Throughout the last decade, the program rules for cash assistance have changed in ways that encouraged or required single mothers to increase their labor force activities. This was done by numerous methods including imposing a lifetime limit on receipt of cash assistance, and requiring recipients to work at least thirty hours a week through the federal welfare reform act of August 1996 (the Personal Responsibility and Work Opportunity Reconciliation Act, PRWORA). States that failed to show progress towards goals of reduced reliance of its population on welfare were subject to penalties There were also programs than provided incentives rather than sanctions, such as work training, job seeking assistance, and increase childcare availability. Thus, a combination sanctions and incentives aimed to increase labor supply among unwed mothers. Research has shown that employment of former welfare recipients has increased tremendously since 1996, with a substantial part of it attributed to the effect of welfare reform as opposed to the booming economy. However, the fact that ex-welfare recipients newly entered the labor market suggests that this phenomenon would have general equilibrium effects. Did this increase in labor supply stimulate economic growth and improve job options for all workers, or did it compete away the jobs held by non-former welfare recipients? Little research to date has evaluated the general equilibrium effect of PRWORA on employment and wages, although some work has predicted that such effects may occur. Theory predicts that if married females or single women without kids who are low-skilled are close employment substitutes to single low-skilled women with kids, welfare reform that results in increased job seeking among single mothers may "crowd-out" other workers and lower wages in low-skilled market. This effect will manifest itself more as a wage change if wages are elastic, and otherwise as more of a change in employment. In addition, theory predicts that the general equilibrium effect will depend on whether the time frame is short or long, whether the affected group is a substitute or complement in the production function, and on the wage elasticity. Our paper uses a general equilibrium model of the labor market to anticipate the effects of welfare reform in the short run. If high skilled workers are complements to low skilled single mothers, we may expect positive effects of welfare reform on theses groups in the long run.

We consider general equilibrium consequences that may happen within a year (a time period before capital adjusts and expansions occur) as well as considering lagged effects which will manifest themselves over longer time periods. Consider a model with two types of workers (W and NW). These workers are identical in all regards except that one type qualifies for welfare and the other does not. Suppose that all workers of W type decide to take up welfare and all workers of type NW decide not to. Then welfare reform occurs, and all W types are required to work. These two types of workers are in an economy which has an aggregate labor demand given by Q_{NW} = F(wages) and Q_W=F (wages). Now suppose that instead of being identical, there is a distribution of tastes for working. Workers work until the wage available in the economy is equal to their reservation wage. The reservation wage depends on welfare availability, family income and so on. Welfare reform decreases the reservation wage for welfare recipients, W, and in turn for workers as well, NW. As a result, more labor is provided by both groups. The general equilibrium effect of this is a lowering of the prevailing wage rate in this economy and increase in total employment, although not all are absorbed by the market. The effect on wage and employment will

depend on the slopes of two curves, or in other words, the elasticity of demand/supply with respect to wage. The wage effect will be higher when the elasticity of supply outweighs that of demand. The equilibrium is re-established at a point where the employment rate of the W group is higher than before, the employment rate of NW group is lower than before, the wage rate in the economy is lower than before, and total employment is higher than before. We can enhance this model by assuming that NW and W workers are not perfect substitutes for each other, and that NW workers can be further distinguished by the degree to which they are substitutes for W workers. This then yields the prediction that the effects on wages and employment will be larger if they are the more substitutable. If we further enhance the model and consider rigidities in the labor market, further testable hypotheses emerge. Suppose that wages are inflexible downwards but not upwards. Then, institutions such as minimum wages that bind would prevent a wage response, and instead exacerbate the employment responses. If workers are simply competing for jobs and not lowering wages, it may be that welfare reform creates large incentives to increase effort and displace NW workers for whom the job is a supplemental source of income.

This simple model can be operationalized by thinking of W workers as those who are single mothers. They are eligible for welfare to a greater degree than other workers, and there is a distribution of reservation wages which is visible in the fact that take-up of welfare is not universal among the eligible. Factors such as stigma enter into the reservation wage calculation. Welfare reform changes the reservation wage to different degrees depending on whether we are talking about AFDC waivers or TANF. There is also variation across states in how stringent the work requirements were. We can use state policy variables such as the strength of reform, and availability of childcare to proxy for this. The NW workers can be defined in theory as all workers. However, we can eliminate the consideration of certain workers from this analysis by assuming that their substitutability with W workers is zero. The group which would probably be viewed as the closest substitute is the group of married mothers who have skill levels that are comparable to W workers.

We then estimate reduced form equations that test the predictions of this model. As with research investigating the increase in employment by single mothers, we will employ controls for the state of the economy, as well as various other policy measures that may make work more attractive for welfare mothers, such as the Earned Income Tax Credit. Our estimation method will also exploit the fact that states enacted welfare reform at different times during the period from late 1996 to early 1998, and that some states had already implemented many of the provisions of PRWORA in earlier years.

The tests of the hypotheses then correspond to testing for a displacement effect on wages and employment among close substitutes for welfare leavers. We use state policy variables and changes in caseloads to measure the shocks to the labor market. The shock is modeled in terms of a change in the reservation wage. The reservation wage, or the outside option, lowers and this causes people to search for work. The displacement and wage effects will depend on how much the group being considered is a substitute for the type of labor that's increasing in supply. The extent to which wage rigidities bind also matter. The possible hypotheses are 1) Welfare reform that increased the number of low-skilled women on

welfare who are looking for work will reduce wages and employment levels of other low-skilled women and men who were not on welfare; 2) The extent to which a group is affected depends on their substitutability for W type workers, and 3) When nominal wages bind, there will be a larger displacement effect.

The main dataset employed in our study is outgoing rotation groups from the basic component of monthly Current Population Surveys (CPS) 1990-2003 (also known as the MORG files). We choose monthly data instead of annual data collected in March Supplement CPS, as many other scholars use in their studies. MORG data offer several advantages over March CPS for our study. Variables of labor market outcomes in MORG data are based on the questions asking about respondents' behavior in the previous week, "did you work during the last week", "how many hours did you work last week", and "what is the hourly wage last week", while similar questions in March CPS are for behaviors during the previous years. Low skilled labors may be high instable in their employment transitions, therefore the weekly labor force behaviors involve more variations and reveal richer short run information. The shortcoming of using MORG is that it does not include the fertility information from 1994 to 1999. We have been able to correct this problem by computing the number of children of various ages using the Basic monthly CPS datasets and the relationship codes available there. We follow the similar protocols used by the Census Bureau in calculation the number of kids data for other years. We have compared results of performing our methods for years of data during which a number of kids variable is available in the MORG, and find our method to be highly accurate.