

**Teenage Out-of-Wedlock Childbearing and Time Limits:  
A Look at the Welfare Reform of 1996**

**Lawrence Muljo  
David Marcotte  
David Mitch  
Econ 699  
21 May 2003**

## **ACKNOWLEDGEMENTS**

I am especially grateful to Dr. Marcotte for guiding me in the right direction for sources and resolving issues with my model. I would like to thank the 699 seminar participants, especially Dr. Mitch for your patience as well as bringing up interesting problems and suggestions. Special thanks to Dr. Wilson for challenging us, Dr. Tootsie for your concern with my data problems, and the rest of the professors and staff of the Economics and ECPA programs. I also thank HNC for getting me started, Nick for your advice and programming, and the rest of Bollocks United F.C. for reducing the pressure. Thank you, Sabitha for motivating me. And, finally to my family, who have supported me throughout.

## **ABSTRACT**

This paper uses the Current Population Survey March Supplement to answer whether time limits on welfare receipt will reduce teenage out-of-wedlock childbearing. Of all the welfare reform measurements, time limits have the biggest impact as they now make a permanent source of income temporary. To answer this question, a difference-in-differences estimation is employed, using three different treatment/control groups: single/married, poor/rich, and receive welfare/don't receive welfare. The results suggest that time limits do not reduce out-of-wedlock childbearing by teenage girls. So, time limits may in fact be hurting women by making it difficult for them to support themselves and their families.

## **INTRODUCTION**

### **The Issue Statement**

To study the incentives created by welfare on out-of-wedlock teenage childbearing. Specifically, the 1996 welfare reform known as the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) has tried to reduce welfare caseloads by limiting assistance to 5 years. As a result, the benefits from Aid to Families with Dependent Children (AFDC) as a means of long-term income have been eliminated and hopefully, potential recipients will be discouraged from enrolling in welfare. The goal of this study is to see whether the time limits have had a significant impact on changing the birthrates of teenagers at risk of having a child out-of-wedlock.

### **Significance**

Over 500,000 children are being born out-of-wedlock to teenagers each year and that number grows by 50,000 every four years (Haveman, Robert, Wolfe, Wilson, and Elaine Peterson, 1997).

There are four main reasons why this is a problem:

#### **1. She will find it harder to get out of poverty.**

Out-of-wedlock childbearing produces bad futures for the teenager. She is already living in a disadvantaged environment, coming from a low income family and having little education and having a child places more burdens on the mother. As a result, she has less time to allocate to education, work, and her child. Subsequently, women who have out-of-wedlock teenage births are characterized by lower education levels and lower lifetime

earnings compared to their peers (Roosa, Fitzgerald and Carlson, 1982). In the end, they cannot break out of poverty.

## **2. Her baby will also be stuck in poverty and suffer other problems.**

Their babies are more likely to be born prematurely and have lower birth weight. They will suffer from other health problems, have lower levels of education, experience abuse, and increase their chances of ending up in foster care. Also, they are raised in the same environment as their mother, and without appropriate role models, the children will fall into the same pattern as their mother. That is, the daughters have a tendency to have children as teenagers as well and the sons have a tendency to crime (Lord, 2002). As a result, the cycle of poverty continues with little chance of upward mobility.

## **3. She will become dependent on welfare.**

In order to break this cycle of poverty, it is important to target teenagers. One may argue that the target should be focused on older women because they are the majority of welfare caseloads. However, studies have shown that the teenagers do not go on welfare immediately. After all, they wouldn't decide to have the child if they thought they wouldn't be able to raise the child (Lundberg and Plotnick, 1995). Unfortunately, with examples in their neighborhoods of other women and teenagers who have a child outside of marriage, they believe that changing the timing of their first birth will not affect them; they begin to accept that they will never break out of poverty. In addition, some of these teenagers even continue to have more children out-of-wedlock, thinking that there were little costs to having the first child. However, they soon realize that it is difficult to sustain this lifestyle and end

up on welfare. So, women who have their first child as a teenager are the ones who are most likely to need welfare in the future.

#### **4. It's expensive and not popular.**

Teenage out-of-wedlock childbearing costs the public more than \$7 billion each year. As mentioned above, these teenagers become the largest group of recipients for welfare and their children will incur costs such as foster care. And, since this problem continues into future generations, these costs to society will not disappear. Furthermore, it is not a popular idea that people should pay taxes to support a person who does not work and instead of trying to improve, she might make herself worse off by having another child.

#### **5. Can policy reduce birthrates?**

Many policies were instituted in the 1990's and so it is difficult to assess which may be the most successful. PRWORA included provisions that made recipients work or stay in school. And if she is a minor, she would have to stay with a parent or legal guardian. Also sexual education or life-choices education have become a popular alternative and account for quite a few studies. However, the most popular study is the effects of time limits. It is the most promising policy since it reduces benefits from permanent to temporary. And although teenagers would not have a child in order to receive welfare, a teenager may not avoid child birth if there is a guaranteed source of income in the future.

## **PAST RESEARCH**

### **A. Determinants of Teenage Out-of-Wedlock Childbearing and Welfare Use**

There are many arguments as to why teenagers make certain fertility decisions. However, they are not necessarily contradictory. The literature has identified four main determinants associated with teenage out-of-wedlock childbearing and they are all related to some form of social disadvantage. The first main issue is belonging to a minority group. Studies are mixed as to the significance of race, but a majority of the studies have shown that being black or Hispanic is associated with higher rates of teenage childbearing.

The second factor is information because it allows teenagers to assess the risks of an early pregnancy (Oettinger, 1999). As mentioned above, the teenager does not live in a setting that would give her likely role models. In most cases, her mother was a teenage mother and other people she knows have had a child as a teenager and they have been able to continue living. As a result, she may believe that she can live on welfare. Furthermore, information may not be correct since there are those who did not know that time limits would not exist in their state (Moffitt and Pavetti, 1998).

Thirdly, job and marriage markets affect decisions because these are the substitute sources of income. If the unemployment rate is high, then it is less likely for her to find a job, especially since she is young, has low education, and is plagued with other social problems. In addition, the ability to marry may affect decisions. Some have argued that women choose to go on welfare instead of settling for a less than ideal husband (Lichter, McLaughlin, and Ribar, 1997). Others have argued that these teen mothers have traits that make them less desirable to men. However, the marriage markets have not been found to be significantly associated with welfare use or have been associated with small reductions in female-headed households.

Fourth, public policy plays an important role in teenage births. The substantial benefits provided by welfare provide no disincentive for teenagers to end a pregnancy before the child is born. However, one must be cautious not to think that a teenager would make the decision to have a baby in order to receive welfare. Rather, once a teenager is pregnant, the teenager is not motivated to avoid the birth.

The main welfare policy that has provided this incentive was Aid to Families with Dependent Children (AFDC). AFDC provided financial benefits to unmarried females with children under the age of 18 and below some income level. This policy had the effect of reducing the value of income from work because with other included benefits like Medicaid and food stamps, the mother would be able to allocate more of her time to the home (Lord, 2002).

With the welfare reform of 1996, however, AFDC was replaced with TANF and the most significant characteristic was the time limit. In effect, it made public assistance temporary. As a result, women would realize that welfare would no longer be something to live off of. Rather, welfare might even be saved for years when they actually needed the assistance. TANF also added provisions directed specifically at potential teenage mothers. It required mothers to stay at home with a parent or guardian and go to school or work. These may have been disincentives if the girl had planned on gaining independence from her family or drop out of school.

## **B. Other Studies**

The literature on out-of-wedlock teenage childbearing has been broken into many different theories. None are necessarily contradictory to each other, but there are many ways to frame the problem. One theory focuses on the role of information. These studies (see Hanson et al., 1987) look at how sexual education has played a role in informing teenagers as well as how

responsibility plays a role in using contraception. Another field has looked at opportunity costs. For example, it isn't that costly to have a child if she will receive more benefits (An, Chong-Bum et al, 1993). Others have framed the problem in terms of utility maximizing, choosing welfare and children rather than work (Rozenzweig, 1999). Another group looks at the intergenerational effects of having a mother who grew up as a teenage mother (Roosa et al., 1982). And a final popular theory is that marriage markets are not ideal for a woman to choose a spouse (Lichter et al., 1997).

In the pre-welfare reform era, researchers could not test the effects a time limit on welfare would have on teenage fertility decisions. However, they focused on whether reduced benefits would result in lower participation or not. There are some studies that just use a simple regression (Akerlof et al., 1996). Others have used maximum likelihood estimators (Plotnick, 1990). And a third group has used differencing equations (Kaestner et al., 2001).

The 1996 welfare reform gave many researchers an event that could be used as a natural experiment. However, the research utilizing difference-in-differences estimators are still sparse. This is because there are doubts whether difference-in-differences can control for policy endogeneity (Grogger, 2000). The problem arises when one considers that there may be characteristics of the population within the state which may affect the timing of the welfare implementation. Grogger solves the problem by assuming that the disturbance term containing state and time specific components can be controlled by creating year and state dummies. Kaestner argues that the endogeneity problem can be disregarded because this was a federal policy which was implemented throughout all states with only a variation of 3 years (2001).

There is still debate as to the effects of time limits. Many find no relationship at all. Others have found the relationship to only hold among blacks. And others have found a

relationship depending what model they use. Finally, some even find that there is a positive relationship between time limits and childbearing. It is suggested that the variables controlled for and the datasets used contribute to the different findings. There were many policies that took place in the 1990's and it is difficult to separate the effects of each policy. In addition, it is extremely difficult to find data on each different policy in every state.

There are three different datasets that are used in these studies: the NLSY, CPS and PSID (Panel Study of Income Dynamics). We will use the CPS because it has a large sample and we do not need the longitudinal characteristics of a panel. Furthermore, not many studies have used this dataset, so it will be interesting if we can replicate Kaestner et al.'s study (2001) where he uses the NLSY. He uses a difference-in-differences estimator using the *nlsy97* and *nlsy79*. Then he splits the groups into high-risk teens (those who are poor and have mothers who were single mothers) and low-risk teens (those who are from more affluent families). Furthermore, he contrasts the older teens to the younger teens positing that the older teens would have different reasons for having a child since they are more independent and will probably want the welfare benefits while the younger teens may have more social problems affecting their decisions since they don't have appropriate role models.

## **DATA**

We used the March Supplement of the Current Population Survey for years 1996 and 1999. This is because most of the time limits occurred in 1996 and 1997. See Appendix 1. There were six states which had implemented time limits before 1996 and four states that decided not to apply time limits at all, opting to pay for welfare recipients without federal grants. Moreover, state-wide welfare reforms had also officially been started around the same time in

order to start receiving funding. However, data from the Finance Project shows that the actual TANF program implementation dates occurred much later, the first ones beginning in 1998 and the last ones in 2000. As a result, there will not be the problem of separating the causal roles of time limits and other TANF reforms.

The sample will be limited to teenagers 15 to 19 from the forty states and Washington D.C. affected by time limits. In addition, there will be controls for race, unemployment, geographical region, education, income levels, and whether they received AFDC or not.

By using a difference-in-differences approach, we have to find a treatment group which would be affected by the time limits as well as a control group which would not have any reason to be affected by the policy. And since there is much debate as to what groups would serve as a good control, we will try three different controls. The first pair is married teens versus single teens. Since welfare is primarily for single mothers, a married teenager should not have to base her decisions on the time limits. As table 1 points out, there are 6762 observations with only 16 married teens receiving AFDC or some other form of public assistance, but there are 484 single teens who do receive welfare.

The second treatment/control group that we will test is poor versus rich. This is a reproduction of Kaestner 2001 where we will limit the sample to households below the poverty level and households over 300% above the low-income level designated by the CPS. This reduced the sample size to 4896 and there are only 15 teens in rich households who receive welfare while 394 teens in poor households receive aid.

Thirdly, we will reduce my sample to just the households below the low-income level. So, the treatment is the group of poor teens who receive welfare while the control is the group of poor teens who do not receive aid. 1485 do not receive aid and 394 do. This third pairing should

**Table 1**

**Number of observations in each treatment and control group.**

#1		help	
single	0	1	Total
0	209	16	225
1	6053	484	6537
Total	6262	500	6762

  

#2		help	
poor	0	1	Total
0	3002	15	3017
1	1485	394	1879
Total	4487	409	4896

  

#3		help	
poor	0	1	Total
1	1485	394	1879
Total	1485	394	1879

**Source:** Author's calculations with data from the March Supplement of the Current Population Survey, years 1996 and 1999. The top is for single vs. married; the middle for poor vs. rich; and the bottom for aid receipt vs. no aid receipt.

#1 shows that 484 singles received help and 16 married teens received help. #2 compares the aid of the poor (= 1) to the rich (= 0). #3 is the sample limited to only low-income teenagers.

be an improvement on the previous two because the other control groups may not be as similar to their treatment counterparts. That is, the poor teenager in the second control group mentioned above will probably have different factors affecting her fertility decisions than just welfare receipt. For example, she may have a mother who had children around the same age.

In the first treatment group with single mothers, married teens might also differ in their fertility decisions from their treatment cohort because they may come from a more conservative family who believes that the child should be born in marriage. The third sample, however, might not be free from personal characteristic differences either since those who do get welfare may be less motivated to get a job as well as to avoid a birth.

## MODEL AND MEASUREMENT OF INDEPENDENT VARIABLES

The point of this study is to see whether reduced welfare, in particular time limits, had an effect of reducing teenage out-of-wedlock childbearing. Because of the recent legislation implementing time limits, we can use a difference-in-differences estimator to exploit this natural experiment.

$$Y = \beta_0 + \delta_0 \text{Year} + \beta_1 \text{Treatment} + \delta_1 \text{Year} \cdot \text{Treatment} + \text{Controls}$$

**Y:** number of births

**Year:** dummy = 0 if 1995 and =1 if 1998

**Treatment:** one of the three groups described in the Data section above.

**Controls:** These are mostly straightforward. Age is a continuous variable for 15 to 19 year olds.

Education is also continuous. We had planned on making it categorical, separating teenagers who received a high school diploma from high school students and dropouts, but our data did not have any girl with less than a 9th grade education. As a result, it would not have been possible to assign a dropout category and it would have been difficult to separate a girl's motivation by her level of education as we would not be able to determine whether she was staying in school or not.

Race dummies were created for blacks and Hispanics. The Hispanic dummy includes both non-black and black Hispanics. We dropped Asians and Native Americans from the sample because there were too few observations.

Income percentile is a categorical variable which separates into 14 different levels the households below the poverty level to those 500% above that level. This was used only for the single vs. married regression since the second regression uses this variable for the treatment and control group and the third regression is limited to only households below the poverty line.

Region dummy variables separate the country into northeast, west, Midwest and south. State unemployment rates for 1995 and 1998 were included; and a dummy for whether they received AFDC or some sort of welfare in that year.

The coefficient on the year dummy in the difference-in-differences analysis is not meant to be significant as the implementation of time limits should not have any effect on the fertility decisions of the control group. But to check that there was a significant difference in the number of births from 1995 to 1998, regressions will be run for the three different analyses with just year as an independent variable of fertility.

We expect the sign of the coefficient on the treatment variables for the poor girls cohort as well as the poor girls who receive welfare cohort to be positive since they should be more likely to have a child while the coefficient on the single teens should be negative as married teens are predicted to be more likely to have a baby. But the focus of the regressions will be the coefficient on the interaction term: Year·Treatment. This is the measurement of the policy's effect from 1995 to 1998 and it is expected to be negative since the policy's intent was to reduce teenage out-of-wedlock childbearing.

## RESULTS

Results for the regressions with year as the independent variable are summarized in table 2. As can be seen, year has the predicted direction of negative births in all three regressions. However, it is not statistically significant when regressed with the sample of just low-income households. This is probably because the sample has been reduced to 1879. But since it can still be rejected at 12%, we will continue to regress the complete set.

### Single versus Married

Table 3 shows the results of this analysis. These results will show whether being a single teenage mother will have a higher chance of being affected by the time limit restriction than a married mother. Again, this regression assumes that the only difference between these two samples is that the teenagers in the treatment group are single and the girls in the control group are married. As predicted, the year variable is not significant at all. The controls are all

**Table 2**

**OLS with year as the only independent variable of number of births**

	Coefficient	Coefficient	Coefficient
year	-0.01502* (0.007967)	-0.02562** (0.009246)	-0.02988 (0.019271)
intercept	0.129794** (0.005773)	0.131792** (0.006813)	0.238603** (0.013282)
Number of observations	6762	4896	1879
R-squared	0.0005	0.0016	0.0013

**Source:** Computations with data from the March Supplement of the Current Population Survey, years 1996 and 1999. The left is for single vs. married; the middle for poor vs. rich; and the right for aid receipt vs. no aid receipt.

\*significant at 5%, \*\*significant at 1%.

Robust standard errors in parentheses.

**Table 3**

**Difference-in-differences estimations of the time limit policy on number of births using three different treatment/control groups.**

	Coefficient	Coefficient	Coefficient
single	-0.3344103** (0.0445597)	-0.3311591** (0.0404428)	-0.4293277** (0.0514957)
single*year	-0.0263927 (0.0643196)		
poor		0.0948515** (0.0146861)	
poor*year		-0.0091045 (0.0200269)	
help	0.1582261** (0.021994)	0.1870911** (0.0254238)	0.2029322** (0.0338295)
help*yr			-0.0440534 (0.052221)
year	0.0242081 (0.0638871)	-0.0050703 (0.0082003)	-0.0051427 (0.0194273)
age	0.0248505** (0.0053256)	0.0331114** (0.0062118)	0.0449675** (0.0099659)
education	-0.0175734** (0.0037884)	-0.023524** (0.0043383)	-0.0231755** (0.007199)
income level	-0.0108486** (0.0010094)		
Hispanic	0.0353658** (0.0137894)	0.0430979** (0.0168023)	0.0496523* (0.0230198)
black	0.0315209* (0.0136714)	0.0540065** (0.0174993)	0.0613175** (0.0243365)
intercept	0.7399674** (0.0872736)	0.680694** (0.0938516)	0.6471882** (0.1809512)
Number of Observations	6762	4896	1879
F	56.71**	47.66**	23.45**
R-squared	0.1131	0.1355	0.1126

**Source:** Computations with data from the March Supplement of the Current Population Survey, years 1996 and 1999. The left is for single vs. married; the middle for poor vs. rich; and the right for aid receipt vs. no aid receipt.

\*significant at 5%, \*\*significant at 1%.

Robust standard errors in parentheses.

significant and point in the correct direction and a single teenage girl has a 33% lower birth rate than married teenagers. Interestingly, however, the interaction term is highly insignificant. This suggests that a time limit is not as effective at reducing out-of-wedlock teenage childbearing as was hoped.

Also, the r-squared is 11%. Even though that is a fairly small percentage, there are many controls that were not possible to include because of restrictions of data. Some of the missing controls would be the availability of access to abortion clinics, her health, mother's education, mother's age of first birth, and mother's welfare use.

### **Poor versus Rich**

This regression compares the policy's effects on a poor teenager's fertility decisions in comparison to rich girls. As in the regression above, the controls are significant and carry the predicted sign, but the interaction variable is still insignificant. The regression shows that the poor have a 9% higher birth rate than the rich.

### **Welfare Receipt versus No Welfare Receipt**

This regression limits the sample to those below the poverty line and compares those who receive welfare to the girls who do not. This analysis too shows the same results as the previous two regressions. It does, however, show that receiving welfare is associated with a 20% increase in having a baby.

## **Controls**

The three regressions had results for the controls that were pretty consistent. Older teens were 2 to 4% more likely to have a baby. An increase in education by one year decreased the chances of having a baby by about 2%. Hispanics had 3 to 4% more babies than whites and blacks had 3 to 6% more than whites.

We have removed the controls for unemployment as it is highly insignificant and the dummies for different regions because they are also not significant and cause collinearity problems with the race dummies.

## **DISCUSSION AND POLICY IMPLICATIONS**

This paper has found no effects of time limits on fertility decisions of unmarried teenagers. The data rejects any significant decline in birth rates as a result of the imposition of time limits across three different treatment groups. If these results are correct, then policies making welfare temporary are ineffective if not mistaken. Teenage mothers continue to bear children and are not responding to the disincentive of time limits. As a result, they may be harming teenage mothers who might have personal characteristics or situations that make it difficult for them to leave welfare. Possibly, because they are teenagers without enough education, they will find it hard to make enough money to support a child. In other words, welfare may be the only possible way to assist some women.

Obviously, with a fairly low R-squared, there are many other factors related to childbearing that may provide a better means to reduce teenage births. So, future research should find other causes of fertility to determine a viable solution to the persistence of this

problem. All the controls included were statistically significant and other than increasing education, these controls do not really provide any direction for further policy.

However, further research is needed to determine how conclusive these results were. It may not be for a few years until we can see the true effects of the time limits. It is possible that the sample was not large enough or the control groups were not appropriately similar to their treatment counterparts.

## APPENDIX 1

	<b>TANF</b>	<b>Limit</b>
Never		4
1993		1
1994		1
1995		4
1996		18
1997		22
1998	3	1
1999	44	
2000	4	

The table above shows the how many states which implemented time limits and TANF in a particular year. There were 4 states which did not implement limits and 6 states which implemented them before the welfare reform of 1996. Also the states' state-wide TANF reforms did not actually take place until their time limits were already set.

The table below shows the state and the dates the implemented time limits and welfare reform. Data came from: <http://www.financeprojectinfo.org/win/spd/GeneralStatePlanInfo.htm>

<b>State Name</b>	<b>TANF</b>	<b>Time Limit</b>
Alabama	10/01/1999	12/1996
Alaska	10/01/1999	7/1997
Arizona	10/01/1999	11/1995
Arkansas	12/16/1999	
California	10/01/1999	
Colorado	10/01/1999	7/1997
Connecticut	10/01/1999	1/1998
Washington, DC	10/01/1999	3/1997
Delaware	10/01/1999	7/1997
Florida	10/01/1999	2/1994
Georgia	10/01/1999	1/1997
Hawaii	10/01/1999	2/1997
Idaho	10/01/1999	7/1997

Illinois	10/01/1999	2/1996
Indiana	10/01/1999	5/1995
Iowa	10/01/1999	10/1993
Kansas	10/01/1999	10/1996
Kentucky	10/01/1999	10/1996
Louisiana	10/01/1999	1/1997
Maine	11/01/1999	11/1996
Maryland	10/01/1999	1/1997
Massachusetts	10/01/1998	12/1996
Michigan	10/01/2000	
Minnesota	10/01/1999	7/1997
Mississippi	10/01/1999	10/1996
Missouri	10/01/1999	7/1997
Montana	01/01/2000	2/1997
Nebraska	10/01/1999	11/1995
Nevada	10/01/1999	12/1996
New Hampshire	10/01/1999	10/1996
New Jersey	10/01/1999	4/1997
New Mexico	12/23/1999	7/1997
New York	11/01/1999	12/1996
North Carolina	10/01/1999	7/1996
North Dakota	10/01/1999	7/1997
Ohio	10/01/1999	10/1997
Oklahoma	10/01/1999	10/1996
Oregon	10/01/1999	7/1996
Pennsylvania	10/01/1999	3/1997

Rhode Island	10/01/1999	5/1997
South Carolina	10/01/1999	10/1996
South Dakota	10/01/1999	12/1996
Tennessee	10/01/1999	10/1996
Texas	10/01/1999	6/1996
Utah	10/01/1999	1/1997
Vermont	10/01/1998	
Virginia	01/01/2000	7/1995
Washington	12/15/1999	8/1997
West Virginia	01/01/2000	1/1997
Wisconsin	10/01/1998	10/1996
Wyoming	10/01/1999	1/1997

## REFERENCES

- Akerlof, George A., Janet L. Yellen, Michael L. Katz. 1996. "An Analysis of Out-of-Wedlock Childbearing in the United States." *The Quarterly Journal of Economics*. 111 (2): 277-317.
- An, Chong-Bum, Robert Haveman, and Barbara Wolfe. 1993. "Teen Out-of-Wedlock Births and Welfare Receipt: The Role of Childhood Events and Economic Circumstances." *The Review of Economics and Statistics*. May (2): 195-208.
- Hanson, Sandra L., David E. Myers, Alan L. Ginsburg. 1987. "The Role of Responsibility and Knowledge in Reducing Teenage Out-of-Wedlock Childbearing." *Journal of Marriage and Family*. 49 (2): 241-256.
- Haveman, Robert, Barbara Wolfe, Kathryn Wilson, and Elaine Peterson. 1997. "Do Teens Make Rational Choices?: The Case of Teen Nonmarital Childbearing." Discussion Paper no. 1137-97. Department of Economics, Institute for Research on Poverty, University of Wisconsin-Madison.
- Lichter, Daniel T, Diane K McLaughlin, and David C. Ribar. 1997. "Welfare and the Rise in Female-Headed Families." *American Journal of Sociology*. 103 (1): 112-143.
- Lord, William A. 2002. Household Dynamics: Economic Growth and Policy. Oxford: Oxford University Press.
- Lundberg, Shelly, and Robert D. Plotnick. 1995. "Adolescent Premarital Childbearing: Do Economic Incentives Matter?" *Journal of Labor Economics*. 13 (2): 177-200.
- Plotnick, Robert D. 1990. "Welfare and Out-of-Wedlock Childbearing: Evidence from the 1980s." *Journal of Marriage and the Family*. 52 (August 1990): 735-746.

Roosa, Mark W., Hiram E. Fitzgerald, and Nancy A. Carlson. 1982. "A Comparison of Teenage and Older Mothers: A Systems Analysis." *Journal of Marriage and the Family*. May: 367-377.

Rosenzweig, Mark R. 1999. "Welfare, Marital Prospects, and Nonmarital Childbearing." *Journal of Political Economy*. 107 (6): s3-s33.

## **DATA SOURCES**

<http://www.bls.census.gov/cps/>

<http://www.financeprojectinfo.org/win/spd/GeneralStatePlanInfo.htm>