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Vicky N. Albert

University of Nevada, Las Vegas

William C. King

Dominican University of California

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The Impact of the Economy and Welfare Policy on Welfare Accessions: Implications for Future Reforms

VICKY N. ALBERT

University of Nevada, Las Vegas
Greenspun College of Urban Affairs

WILLIAM C. KING

Dominican University of California
School of Arts and Sciences

This longitudinal study analyzes the impact of labor market conditions and welfare policies accompanying the 1990s waivers granted by the federal government to California and the 1996 Personal Responsibility and Work Opportunity Act (PRWOA) on families entering welfare (accessions). A time series model was specified for analyzing the number of families entering welfare from January 1983 to December 1998. The findings suggest that in 1998 under PRWOA, all else constant, there were fewer case openings. Prior to the PRWOA, policy shifts of the 1990s did not have an impact on case openings. The findings also show that under economic recovery fewer families applied for welfare. The implications of these findings are that drastic measures such as time-limited welfare should be re-examined since a favorable economic environment allows many recipients to remain off public assistance even in the absence of such measures.

In the last few years, the number of families on welfare, commonly referred to as the welfare caseload, has plunged nationwide while federal financing for welfare has remained fixed. This has left states with large amounts of unspent federal monies. Between 1997 and 1999, welfare caseloads dropped from 5.0 to 3.1 million cases. A recent article in the New York Times attributes this significant drop to welfare reform strategies taken by the states and by the federal government.

Nationwide, in 1996, the Personal Responsibility and Work Opportunity Act (PRWOA, PL 104-193) was signed into law. This legislation replaced the federal entitlement program of Aid to Families with Dependent Children (AFDC) with Temporary Assistance for Needy Families (TANF). Since the passage of the Social Security Act in 1935, the AFDC program, commonly known as welfare, provided cash assistance to poor families with children, mainly female-headed families, who met categorical and income eligibility criteria. Under the PRWOA, each state replaced its AFDC program with a time-limited cash assistance program. In 1998, California's AFDC program was replaced by California Work Opportunity and Responsibility to Kids (CalWORKs). Along with its time limits, this new program implemented substantial work-related requirements and incentives.

Prior to the inception of PRWOA, welfare caseloads began decreasing nationwide. Several studies attribute much of this decline to economic recovery and, to a lesser degree, to states' policy initiatives (Albert, 2000; Council of Economic Advisors, 1997; Blank, 1997). In the mid 1990s, when caseloads began decreasing dramatically, California, as in many other states, was granted waivers by the federal government which allowed the state to provide welfare recipients with additional work incentives and work-related activities. As occurred in most other states, California's welfare caseload began to decrease in the mid-1990s, when the state was experimenting with welfare reform initiatives and when it began experiencing economic recovery. California's welfare caseload continued to decrease after it implemented CalWORKs in 1998.

In general, declines in welfare caseloads are in response to decreases in the number of families entering the rolls and to increases in the number of families leaving the rolls. Such movements are frequently referred to in the literature as welfare accessions and terminations, respectively. According to theory and related earlier research, welfare policies and the economy are expected to have different effects on welfare accessions and terminations. In light of the goals of the 1996 PRWOA federal welfare legislation and the goals of earlier 1990s welfare initiatives taken by states, it is particularly important to determine if, and the extent to which, welfare policies of the 1990s and the economy played a role in changing the number of families entering the

welfare rolls. Welfare policies can deter eligible families from applying for welfare. The economy can also play an important role in shaping families' decisions to enter welfare. In turn, when welfare policies are designed, there is a need to consider the potential joint effects of the economy and welfare policies on families' decisions to enter welfare.

California's very severe recession in the 1990s and subsequent vigorous recovery occurred in the midst of its waivers and CalWORKs, creating an excellent domain for teasing apart the impact of policy shifts from the economy on changing welfare accessions or terminations. The present longitudinal aggregate study determines the extent to which earlier waivers and the PRWOA as implemented by CalWORKs affected the number of families entering the welfare rolls in California. A special value of studying the effects of a policy by using a time-series approach is that policy effects on those who are targeted for the program and on those who are not targeted for the program can be discerned. The largest component of the welfare caseload, the AFDC-Family Groups (AFDC-FG) or CalWORKs component is considered for analysis. This component mainly serves single parent families, many of whom do not have labor force experience.

This study's findings should have nationwide relevance because the relationships between welfare policy or the economy with welfare receipt are of national concerns. Moreover, California has about 12 percent of the country's population and the largest share of the nation's welfare caseload (20%). Finally, the findings from this study may be of special value to other states since California's policies play a vital role in affecting nationwide welfare legislation. Thus, the results of this study are interesting not only for what they can tell us about the effects of welfare reform in California but they may also serve as a template for similar research in other states.

Welfare Policy Initiatives in the 1990s: The California Experience

The Waivers

From 1993 until the passage of the PRWOA in 1996, waivers were granted to California by the federal government. The waivers that would be expected to have the greatest impact on families'

decisions to enter or leave welfare would be those that provided recipients with work incentives or those that reduced the maximum benefit levels that a family could receive during the month. Both of these waivers were implemented statewide and both were intended to impact a greater number of families than other waivers. Under the waiver designed to provide work incentives, California extended the \$30 and 1/3 disregards for as long as the recipients retained employment. Prior to the implementation of this waiver, under the federal time limit, the first \$30.00 and then 1/3 of the rest of recipients' wages were disregarded when calculating their welfare grants during the first four months of work, after which time only the \$30.00 disregard applied. The waiver that reduced benefit levels was motivated by the idea that families are more likely to gain employment if the welfare system was made less attractive. In turn, maximum benefit levels were reduced for families by 2.7 percent.

CalWORKs

California's response to the federal welfare reform, the PRWOA, was CalWORKs. The Welfare to Work Act of 1997, AB1542, established welfare reform in California. The new AFDC program in California, CalWORKs, was implemented statewide in January 1998 (California Department of Social Services, 1998). One of the major objectives of CalWORKs is to encourage economic self-sufficiency through work incentives and paid employment with minimal government involvement. CalWORKs also encourages job readiness, two parent families and reduction of unplanned pregnancies. The CalWORKs legislation substantially modified the financial incentives used in the AFDC program by permitting working recipients to keep a greater share of their earnings. CalWORKs did away with the \$30.00 and 1/3 income disregard that existed earlier and replaced them with a \$225.00 and 1/2 disregards. Under CalWORKs, welfare benefits are limited to adult recipients for a lifetime maximum of 5 years (California Department of Social Services, 1998).

Implications for Welfare Accessions

In general, CalWORKs' major provisions are considerably different from ones found under earlier 1990s policy initiatives.

Earlier work requirements under the waivers were not as stringent as the ones found under CalWORKs and welfare was not defined as a transitional program. Consequently, it is expected that the effects of California's welfare policies on the decisions of families to enter welfare would be different before and after the inception of PRWOA in 1998. It also would be expected that some CalWORKs requirements would deter more of the eligible population from applying for welfare than would have been the case in earlier years. Some families may be saving up their five welfare years. Since the economy also had changed drastically in California during the Waiver and CalWORKs periods, the effects of welfare policies are intertwined with those of the economy. These effects will be teased apart in the empirical portion of the study.

California's Economy and Welfare Accessions

As many other states, the State of California experienced a major recession which began in 1990 and lasted until 1995. The 1990s economic recovery coincided with fewer number of families on welfare. California's economic downturn in the early 1990s was severe in comparison to the downturns experienced by many other states. From January 1990 to January 1993, the number of unemployed in California nearly doubled from 750,000 to 1.4 million. California fared well in the earlier months of the recession, but later on its economy was the weakest in the nation (Congressional Budget Office, 1993).

The 1990s recession hit the employment levels in the service industries particularly hard, a service sector that frequently offers employment opportunities to female-headed families (Congressional Budget Office, 1993). On the flip side of the coin, economic recovery in California was quite good, offering many employment opportunities to those in the service sector. Both of the sharp economic changes in California in the 1990s offer a good opportunity for studying the impact of the economy on the number of families entering the welfare system.

Calculations revealed that California's unemployment rate increased by about 60 percent from 1990 to 1993. During this time period, the percent of the eligible population participating

in the single-parent program component of the AFDC system also increased by about 25 percent and the percentage of those leaving this program had decreased by slightly more than three percent. Thus, the caseload grew in the height of the recession partially because accession rates increased substantially. By 1998, the unemployment rate reverted back to its pre-recessionary level of about 6 percent. Similarly by 1998, entry rates reverted back to their early 1990 rate of about one-half percentage points. It would be unwise, however, to attribute the entire rise or fall in welfare case openings to recession or recovery or any other single factor. Without controlling for other factors which may affect changes in welfare accessions, the effects of the economy or welfare policies on these components of caseload can not be estimated for sure.

Explaining Recent Changes in Welfare Caseloads: The Literature

The literature discussed in the following sections is macro in orientation because the present study is conducted on a macro-level. The review examines literature that explains growth in entire caseloads or literature that examines changes in their components.

Studies explaining decline in welfare caseloads

Over the last two decades, the greatest number of studies which explained changes in the size of welfare caseload have been for select states or major metropolitan cities (Albert, 2000; Albert & King, 1999; Albert, 1988; Barnow, 1988; Brazzell, Lefberg, & Wolfgang 1989; Garsky, 1990; Klerman & Hader, 2000; Mueser, Hotchkiss, King, Rokicki & Stevens, 2000; O'Neill, 1990; Plotnick & Lidman, 1987; Scholl & Stapleford, 1991; Wedel, 1987). In recent years, when welfare caseloads have taken a plunge nationwide, several studies aimed to explain this decline (Albert, 2000; Blank, 1997; Council of Economic Advisors 1997; Klerman & Hader, 2000; Mueser, Hotchkiss, King, Rokicki & Stevens, 2000; Ziliak, Figlio, Davis & Connelly, 1997).

The majority of these studies explain the decline in total caseloads rather than changes in case openings or closings. Many of these studies attribute a sizable percent of the decline to economic conditions. For instance, Council of Economic Advisors

(CEA) (1997) attributed 44 percent of the decline in the caseload from 1993 to 1996 to economic conditions and 31 percent to waivers granted by federal government. Others such as Ziliak, Figlio, Davis & Connelly (1998), for example, attributed nearly two-thirds of the same decline to economic conditions and almost nothing to the waivers. A recent study conducted for California used administrative data to determine caseload decline (Klerman and Haider, 2000). Economic conditions were the main factors used to explain caseload flows. The study revealed that over 50 percent of the decline in the caseload in California could be explained by economic factors. Finally, Blank's (1997) study maintained that the economy played an important role in shaping the national caseload in recent years, but that other factors including waivers and demographics also were major factors.

Three of the above studies were conducted on a national rather than state or local level (Blank 1997; CEA 1997; Ziliak, Figlio, Davis & Connelly, 1998). This is a shortcoming since large state-to-state variations exist in regard to welfare benefit levels and in regard to economic conditions. Two of the studies used annual data (Blank, 1997; CEA, 1997). When annual or even quarterly data are used, the short-run dynamics in caseload levels are ignored. Not all of these studies accounted for variables that are justifiable on a theoretical basis or variables that traditionally have been included in models of this sort. Some researchers did not include measures of the gains from welfare, which typically are the welfare benefits versus a measure of the gains from work, such as wages (Council of Economic Advisors, 1996; Klerman and Haider, 2000; Ziliak et al., 1997). Finally, all researchers tackled with the problem of specifying the effects of the waivers that were granted by the federal government to the states prior to the inception the PRWOA. Some waivers were implemented statewide and others in only a part of a given state. Ziliak et al., (1997) maintain that only statewide effects should be captured. Along the same lines, the date which best captures the presence of a waiver poses difficulties. The Council of Economic Advisors' model included waiver application date rather than approval dates (1996). Since in some states a long time elapsed between the time the state applied for a waiver and the actual approval date, the approval rather than the application date should be integrated into the model.

All in all, to date, very few studies attempted to explain the rise and fall of the welfare caseloads in the 1990s. The extent to which the economy played a major role in decreasing the caseloads is mixed from existing evidence. Many of these studies suffer from several limitations, including using annual data and not including theoretically driven variables. Most of these studies' findings, therefore, should be viewed with caution.

Studies explaining aggregate movements

In contrast to most recent aggregate findings, one recent study aimed to explain the role of these factors on the decision of families to move to or from welfare and found that welfare policy, rather than the economy played major factor in explaining these decisions (Mueser, Hotchkiss, King, Rokicki & Stevens, 2000). This study used quarterly data on recipients in five major urban areas to examine the impact of 1990s reform on welfare entries and exits. Their findings revealed that in these particular areas, policy changes were the primary reasons for the changes in welfare entries and exists, with economic conditions playing secondary importance. Since many important variables, including benefit levels and eligibility criteria were not controlled for in the study's models, the findings of these studies should be viewed with caution.

Studies regarding case openings and closings prior to recent welfare reform showed that the impact of welfare policy and economy on the decision to enter is different from its impact on the decision to leave. Some earlier studies are available, which shed light on the differential impact of mandatory employment programs on aggregate movements to and from the welfare system. For example, Schiller and Brasher (1993) estimated the effect of workfare in Ohio, a mandatory employment program requiring participants to work for their benefits, on welfare openings and closings by using both cross sectional and time series data. Their findings revealed that, all else constant, the impact of Ohio's workfare program on terminations were fairly large but that applications failed to decline in the presence of the program.

Other studies, as for example, Phillip's (1993) study in California measured the impact of the Greater Avenues for Independence Now (GAIN) program solely on welfare accessions.

The impact of GAIN was measured prior to the inception of the Waivers California received from the federal government. Phillips used both panel and time series data to determine GAIN's effects. Phillip's study also showed that welfare case openings did not change much in the presence of the GAIN program. A more recent study by Albert and King (1999) showed that the effects of GAIN on welfare terminations in California also were quite modest. Their study showed the effects of the economy were significant in shaping welfare terminations.

All in all, some evidence demonstrates that the effects of welfare initiatives are different for those families deciding to enter the system as opposed to those deciding to leave the system. Models for entry need to be specified differently than those for exit. Unlike experimental designs, aggregate time-series analysis allows for the determination of the extent to which the potentially eligible population reacts to social policy. The extent to which welfare reform initiatives in the 1990s had effected case openings is a question that has not been well investigated. Studies prior to welfare reform, however, teach us valuable lessons about how to model welfare entries. These lessons are followed in the present study.

Modeling Entries to TANF

Time-series analysis is used to analyze data, which occur sequentially over time such as monthly welfare entries in the present study. Much like cross-sectional regression analysis, time-series analysis often uses a set of explanatory variables as determinants of a dependent time-series variable. Unlike cross-sectional regression analysis, when trying to determine the functional relationship between the dependent and independent time-series explanatory variables, one often lags some of the explanatory variables. Typically, this is done when an explanatory variable is expected to have a delayed or lingering effect on the dependent variable. For example, a decrease in employment opportunities in the market place, captured by the number of unemployed, would not necessarily have an immediate effect on welfare accessions. Often it takes a while for welfare recipients to turn to welfare after becoming unemployed. In time-series analysis the total impact of the lagged coefficients is calculated together and F-tests are

performed. In the case of the present study, multiple lags were not used and the coefficient of each lag can viewed in the same way as the coefficient of each non-lagged variables.

The modeling efforts in this study focus on specifying an equation that examines the effects of welfare policies and the economy on welfare case openings. The equation is for the single parent component of the AFDC/CalWORKs program from January 1983 to December 1998. The beginning date is January 1983 because by this time the sharp changes in the caseload due to Reagan's Administration Omnibus Budget Reconciliation Act (OBRA) policies in 1981 dissipated and the caseload returned to its pre-OBRA levels. The idea underlying the equation is that over the study period, month-to-month changes in the number of welfare families entering welfare are in response to changes in welfare policies and to changes in demographics, programmatic or economic factors shown in earlier research to have an effect on case openings. The independent factors for each of the equation are listed below.

Welfare Entries

$$\begin{aligned} AC(t) = & b_0 + b_1 TP(t) + b_2 TOTFEM(t) + b_3 WAIVERS(t) + \\ & b_4 CalWORKs(t) + b_5 MW(t-1) + b_6 UNEMP(t-1) + \\ & b_7 TOTCLOSE(t-1) + b_8 JA(t) + \dots + \\ & b_{18} NV(t) + e(t) \end{aligned}$$

for any $t \geq 1$ where t = number of months from January 1983,

$AC(t)$ = number of families entering welfare (accessions) during month t ,

$TP(t)$ = total payments of AFDC/CalWORKs maximum aid and food stamps for a family of three, deflated by the CNI (1998 = 100), at month t ,

$TOTFEM(t)$ = total number of females of child bearing age, 15 to 44, in the general population excluding those on welfare, at month t .

$WAIVERS(t)$ = a dummy variable representing welfare waivers beginning in September 1993, at month t .

$CalWORKs(t)$ = California's welfare reform program under PRWOA which began in January 1998, at month t .

MW(t) = full-time minimum wage gross earnings,
deflated by the CPI-W (6/1998 = 100) at
month t,

UNEMP(t) = number of unemployed individuals in
California during month t,

TOTCLOSE (t) = the total number of cases closed or terminated
during month t,

e(t) = random error term at t.

For variable sources, construction and deflation see Appendix A.

Dependent Variable

The dependent variable represents the number of cases added during any given month. This consists of those families who have not been on welfare for at least one year and those who have returned within one year. In this analysis, these two types of additions are lumped together as cases added or accessions (AC).

Demographic and Caseload Variables

Demographics. Welfare accessions are hypothesized to be a linear function of the size of the potentially eligible population or the population at risk of receiving welfare. Defining this population poses a serious problem since potential welfare cases include those categorically eligible households that are poor and those households that are neither categorically eligible nor poor but have the potential of becoming both. For this study, the number of females age 15 to 44 in the population not already heading welfare families is selected to be the population at risk (TOTFEM). These females are of child-bearing age. This is the population group that is most likely to be an AFDC-FG/CalWORKs female household head. It is expected that, all else constant, the number of potentially eligible population would vary positively with the number of cases added.

Closures. Including the number of cases terminated (TOTCLOSE) as a predictor variable is warranted because recent welfare participants have some knowledge about welfare regulations and experience less difficulty with application process than other applicants do. A single month lag structure is incorporated into the accessions equation because it is assumed that some cases return to welfare soon after they leave.

Programmatic Variables

Total payments. According to economic theory, individuals choose between benefits available to them from income-maintenance programs and those available to them in the marketplace, such as wages. Available evidence strongly suggests that increases in welfare payments, all else constant, increase welfare entries, decrease welfare exits and in turn increase the total welfare caseload. (Albert, 1988; Albert & King, 1999; Hutchens, 1981; Plotnick & Lidman, 1987). Therefore, all else constant, assuming individuals choose to maximize their income, individuals will choose welfare over work as welfare benefits (TP) increase. In the present study, combined welfare benefits include both AFDC-FG/CalWORKs and Food Stamp benefits since recipients' purchasing power is best captured when both benefits are included. In real terms, over the study period, maximum aid plus Food Stamp benefits for a family of three decreased by \$1.11 per month. This decrease occurred partially because maximum aid was cut in absolute terms and partially because benefit levels did not keep up with inflation.

Waivers and CalWORKs. In earlier studies, policy initiatives are typically captured by a dummy variable (Albert, 1988; Albert & King, 1999; June O'Neill, 1990). In this study, a set of dummy variables are incorporated into the case opening equation. One dummy variable takes a value of 1 in all months from September 1993 until December 1997, capturing the provision which allowed California to extend the \$30.00 and 1/3 disregards beyond the first four months of work. It also captures the effects of other waivers received during the same time period, including those which expanded the work related services and emphasized parental responsibility (WAIVERS). The second dummy variable in the accessions equation begins in January 1998 when CalWORKs was implemented in California.

The hypothesized effect of the waivers or CalWORKs on case openings is indeterminate. Welfare reform policies in the 1990s may have deterred some eligible families from applying for welfare, resulting in fewer case openings. Clearly, as will be done in the present study, the effects of economic recovery in recent years also need to be accounted for in order to isolate these effects from those of welfare policies.

Economic Variables

Wages. The variable representing monthly gross earnings from full-time minimum wage (MW) employment is incorporated into the equation. This variable represents the minimal standard of living provided by full-time employment in the private economy. Controlling for inflation, on average, minimum wage from full-time employment increased by about \$0.26 per month during the study period. The evidence from past research regarding the effect of this variable on case openings is mixed (Albert, 1988; Albert & King 1999; O'Neill, 1990). In this study, all else constant, this variable is hypothesized to vary negatively with the number of welfare additions.

Unemployment. Aside from wages, the decision to enter or leave welfare depends on other choices or opportunities available to welfare participants in the labor market (Albert, 1988; Albert & King, 1999). Typically, the measures used to capture the effect of the business cycle on additions or terminations include either unemployment or employment levels. In the present study, the unemployment variable (UNEMP) is lagged and integrated into the accessions equation in order to account for a delayed response on the part of individuals for entering welfare as a result of changes in labor market conditions. It is expected that, all else constant, this variable is positively related to the number of people entering welfare during the month.

Caseload Variables. A variable capturing the number of families who left in the previous month is incorporated in the equation. If this variable is positive and statistically significant, then a number of those who left the rolls last month return soon after. Incorporating as independent variables the number of cases closed captures turnover in the caseload. Finally, seasonals are incorporated into the equation. It is expected that seasonal variables aside from those already incorporated into the equation would also be associated with the number of families entering each month.

Calculating and Interpreting the Time Series Equation

The study period consists of 16 years, totaling 192 months of data. Prior to estimating any coefficients in the equation, there are 192 degrees of freedom. For each of the 192 months during the study period, there are data about each variable in the equation.

For example, during January 1983, there is information about the number of families entering welfare (AC), the maximum total monetary value of AFDC/TANF and Food Stamp payments a family of three receives (TP), the total number of families of child bearing age and so forth. There are 11 month variables in the equation, representing seasonal fluctuation that also can affect the number of families entering welfare. These seasonals are treated as independent variables (January through November). The variable January, an independent variable, representing a seasonal trend is given the value of 1 during all months of January present in the study period and the value of 0 during the other months. Similarly, when February occurs during the study period, the independent variable February is given the value 1 and the value of 0 during the other months. There are 11 rather 12 months representing seasonal fluctuations because in regression analysis there can be no linear combination of independent variables equaling a constant. The sum of the 12 monthly variables would always equal one.

Along the same lines as the seasonal variables, there are two variables representing policy changes: WAIVERS and CalWORKS. Prior to the presence of the WAIVERS, September 1993, all values for this variable equal zero. From September 1993 until the passage of CalWORKs in January 1998, the variable WAIVERS is assigned the value of 1. Similarly, prior to January 1998, the variable CalWORKS has value 0, because the policy was not in existence. From January 1998 onward, the value 1 is taken because welfare reform policies were in effect.

In calculating the effects of each independent variable on the dependent variable, total number of families entering welfare, all study months are considered in the equation and coefficients are estimated along with their corresponding t-statistic. The meaning of the coefficients of each independent variable is the same as it is in any cross-sectional linear regression equation. Each coefficient of an independent variable represents the average amount of change in the dependent variable associated with a unit change in the independent variable, all other independent variables held constant. For example, the coefficient of the total payments variable (TP) estimates that for each dollar increase in total payments approximately 33 additional monthly accessions is associated

with that independent variable. For each non-seasonal dummy variable, its coefficient estimates on average the effect of a particular policy on accessions, all other independent variables held constant. For example, the coefficient of CalWORKS estimates that this policy was associated with an average of 1,724 fewer families entering welfare during each month that the policy was in effect.

Frequently, the impact of seasonal trends is not discussed since such trends may be proxies for the effects of other variables not in the model. If examined, the impact of the seasonal trends, January through November, needs to be viewed together. A change in accessions in January, for example, needs to be viewed in the context of changes in accessions in the other months. Each monthly variable measures, over the study period, the average increase in accessions associated with the particular month, all other independent variables constant. For example, in January the model estimates that on average there were 3,424 fewer accessions that were not explained by the other independent variables in the model.

Finally, auto-correlation of the residual error term is often present in time-series. If autocorrelation is present, the standard error of estimate of the regression coefficients tend to be under or over estimated, resulting in the value of the coefficient being unreliable. This could lead to spurious significance or non-significance of the coefficients. It is, however, often possible to model the autocorrelation of the error terms, correcting for their autocorrelation. This results in a much more accurate estimate of the coefficients and their standard error of estimate. In this study there was no need to correct for autocorrelation.

Key Findings

Table 1 shows the results for the time-series equation. Findings reveal that the model performed well. The equation explains over 91 percent of the variance in monthly case openings. Over the study period, the standard error of estimate is 5.1 percent of the mean monthly number of accessions. The Durbin-Watson test statistic for autocorrelation of the error term suggests that there is no first order serial correlation at the 5 percent level.

Table 1

Time Series Results for Accessions

ACCESSIONS			
<i>Variable</i>	<i>Lag</i>	<i>Coefficient</i>	<i>(t stat)</i>
Constant	—	-70810	(-7.043)**
Total Payments	0	33.41	(4.496)**
TotFem	0	0.00808	(14.34)**
Waivers	0	403.7	(0.5551)
CalWORKs	0	-1724	(-2.181)**
MW	1	-5.108	(-1.830)**
Unemployment	1	0.00808	(12.11)**
Terminations	1	0.4627	(5.931)**
January	0	-3424	(-5.812)**
February	0	1046	(1.771)
March	0	-1053	(-1.793)
April	0	-245.6	(-0.4141)
May	0	-2173	(-3.521)**
June	0	-1668	(-2.822)**
July	0	-2117	(-3.530)**
August	0	-3082	(-5.174)**
September	0	502.5	(0.8162)
October	0	-3484	(-5.655)**
November	0	-627.4	(-1.024)
<hr/>			
ADJ R ²	0.91		
Durbin-Watson	2.22		

Note: ** Variable's coefficient is statistically significant ($p < .05$).

Sources, definitions and deflation: See Appendix A

Programmatic Variables

Total payments. Table 1 reveals that total payments (TP) has the expected signs and is statistically significant ($p < 0.05$). All else equal, a \$10.00 increase in total payments is estimated to increase the number of new families entering welfare by 334, or about 1 percent of total additions. These results are consistent with earlier research (Albert, 1988; Albert & King, 1999).

Waivers and CalWORKs. Any interpretation of the effects of the Waivers granted to California from 1993 to 1997 should be viewed with extreme caution since the coefficient of the Waiver variable is found to be statistically insignificant. In contrast, under the PRWOA, in 1998, the impact of the CalWORKs on the number of families entering welfare was statistically significant and negative. On average, all else constant, under the presence of CalWORKs, the number of cases added to the caseload decreased by about 1724 cases per month or about 5 percent of total additions ($p < .005$).

Economic Variables

Wages. The effect of minimum wage on number of families entering welfare is as hypothesized and statistically significant at the .06 level. From January 1990 to January 1993, real minimum wage from full-time earnings decreased by \$2.80 per month. The findings suggest that a decrease in real minimum wage of \$2.80 per month results in 14 more families entering the welfare rolls.

Unemployment. The unemployment rate in California increased from 5.6 percent in January 1990 to 10.3 percent at the height of the recession which occurred in January 1993. During this time period, the number unemployed in California increased by 20,400 people per month. The extent to which the economy affected the decision to enter welfare is captured in this study by the unemployment variable. The unemployment variable is statistically significant ($p < .005$). Calculations reveal that an increase of 20,400 in the number of unemployed suggests an increase of 165 more cases added to the rolls each month. The net impact of policies and the economy on welfare entries is further analyzed in the forecasting section.

Caseload Variables. A variable capturing the number of families who left in the previous month is incorporated into the equation. The coefficient of this variable suggests that as the number of families that left last month increases by 1,000, the number of families entering this month increases by 462 families. This variable is statistically significant ($p < .05$). This finding suggests that some of those leaving the rolls return soon, perhaps due to personal circumstances or a corrected administrative error.

Forecasting the Impact of Policy Shifts and Unemployment

With a good model in hand, it is possible to forecast the consequences for accessions under alternative assumptions about external developments. In order to engage in such forecasting exercises, the dummy variables, waivers and CalWORKs were turned off. The forecasting exercises allows for the determination of the net impact of the policy shifts under CalWORKs and of recovering economy on accessions.

The impact of policies. As Table 1 reveals, any interpretation of the effects of the waivers granted by the federal government to California needs to be viewed with caution since the coefficient is statistically insignificant. It is safe to say, however, that the effects of the welfare policies on case openings when waivers were granted to California probably were not large. Given these results, no forecasting exercise was performed to determine the impact of Waivers on welfare entries.

Since the coefficient of CalWORKs was found to be statistically significant, a forecast of the effects of CalWORKs on accessions is performed. This exercise reveals that in 1998, CalWORKs was associated with about 1,930 fewer families entering welfare, about 5 percent per month.

The impact of unemployment. In order to estimate the effect of unemployment on accessions, the accession equation is used to determine what the number of families entering welfare would have been had the economy not improved. Assuming unemployment level had remained high, monthly accessions were simulated from the time the Waiver policies were implemented in September 1993 through the implementation of CalWORKs to the end of 1998. The model estimates that the recovering economy was associated with about 2,120 fewer case openings, which is a decrease of about 6 percent families entering welfare per month.

Summary & Future Directions

The study's findings showed that in California, in 1998, the PRWOA had effected the potentially eligible population's decision to enter the welfare system. This may have occurred because CalWORKs provisions deterred some families from entering welfare. Perhaps some families wanted to save their 5 year limit or

did not want to participate in a system that has very stringent work requirements. While very recent welfare reforms under the PRWOA are associated with fewer families entering welfare, previous research had demonstrated that this legislation, at least a year after its inception, was not associated with a lower caseload (Albert, 2000). Since the size of the entire caseload is a function of both welfare case openings and closings, the caseload probably did not decrease because welfare policy shifts under CalWORKs were not associated with fewer terminations.

Overall, this study's findings and others have highlighted the importance of considering how the economy affects the behaviors of families that turn to TANF. This paper demonstrated that under favorable economic conditions, fewer families choose to apply for welfare. In the 1990s, the impact of the economy on welfare entries may have been particularly pronounced in California because job opportunities in the service industry, an industry that frequently employs welfare recipients, declined substantially during the 1990s recession and increased sharply during the state's economic recovery.

Because the economy played such a major role in the decision of families to enter the welfare system, states need to consider that role when designing future welfare policies. Drastic measures such as time-limited welfare may not be necessary. States and the federal government can re-evaluate the overall purpose and design of the federally imposed time-limits for welfare benefits. A favorable economic environment allows many recipients to remain off public assistance without the presence of time-limited welfare as was the case prior to welfare reform of 1996. Policy makers need to pay particular attention to the fraction of the caseload that does not leave during economic upturns.

State policy makers need to re-think their long-term strategies of helping those with the greatest employment barriers, and assist many recipients in gaining employment that allows them to be economically self-sufficient. Nationwide, policy makers are confronted with what might happen to many welfare families when the inevitable downturn in the economy occurs. A downturn in the economy may occur around the same time that federal time-limits are in effect for some families on welfare. During such times, federal and state policy makers may need to relax the

federal time-limits to more than 60 months or possibly increase the fraction of the caseload who can be exempted from time limits. This is similar to what has been done with Unemployment Insurance in recessionary periods.

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Appendix A: Variable Definitions, Construction and Sources

AC(t) = The number families entering Aid to Families with Dependent Children-Family Group/CalWORKs during the month. Such data were provided by the California Health and Welfare Agency, Department of Social Services, Statistical Services Branch, *Aid to Families with Dependent Children-Cash Grant Caseload Movement and Expenditures Report*, Sacramento.

TOTCLOSE(t) = The total number of cases closed or terminated during the month from Aid to Families with Dependent Children-Family Group/CalWORKs. Such data were provided by the California Health and Welfare Agency, Department of Social Services, Statistical Services Branch, *Aid to Families with Dependent Children-Cash Grant Caseload Movement and Expenditures Report*, Sacramento.

TOTFEM(t) = Annual demographic data were provided by the California Department of Finance, Population

Research Unit. Yearly demographic data were interpolated to monthly values.

TP(t) = total payments, or AFDC plus food stamp benefits for a family of three (t) deflated by the California Necessities Index (CNI) 1998=100. AFDC maximum aid values were provided by California Health and Welfare Agency, Department of Social Services, Statistical Services Branch, Sacramento. Food stamp benefits were calculated by using Thrifty Food Plan amounts allotted to a family of three. Thrifty Food Plan values were provided by the U.S. Department of Agriculture, Food and Nutrition Services, Washington, D.C.

WAIVERS(t) = welfare waivers are represented by a dummy variable, beginning in September 1993, at month t.

CalWORKs(t) = California's welfare reform program under PRWOA which began in January 1998, at month t.

MW(t) = gross earnings from full-time minimum wage employment at t, deflated by the CPI-W, 6/1998=100. The data were provided by the State of California, Department of Industrial Relations, Industrial Welfare Commission, San Francisco.

UNEMP(t) = seasonally unadjusted number of unemployed. Numbers were provided by the California Employment Development Department, Report LF101, Employment Data and Research Division Estimates, Economic Research Group.

CPI-W(t) = California Consumer Price Index for Urban Wage Earners and Clerical Workers (t). This is a measure of the average change in prices of fixed market basket of goods. It is based on the costs of food, clothing, shelter, transportation and other day-to-day living expenses. Data for the CPI were provided by the California Department of Finance, Financial Research Unit, Sacramento.

CNI(t) = California Necessities Index (t). This measure of price changes for selected components of the CPI follows changes in the prices of clothing, food, fuel, utilities and transportation. It does not include medical care nor mortgage interest rates. Data for the CNI were provided by the California Department of Finance, Financial Research Unit, Sacramento.

