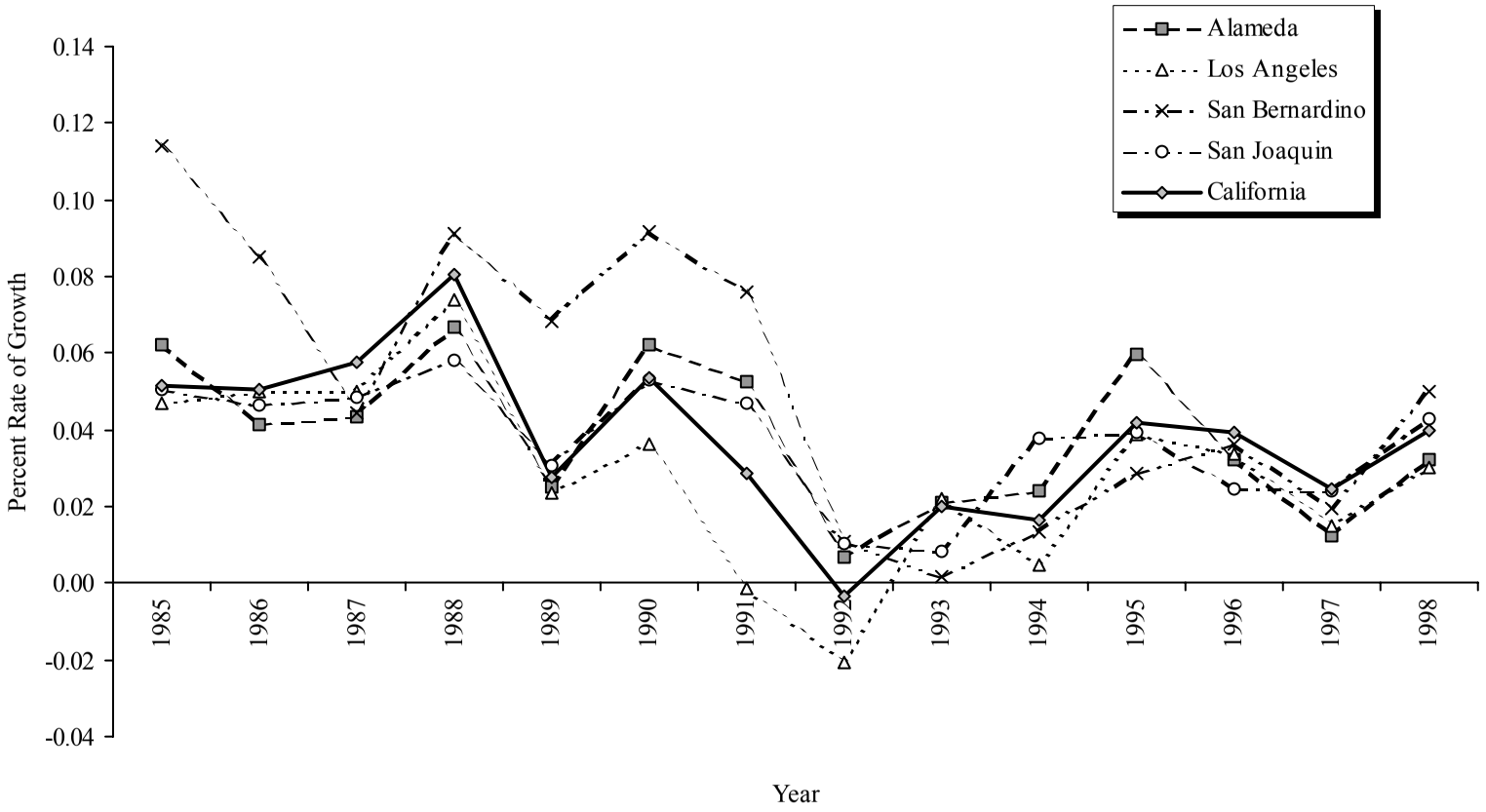
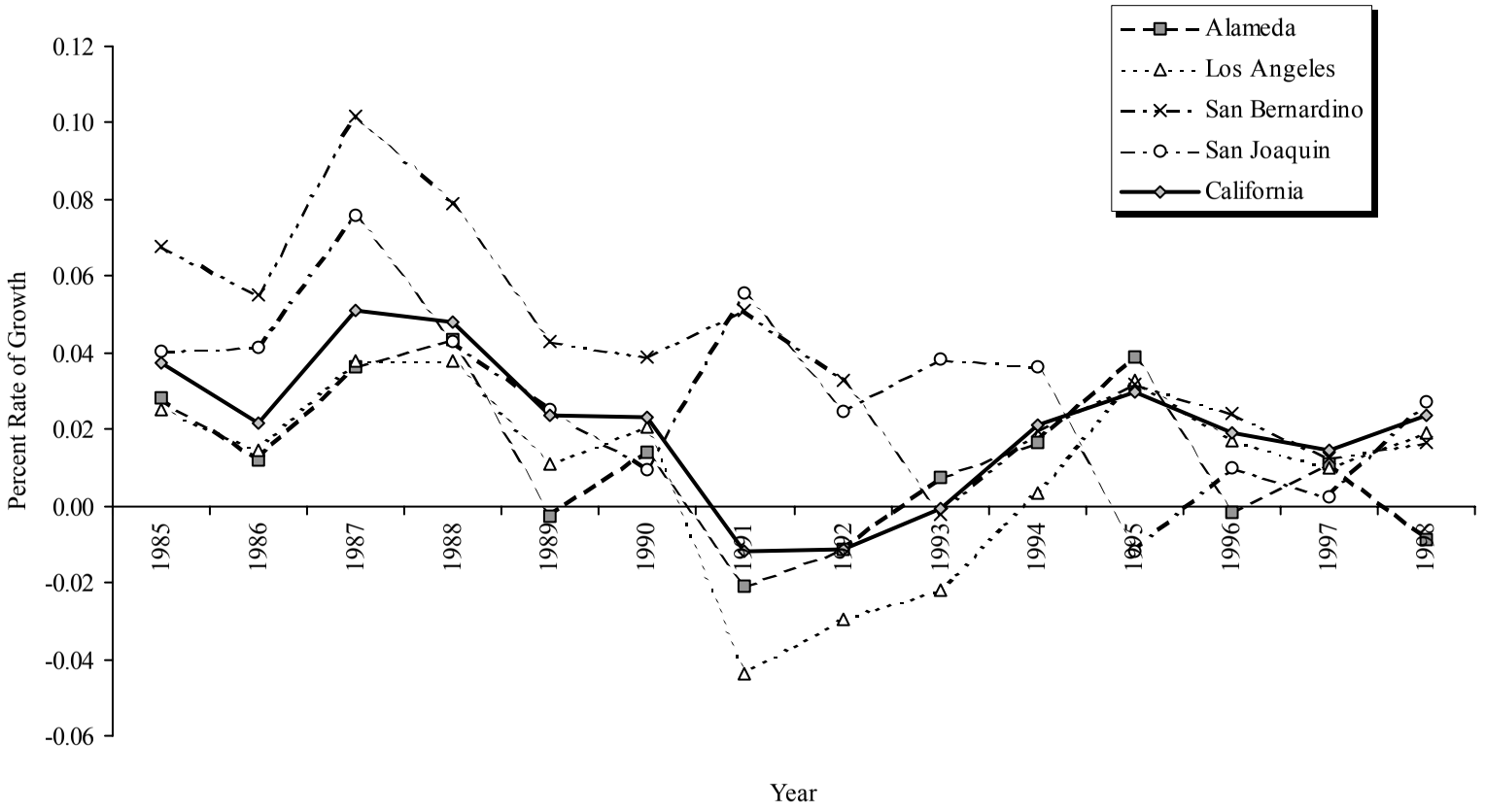


Figure 7

Annual Growth Rates in Employment: Retail Trade, 1985 - 1998



Appendix Table 1: Regression Estimates for Adult Employment Rates for Years Since Enrollment into CWPD through 1998[1]

New Entrants Sample

Variable	*Coefficient Estimate*	*Standard Error*	*t-Value*
Intercept	-0.872	0.853	1.02
EXP_{93}	0.040	0.021	1.88
EXP_{94}	0.040	0.018	2.19
EXP_{95}	0.035	0.017	2.04
EXP_{96}	0.032	0.016	1.95
EXP_{97}	0.007	0.016	0.45
EXP_{98}	0.007	0.015	0.49
$2+Kids_{94}$	0.026	0.020	1.30
$2+Kids_{95}$	0.066	0.022	2.94
$2+Kids_{96}$	0.078	0.023	3.42
$2+Kids_{97}$	0.073	0.023	3.16
$2+Kids_{98}$	0.070	0.024	2.98
AFDC-U	0.158	0.014	11.35
Adults	0.014	0.031	0.46
Mean Age, Adults	-0.003	0.001	4.17
Female	0.044	0.032	1.37
White	-0.116	0.041	2.80
Hispanic	-0.075	0.041	1.82
Black	-0.065	0.043	1.53
Asian	-0.223	0.044	5.05
Kid2	-0.052	0.022	2.36
Kid3	-0.074	0.024	3.09
Kid4	-0.112	0.025	4.40
Alameda	0.313	0.215	1.45
San Bernardino	0.374	0.437	0.86
San Joaquin	0.646	0.366	1.77
Yr94	0.129	0.025	5.06
Yr95	0.207	0.050	4.17
Yr96	0.277	0.069	4.00
Yr97	0.395	0.076	5.19
Yr98	0.406	0.092	4.43
GAIN Prop.	-0.031	0.060	0.51
Employmt. Rate	-1.195	1.679	0.71
Empl. Share, Manu	-1.336	1.675	0.80
Empl. Share, Service	4.832	2.269	2.13
Empl. Share, Retail	-1.146	4.358	0.26
Inc/Worker	0.071	0.044	1.60
Inc/Worker, Manu	-0.007	0.014	0.51
Inc/Worker, Service	-0.014	0.027	0.52
Inc/Worker, Retail	-0.040	0.053	0.75
New Entrant in Yr94	-0.041	0.032	1.31
New Entrant in Yr95	-0.168	0.046	3.68

Variable	*Coefficient Estimate*	*Standard Error*	*t-Value*
New Entrant in Yr96	-0.542	0.059	9.26
Dur(+2)	-0.100	0.016	6.17
Dur(+3)	-0.151	0.031	4.84
Dur(+4)	-0.219	0.046	4.73
Dur(+5)	-0.273	0.061	4.45
Dur(+6)	-0.297	0.075	3.94

[1]Sample includes all households in CWPD, *except* experimentals from San Joaquin County, those households that did not include an adult, and households that contain three or more adults. Employment outcomes are analyzed in years *after* enrollment into CWPD.

Appendix Table 2: Regression Estimates for Adult Employment Rates for 1987 through 1998[1]

Point-in-Time Sample

Variable	*Coefficient Estimate*	*Standard Error*	*t-Value*
Intercept	-0.347	0.488	0.71
EXP_{87}	-0.001	0.016	0.04
EXP_{88}	0.013	0.016	0.81
EXP_{89}	-0.013	0.017	0.76
EXP_{90}	-0.021	0.017	1.26
EXP_{91}	-0.028	0.015	1.84
EXP_{92}	-0.038	0.015	2.45
EXP_{93}	-0.002	0.016	0.14
EXP_{94}	0.028	0.018	1.62
EXP_{95}	0.026	0.018	1.45
EXP_{96}	0.050	0.018	2.72
EXP_{97}	0.042	0.019	2.24
EXP_{98}	0.032	0.020	1.62
$2+Kids_{87}$	0.005	0.016	0.30
$2+Kids_{88}$	0.025	0.019	1.36
$2+Kids_{89}$	0.001	0.020	0.04
$2+Kids_{90}$	-0.001	0.021	0.06
$2+Kids_{91}$	0.031	0.022	1.40
$2+Kids_{92}$	0.031	0.023	1.36
$2+Kids_{93}$	0.031	0.024	1.28
$2+Kids_{94}$	0.054	0.024	2.25
$2+Kids_{95}$	0.051	0.024	2.09
$2+Kids_{96}$	0.067	0.025	2.74
$2+Kids_{97}$	0.085	0.025	3.43
$2+Kids_{98}$	0.080	0.025	3.28
AFDC-U	0.144	0.013	11.00
Adults	-0.008	0.031	0.25
Mean Age, Adults	-0.005	0.001	6.35
Female	0.022	0.031	0.71
White	-0.076	0.054	1.40
Hispanic	0.001	0.055	0.01
Black	0.020	0.055	0.36
Asian	-0.110	0.055	1.99
Kid2	-0.072	0.016	4.48
Kid3	-0.084	0.018	4.67
Kid4	-0.135	0.020	6.78
Alameda	-0.024	0.088	0.27
San Bernardino	0.069	0.087	0.79
San Joaquin	0.122	0.109	1.12
Yr87	0.017	0.033	0.52
Yr88	0.021	0.053	0.39
Yr89	0.072	0.072	1.00

Variable	*Coefficient Estimate*	*Standard Error*	*t-Value*
Yr90	0.090	0.096	0.93
Yr91	0.048	0.119	0.40
Yr92	0.002	0.141	0.01
Yr93	0.041	0.163	0.25
Yr94	0.064	0.183	0.35
Yr95	0.127	0.206	0.62
Yr96	0.130	0.228	0.57
Yr97	0.129	0.247	0.52
Yr98	0.084	0.267	0.32
GAIN Prop.	0.003	0.022	0.14
Employmt. Rate	-0.600	0.477	1.26
Empl. Share, Manu	-1.380	0.725	1.90
Empl. Share, Service	-0.412	1.058	0.39
Empl. Share, Retail	0.233	1.262	0.18
Inc/Worker	0.107	0.023	4.74
Inc/Worker, Manu	-0.017	0.007	2.31
Inc/Worker, Service	-0.035	0.012	2.78
Inc/Worker, Retail	0.015	0.020	0.77
New Entrant in Yr88	0.068	0.043	1.58
New Entrant in Yr89	0.075	0.062	1.21
New Entrant in Yr90	0.041	0.082	0.50
New Entrant in Yr91	0.135	0.104	1.30
New Entrant in Yr92	0.162	0.125	1.30
Dur(-6)	-0.050	0.131	0.38
Dur(-5)	-0.021	0.109	0.19
Dur(-4)	-0.015	0.087	0.17
Dur(-3)	-0.001	0.066	0.02
Dur(-2)	0.025	0.044	0.57
Dur(-1)	0.047	0.023	2.08
Dur(+1)	-0.076	0.023	3.31
Dur(+2)	-0.058	0.044	1.30
Dur(+3)	-0.027	0.066	0.42
Dur(+4)	-0.014	0.087	0.16
Dur(+5)	0.018	0.108	0.17
Dur(+6)	0.053	0.130	0.41
Dur(+7)	0.076	0.152	0.50
Dur(+8)	0.097	0.173	0.56
Dur(+9)	0.112	0.195	0.58
Dur(+10)	0.144	0.216	0.67
Dur(+11)	0.180	0.238	0.76
Dur(+12)	0.216	0.258	0.84

[1]Sample consists of subset of households from Full Analysis Sample for which valid birth dates are available for all children in household at time of being on welfare. Employment outcomes are analyzed for *all* years from 1987 through 1998.

Appendix Table 3: Regression Estimates for Adult Employment Rates for 1987 through 1998[1]

New Entrant Sample

Variable	*Coefficient Estimate*	*Standard Error*	*t-Value*
Intercept	-2.057	0.684	3.01
EXP_{87}	-0.007	0.025	0.27
EXP_{88}	-0.005	0.024	0.21
EXP_{89}	-0.010	0.025	0.42
EXP_{90}	0.039	0.025	1.55
EXP_{91}	0.012	0.024	0.49
EXP_{92}	-0.013	0.024	0.53
EXP_{93}	0.020	0.025	0.82
EXP_{94}	0.046	0.025	1.80
EXP_{95}	0.042	0.025	1.66
EXP_{96}	0.035	0.026	1.35
EXP_{97}	0.004	0.027	0.14
EXP_{98}	0.018	0.027	0.65
$2+Kids_{87}$	-0.021	0.022	0.95
$2+Kids_{88}$	0.013	0.027	0.49
$2+Kids_{89}$	0.002	0.029	0.08
$2+Kids_{90}$	-0.011	0.030	0.38
$2+Kids_{91}$	-0.018	0.031	0.58
$2+Kids_{92}$	-0.008	0.033	0.25
$2+Kids_{93}$	-0.005	0.035	0.15
$2+Kids_{94}$	0.020	0.034	0.59
$2+Kids_{95}$	0.029	0.035	0.84
$2+Kids_{96}$	0.043	0.035	1.22
$2+Kids_{97}$	0.070	0.035	1.97
$2+Kids_{98}$	0.047	0.035	1.34
AFDC-U	0.155	0.018	8.43
Adults	-0.004	0.037	0.10
Mean Age, Adults	-0.002	0.001	1.90
Female	0.037	0.039	0.94
White	-0.080	0.063	1.27
Hispanic	0.016	0.063	0.26
Black	-0.029	0.065	0.45
Asian	-0.258	0.066	3.88
Kid2	-0.013	0.024	0.54
Kid3	-0.042	0.028	1.54
Kid4	-0.093	0.032	2.87
Alameda	0.100	0.128	0.78
San Bernardino	0.260	0.134	1.94
San Joaquin	0.454	0.159	2.85
Yr87	0.193	0.041	4.65

Variable	*Coefficient Estimate*	*Standard Error*	*t-Value*
Yr88	0.288	0.058	4.98
Yr89	0.388	0.074	5.21
Yr90	0.469	0.098	4.77
Yr91	0.571	0.122	4.67
Yr92	0.609	0.145	4.19
Yr93	0.703	0.167	4.20
Yr94	0.815	0.183	4.44
Yr95	0.931	0.204	4.57
Yr96	1.018	0.224	4.54
Yr97	1.062	0.238	4.46
Yr98	1.035	0.252	4.11
GAIN Prop.	-0.001	0.031	0.03
Employmt. Rate	-0.592	0.657	0.90
Empl. Share, Manu	-0.913	1.041	0.88
Empl. Share, Service	2.174	1.529	1.42
Empl. Share, Retail	1.272	1.838	0.69
Inc/Worker	0.007	0.032	0.23
Inc/Worker, Manu	-0.001	0.010	0.11
Inc/Worker, Service	0.011	0.018	0.60
Inc/Worker, Retail	0.070	0.030	2.36
New Entrant in Yr94	-0.011	0.040	0.27
New Entrant in Yr95	-0.194	0.058	3.33
New Entrant in Yr96	-0.339	0.075	4.52
Dur(-9)	0.791	0.178	4.45
Dur(-8)	0.727	0.157	4.63
Dur(-7)	0.668	0.137	4.89
Dur(-6)	0.610	0.118	5.16
Dur(-5)	0.518	0.099	5.25
Dur(-4)	0.435	0.079	5.48
Dur(-3)	0.354	0.060	5.89
Dur(-2)	0.266	0.041	6.47
Dur(-1)	0.138	0.023	6.11
Dur(+1)	-0.130	0.023	5.62
Dur(+2)	-0.231	0.042	5.52
Dur(+3)	-0.264	0.061	4.31
Dur(+4)	-0.324	0.081	4.00
Dur(+5)	-0.357	0.101	3.55
Dur(+6)	-0.349	0.119	2.94

[1]Sample consists of subset of households from Full Analysis Sample for which valid birth dates are available for all children in household at time of being on welfare. Employment outcomes are analyzed for *all* years from 1987 through 1998.

Appendix Table 4: Definition of Variables Used in Regression Analysis

Variable	*Definition*
Dependent Variable:	
Emp	= 1 if one or more adult in household worked in year *t*; = 0 otherwise
Treatment Variables:	
EXP_t (T_i^{AFDC})	= 1 if household randomly assigned to experimental treatment in years on and after enrollment into CWPD; = 0 if randomly assigned to control group.
$2+Kids_t$ (T_i^{EITC})	= 1 if household has 2 or more kids in year *t*; = 0 otherwise
Demographic Characteristics **(X_{ict}):**	
AFDC-U	= 1 if case was AFDC-U case when enrollment into CWPD; 0 otherwise
Adults	Number of adults in household
Mean Age, Adults	Average age of adults in household ???
Female	= 1 if head of household is a female; = 0 otherwise
Male	= 1 if head of household is a male; = 0 otherwise (omitted category in regressions)
White	= 1 if household is white; = 0 otherwise
Hispanic	= 1 if household is Hispanic; = 0 otherwise
Black	= 1 if household is black; = 0 otherwise
Asian	= 1 if household is Asian; = 0 otherwise
Other Ethnic	= 1 if household is some other ethnic group; = 0 otherwise (omitted category in regressions)
Kid1	= 1 if 1 child in household at time of enrollment into CWPD; = 0 otherwise (omitted category in regressions)
Kid2	= 1 if 2 children in household at time of enrollment into CWPD; = 0 otherwise
Kid3	= 1 if 3 children in household at time of enrollment into CWPD; = 0 otherwise
Kid4	= 1 if 4 or more children in household at time of enrollment into CWPD; = 0 otherwise
Local Economic and Labor Market Conditions **(L_{ict}):**	
Alameda	= 1 if household resided in Alameda County at time of enrollment into CWPD; = 0 otherwise
Los Angeles	= 1 if household resided in Los Angeles County at time of enrollment into CWPD; = 0 otherwise (omitted category in regressions)
San Bernardino	= 1 if household resided in San Bernardino County at time of enrollment into CWPD; = 0 otherwise
San Joaquin	= 1 if household resided in San Joaquin County at time of enrollment into CWPD; = 0 otherwise
Yr*Z*	= 1 if year *t* is equal to *Z*, *Z* = 87,…,98; = 0 otherwise.
GAIN Prop.	Proportion of AFDC caseload in county of residence receiving GAIN services in year *t*
Empl Rate	Employment rate (total employment/total population) in county of residence in year *t*
Empl. Share, Manu	Share of employment in Manufacturing sector in county of residence in year *t*
Empl. Share, Service	Share of employment in Service sector in county of residence in year *t*
Empl. Share, Retail	Share of employment in Retail Trade sector in county of residence in year *t*
Inc/Worker	Income per Worker (in 1000 of 1987$) in county of residence in year *t*
Inc/Worker, Manu	Income per Worker (in 1000 of 1987$) in Manufacturing sector in county of residence in year *t*
Inc/Worker, Service	Income per Worker (in 1000 of 1987$) in Service sector in county of residence in year *t*
Inc/Worker, Retail	Income per Worker (in 1000 of 1987$) in Retail Trade sector in county of residence in year *t*
Timing of Welfare Entry and Duration Variables **(W_{ict}):**	
New Entrant in Yr*Z*	= 1 if most recent spell on AFDC at or prior to household enrolled in CWPD started in Yr*Z*, where *Z* = 93,…, 97; = 0 otherwise.
Dur(+*Z*)	= 1 if household's most recent spell on AFDC at or prior to enrollment in CWPD started *Z* years *after* year *t*; = 0 otherwise.
Dur(-*Z*)	= 1 if household's most recent spell on AFDC at or prior to enrollment in CWPD started *Z* years *prior to* year *t*; = 0 otherwise.