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UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

AN ANALYSIS OF THE WORK AND FAMILY STRUCTURE INCENTIVES GENERATED BY OKLAHOMA'S TAX AND TRANSFER SYSTEM

A Dissertation

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

By

MICKEY ALDEN HEPNER
Norman, Oklahoma
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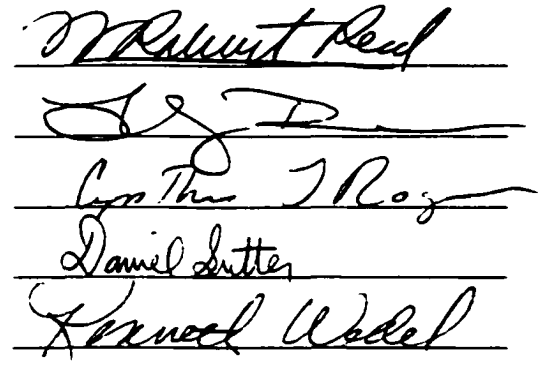
A Dissertation APPROVED FOR THE
DEPARTMENT OF ECONOMICS

BY



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Abstract

This study seeks to analyze the work and family structure incentives created by Oklahoma's tax and transfer system. By focusing on Oklahoma, the author can include detailed information on programs specific to this state, and develop a much deeper understanding of the incentives generated by welfare policy. There are two objectives for this study: 1) determine the magnitude of the work and family structure incentives faced by transfer recipients in Oklahoma, and 2) empirically estimate the behavioral response to financial incentives for TANF recipients.

Oklahoma's tax and transfer system creates a framework which, at times, provides very little payoff for work. This study incorporates a more complete set of tax and transfer programs than were used in previous research, including state-specific programs such as childcare subsidies and child support. The inclusion of childcare subsidies is notable because they are often ignored in previous research, yet they have large impacts on work and family structure incentives. Generally, the study finds effective tax rates in the upper range of those reported elsewhere, typically above 90% and at times approaching 300% when a recipient loses eligibility for a childcare subsidy. Next, this study tested the effectiveness of financial incentives (a lower effective tax rate), conditional on the presence of work requirements, at increasing labor force participation and earnings. From a sample of female heads of households in Oklahoma's two most populous cities, the study finds that financial incentives, conditional on the presence of work requirements, may not be effective at increasing labor force participation or earnings.

This study also calculates the family structure incentives present in welfare policy. Contrary to previous work, the author assumes that a couple has three potential family structures: marriage, cohabitation reported to transfer agencies, and unreported cohabitation – cohabitation concealed from transfer agencies. The study finds that there are large payoffs to concealing cohabitation. In some instances, the couple could nearly double their resources with unreported cohabitation compared to marriage.

Chapter 1

Introduction

Welfare policy in the United States has long been driven by a desire to help those who need the most help. Policymakers designed the plethora of assistance programs, in part, to help feed the hungry, to help heal the sick, to help shelter the homeless...to help give hope to the hopeless. The government's generosity, however, has not been without its critics. These detractors claim that America's welfare policies create a tapestry of disincentives, including disincentives to work and marriage. Among the most prominent critics was Charles Murray (1984) who stated:

> "A government's social policy helps set the rules of the game - the stakes, the risks, the payoffs, the trade-offs, and the strategies for making a living, raising a family, having fun, defining what "winning" and "success" mean. The more vulnerable a population and the fewer its independent resources, the more decisive is the effect of the rules imposed from above. The most compelling explanation for the marked shift in the fortunes of the poor is that they continued to respond, as they always had, to the world as they found it, but that we - meaning the not-poor and un-disadvantaged - had changed the rules of their world. Not of our world, just of theirs. The first effect of the new rules was to make it profitable for the poor to behave in the short term in ways that were destructive in the long term. Their second effect was to mask these long-term losses - to subsidize irretrievable mistakes. We tried to provide more for the poor and produced more poor instead. We tried to remove the barriers to escape from poverty, and inadvertently built a trap." (p. 9)

The study of the work and family structure incentives of transfer programs has generated a large amount of research over the last twenty-five years. During this time, the tax and transfer framework in the United States has evolved into a system scarcely resembling its early ancestors. As each subsequent reform changes the incentives recipients face, researchers must examine how efficiently the new programs meet

society's goals.

This study seeks to further the quest for knowledge about, understanding of, and solutions to the incentives generated by welfare policies in Oklahoma. Because of the emergence of state-specific programs and experiments, detailed national examinations are no longer feasible. Following the advice of two prominent researchers, Rebecca Blank and David Card (2000), this study focuses on one state. By focusing on Oklahoma, the author can include detailed information on programs specific to this state, and develop a much deeper understanding of the incentives generated by welfare policy. The findings, however, do not apply only to Oklahoma; the lessons learned from one state can improve policies in all states.

The remainder of this introduction contains a review of past research and a preview of this study. Transfer programs can generally be classified into one of two categories: Negative Income Tax programs, which typically provide benefits to low-income families—even when a recipient has no earnings, and Wage Subsidy programs, which do not provide benefits to individuals with no earnings. Since these different program types are often analyzed separately, this study reviews them separately. First, Section I reviews the literature on the labor supply response from negative income tax programs. Then, Section II discusses the impact of wage subsidy programs on labor supply. Section III presents the theoretical and empirical findings on the effectiveness of work requirements, a recent development in transfer policy. Next, Section IV surveys the literature discussing the family structure incentives inherent in welfare policies. Finally, Section V previews the major arguments and findings of this study.

I. The Work Disincentives Generated by Negative Income Tax Programs

The Negative Income Tax (NIT) design, promoted by Friedman (1962), serves as the basis for traditional transfer programs like Aid to Families with Dependent Children (AFDC), food stamps, housing subsidies, and now Temporary Assistance for Needy Families (TANF). NIT transfer programs generally consist of a guaranteed benefit (G), the benefit when the recipient has no earnings, and an implicit tax rate (t), the rate the benefit is reduced for each additional dollar of income. Under the traditional income-leisure model of labor supply, the benefit produces an income effect decreasing hours worked[1], while the t produces a substitution effect also decreasing hours worked. The net effect from imposing the NIT transfer, therefore, is an unambiguously lower labor supply for the recipient population (Danziger, Haveman, and Plotnick 1981).

Seattle-Denver Income Maintenance Experiments (SIME/DIME)

While the theoretical findings presented above predict that labor supply for NIT transfer recipients will decrease, the results do not predict the magnitude of the decrease. In order to estimate the labor supply impact, the United States government conducted several NIT experiments throughout the 1970's. Among them were the New Jersey Experiment, the Rural Experiment, the Gary Experiment and the Seattle-Denver Income Maintenance Experiment (SIME/DIME). For several reasons, the most notable of these was SIME/DIME. First, SIME/DIME had a sample size of 4,779 families, which is nearly triple that of the other experiments. Second, the experiment conducted separate analyses for female household heads. This group comprises the largest component of modern welfare recipients, and should have different labor supply responses than the

[1] This assumes leisure is a normal good.

husbands and wives analyzed in other experiments. Third, SIME/DIME offered the most generous benefits with a G set at 90%, 120% or 130% of the federal poverty guidelines, and a t at 50%, 70%, or variable rates between 50% and 70% (Robins 1985).

SIME DIME was a randomized experiment where participants were randomly assigned to either an experimental group or a control group. The experimental groups received an NIT benefit of varying generosity, while the control group remained eligible for traditional welfare programs administered outside the experiment. Generally, researchers found that female-heads in the SIME/DIME NIT experiments reduced their labor supply by 11.9% compared to the control group (Keeley et al. 1978a). The corresponding estimated income and substitution effects both had the appropriate sign. Interestingly, Moffitt and Kehrer (1981) report that in two separate analyses of SIME DIME, the income elasticities for female heads exceeded the substitution elasticities, indicating a backward sloping labor supply schedule for female heads. The estimated income elasticities were -0.11 and -0.12 while the substitution elasticities were 0.08 and 0.10.

One drawback of the NIT experiments was that they were limited in geographic scope. Keeley et al (1978b) used results from SIME/DIME to estimate the impact of a national NIT based on 1974 CPS data. The researchers modeled six different NIT schemes in which the t equaled 50% or 70%, and the G equaled 50%, 75% or 100% of the federal poverty guidelines. For female household heads, the estimated national impact ranged from a low of 0% labor supply response when t=50% and G=50%, to a 14.8% decrease in labor supply when t=70% and G=100%.

These results from the NIT experiments are even more striking once one

considers that the control group consisted of individuals who could participate in traditional transfer programs like AFDC, food stamps, and housing assistance. These traditional programs also generally follow the NIT design, and therefore produce their own work disincentives. Thus, NIT estimates probably understated the labor supply reductions resulting from an NIT implemented in the absence of other transfer programs.

Aid to Families with Dependent Children (AFDC)

To discover the true impacts of NIT programs on labor supply, researchers began examining the traditional transfer programs like AFDC. While generally maintaining the NIT structure, AFDC regulations did not tax all recipient income. Program regulations often allowed recipients to deduct some work and childcare expenses, as well as a standard amount, from the taxable earned income. Consequently, recipients typically faced effective AFDC tax rates that were smaller than the statutory rates. Lurie (1974) used a 1971 survey of AFDC families to calculate that, on average, families faced an effective AFDC tax rate less than 40%, even though the statutory rate equaled 67%. Likewise, Hutchens (1978) used administrative data from 20 states to calculate an average effective AFDC tax rate of 64.6% in 1967 when the statutory rate equaled 100%. By 1971, when the statutory rate equaled 67%, Hutchens calculated an average effective AFDC rate of 36.8%. Fraker, Moffitt and Wolf (1985) used repeated cross-sections of AFDC administrative data from 1967-1982 and found the average effective AFDC tax rates were between 16% and 32%. Finally, Moffitt (1979) included another traditional NIT program, food stamps, and calculated an average effective tax rate of 38% for the combined programs in Gary, Indiana.

Despite being below the statutory rates, these effective AFDC tax rates did exceed

the tax rates for low-income families not participating in the program. As a result, the AFDC program, like the NIT experiments, should decrease labor supply of recipients. Most of the early empirical analyses of the labor supply effects of AFDC focused on this issue. Danziger, Haveman, & Plotnick (1981) reviewed these studies and noted that AFDC significantly decreased labor supply for recipients.[2]

To offset this work disincentive, many policymakers advocated the use of financial incentives, a lower t for NIT transfers, thereby increasing the effective wage (the author uses the terms "financial incentives" and "smaller t" interchangeably throughout the text). The labor supply effects of such a policy, however, are theoretically ambiguous. On one hand, a smaller t raises the effective wage and encourages recipients to substitute into work. Thus, the substitution effect of a smaller t leads to increased labor supply. On the other hand, the higher effective wage creates an income effect leading to decreased labor supply. The net effect, therefore, depends on the relative magnitudes of the income and substitution effects (Levy 1979).

One can make some predictions about the net effect of financial incentives on individual labor supply depending on the individual's initial labor supply before the change. For recipients who do not work, the substitution effect from a smaller t must dominate the income effect. Consequently, there must be a nonnegative impact on labor supply for these individuals. For recipients with positive labor supply, however, the impact of a smaller t is not as definitive, as the income and substitution effects conflict. A smaller t also affects initial non-recipients as well. For non-recipients who were initially income-ineligible for benefits, the effect on labor supply is nonpositive, as the income

---

[2] See also Moffitt (1992), and Garfinkel and Orr (1974).

and substitution effects both lead to decreases in labor supply for some individuals. This occurs because some individuals will become eligible for benefits with a smaller t, and therefore now face the labor supply incentives of the NIT (Levy 1979). For non-recipients who were initially income-eligible for benefits, a lower t also leads to a nonpositive effect on labor supply. As Moffitt (1983a) indicated, these individuals do not participate because of a stigma or hassle factor surrounding the receipt of welfare. A lower t increases the payoff to participating, leading to higher transfer participation rates, and lower labor supply.

Note that a smaller t affects participation in an NIT transfer program for both "mechanical" and "behavioral" reasons. Even with no labor supply response to the smaller t, some individuals with higher levels of labor supply will become eligible for benefits. This is the mechanical effect. Additionally, some individuals will respond to the smaller t by choosing to change their labor supply in order to become eligible for benefits. This is the behavioral effect (Ashenfelter 1983).

In the wake of reforms that lowered the AFDC tax rate, several researchers examined the effectiveness of lowering the t in increasing labor supply. Levy (1979) estimated that the combined effect of lowering the t is a decrease in labor supply. Moffitt (1986) finds that a decrease in the t equal to 0.25 increases labor supply of female heads between 0.18 and 0.70 hours per week. Most other researchers concur with Moffitt and find significant, but small impacts on labor supply (Danziger, Haveman, and Plotnick 1981; Moffitt 1992; Moffitt and Rangarajan 1991). These labor supply responses are so small that most recipients would remain in poverty without the benefits (Moffitt 1992).

The results from the static analyses of the work disincentive effects from NIT

transfer programs do not indicate, however, whether recipients have lower labor supply because they have higher quit rates, or because they have lower hiring rates. Blau and Robins (1986) extended the static analysis of AFDC work disincentives by examining the labor market flows of recipients. They find that the reduced labor supply of welfare recipients is mainly due to slower entry into employment.

Other Programs

As in-kind NIT transfers such as food stamps, housing assistance, and Medicaid became more prominent, researchers extended the labor supply analysis to include these programs. However, the complex interactions of the various programs, along with a large self-selection problem have limited the development of this vein of research. Fraker and Moffitt (1988) examine the role of Food Stamps along with AFDC, and find that the Food Stamp program also decreases labor supply of female heads by approximately 9%. They find that changes in the Food Stamp t though, have little effect on the labor supply of female heads. Keane and Moffitt (1998) estimate a structural model of labor supply and participation in AFDC, Food Stamps, and subsidized housing. They find that these assistance programs do decrease labor supply, but that changes in the combined t (t_c) have only small labor supply effects.

Finally, several studies in the 1990's have examined the effect of Medicaid on labor supply. The author classifies Medicaid as an NIT program despite its peculiarities. Like other NIT transfer programs, Medicaid provides a guaranteed level of healthcare benefits to low-income families. The tax rate on benefits, however, is not constant. Participants receive the guaranteed benefit as long as they meet the income qualifications. Once income rises above the eligibility limit, the participant loses the entire benefit. The

sudden loss of benefits creates a "notch" on the recipient's budget constraint, corresponding to an infinite tax rate at the margin. Further complicating the analysis of Medicaid work incentives is its link to AFDC. Historically, individuals qualified for Medicaid only if they qualified for AFDC.[3]

Blank (1989) calculated the market value of Medicaid benefits in each state, and found these benefit levels did not significantly affect AFDC participation rates. Winkler (1991) extended the analysis to examine whether the Medicaid benefits affect labor supply of female heads. Winkler found that Medicaid benefits did decrease the probability of working, but had an insignificant impact on hours worked and AFDC participation.

Moffitt and Wolfe (1993) utilized a family specific measure of Medicaid benefits, and found that the value of Medicaid does significantly decrease the probability that a recipient works. Contradicting the Blank (1989) and Winkler (1991) findings, Moffitt and Wolfe find that the value of Medicaid does negatively influence AFDC participation. Families with the highest expected medical expenses, however, drive this finding. For most families, the value of Medicaid did not significantly influence AFDC participation.

Responding to the concern that Medicaid poses significant work disincentives to AFDC families, several states broke the Medicaid/AFDC link and increased the earnings limit for Medicaid beneficiaries. This policy would allow recipients to retain Medicaid benefits at higher earnings. Yellowitz (1995) exploited this dissolution of the link between Medicaid and AFDC to estimate the impact of Medicaid on labor force decisions. Yellowitz found that the higher Medicaid earnings limit increased labor force

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[3] Medically Needy individuals, people with high medical bills, could qualify for Medicaid benefits even if they did not qualify for AFDC.

participation and decreased AFDC participation.

The findings from these four Medicaid studies indicate that governmental policies, which increase the Medicaid income limits, will increase the probability that a recipient works. Essentially, these policies reduce the t at the initial income limit, and increase the t at the new income limit. Consequently, the lower t should encourage some recipients to increase their labor supply. There is no evidence in these studies, however, that these policies will increase aggregate labor supply. Similar to the incentives present in other NIT programs as the program expands, some new individuals will become eligible for the benefit. These individuals should decrease their labor supply. Thus, there is no reason *a priori*, to believe that increasing the earnings limits (effectively lowering the t) will increase labor supply.

From the NIT experiments to the analysis of the traditional transfer programs, the empirical findings on the labor supply impacts of the various NIT programs is quite consistent with theory. Just as theory predicts, researchers have found that NIT transfer programs lead recipients to reduce their labor supply. While a reduced t does increase the hours worked and labor force participation of initial recipients, it also expands the caseload. The individuals newly eligible with the reduced t should respond by decreasing their labor supply. Therefore, proposals to reduce the program t have ambiguous and generally small effects on aggregate labor supply.

II. Work Disincentives Generated by Wage Subsidy Programs

The work disincentives inherent in NIT transfer programs have led policymakers to develop new program designs, such as the wage subsidy (WS) transfer program.

Unlike NIT programs, true WS programs do not have a guaranteed benefit, and provide increasing benefits as labor supply rises, by supplementing wages for individuals earning a low wage. Because some individuals with low wages are also in high-income families, it is difficult for policymakers to target a true WS to low-income families. In practice, therefore, WS programs have a slightly different structure (Dickert-Conlin and Holtz-Eakin 2000). Generally, WS programs work to increase the payoff to work by reducing t over some range of income. This section discusses three different programs that effectively reduce t, the Earned Income Tax Credit, childcare subsidies, and Canada's experimental Self-Sufficiency Project.

The Earned Income Tax Credit (EITC)

The largest WS transfer program in use today is the Earned Income Tax Credit (EITC). Generally, the EITC is a modified WS program, which consists of three regions, phase-in, plateau, and phase-out[4]. In the phase-in region benefits increase as earned income rises. At higher income levels, the recipient is in the plateau region where the benefit is constant as earnings increase. Finally, at even higher levels of income, the benefit gradually decreases as earnings rise.

The theoretical work incentives are very different within each of the three regions. By increasing the benefit as earnings rise throughout the phase-in region, the EITC essentially reduces the t in this range. The lower t raises the effective wage and creates a substitution effect leading to increased labor supply. At the same time, the positive benefit creates an income effect leading to decreased labor supply. The EITC's net effect on labor supply within the phase-in region, therefore, depends on the relative magnitude

[4] Chapter Two discusses the specific structure of the EITC in more detail.

of the income and substitution effects. Note that for individuals who would have no earnings in the absence of the EITC, the net effect is nonnegative, as the income effect can never dominate the substitution effect for these individuals (Dickert-Conlin and Holtz-Eakin 2000). Since the EITC leads more workers into the workforce, the EITC should increase labor force participation rates.

Within the plateau region, the benefit remains constant as earnings rise. Thus, t from the program equals zero[5]. Consequently, there is no substitution effect, while the positive benefit again creates an income effect theoretically leading to decreases in labor supply. Thus, the EITC creates an unambiguous negative impact on labor supply within the plateau. Within the phase-out region the EITC increases t because the benefit gradually decreases as earnings rise. The increased t creates a substitution effect decreasing labor supply, while the positive benefit creates an income effect also decreasing labor supply. Therefore, the EITC results in decreases in labor supply for individuals throughout the phase-out region (Dickert-Conlin and Holtz-Eakin 2000).

There have been several studies designed to empirically estimate the impact of the EITC on labor market decisions. Browning (1991) used various income and substitution elasticities to estimate the impact of the EITC on total family income (earnings plus EITC benefit). Assuming an income elasticity of –0.2 and a substitution elasticity of 0.3, Browning estimates that 41% of EITC recipients in the phase-out region will consume so much more leisure that their total incomes fall. These results are highly dependent on the assumed elasticities, however. With an income elasticity of –0.2 and a substitution elasticity of 0.15, the number falls to only 25%.

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[5] There are other programs that may cause the combined t to be different from zero, but in the plateau, the EITC does not increase or decrease the t generated by the other programs.

Eissa and Leibman (1996) exploit the 1986 EITC expansion to estimate its effect on labor market decisions of female heads[6]. The EITC expansion should theoretically result in increased labor supply in the phase-in region[7], and decreased labor supply among recipients who become eligible only after the expansion. Since the EITC is targeted mainly to families with children, Eissa and Leibman hypothesized that single women with children should respond to the EITC expansion by increasing their labor force participation rates more than single women without children. They find that single women with children increased their labor force participation by 1.4 percentage points more than single women without children. This generally confirms the theoretical predictions that the EITC produces a nonnegative labor supply effect for those who would not work in the absence of the program.

Eissa and Leibman also hypothesized that the EITC expansion would result in labor supply decreases among newly eligible recipients. Surprisingly, they found no such effect. While it is possible that the effect is too small to detect, it is also possible that there were other shocks to the treatment group. One possible explanation is that federal and state governments began expanding childcare services to low-income families throughout the test period. These childcare services would ease the transition to work for single mothers with children, thereby introducing an upward bias on Eissa and Leibman's results. Since the EITC expansion was designed to increase work effort of low-income families, an expansion of childcare services, which has the same goal as the EITC expansion, during the test period seems likely.

In fact, four childcare assistance programs began after Congress enacted the

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[6] The 1986 EITC expansion effectively reduced t.

[7] Assuming the substitution effect dominates the income effect.

Family Support Act of 1988: AFDC Childcare, Transitional Childcare, At-Risk Childcare, and Childcare and Development Block Grants. These programs were later incorporated into the Child Care and Development Fund after the enactment of the 1996 welfare reform law. Each of these programs aided low-income, mostly unmarried mothers to afford the cost of childcare. Meyer and Rosenbaum (1999, 2000) used a similar approach to isolate the labor supply responses of the EITC and childcare assistance. They found that the EITC did result in higher labor force participation rates for single mothers, but that childcare services were also a significant factor.

Eissa and Hoynes (1998) examined an interesting interaction between EITC benefits and marriage. Two-income families, if eligible for EITC, are more likely to be in the phase-out region. As the program expanded in 1986, 1990, and 1993 more two-income families became eligible for benefits, and were subsequently subjected to the EITC work disincentives. Consequently, Eissa and Hoynes find that family labor supply and pre-tax earnings fell because of the EITC expansion. The declines were due to decreases in labor supply participation by wives.

The consensus from the EITC studies is that the EITC's lower t does encourage labor force participation among eligible individuals. At the same time, the phase-out region creates a disincentive to work, which influences the labor supply of wives. The evidence on the labor supply effects on female heads is inconclusive at this point. Overall, the EITC programs generally create smaller work disincentives than do the traditional NIT programs.

Childcare Assistance

Like the EITC, childcare assistance programs are designed to increase the payoff

to work. It is well known that childcare expenses can be a significant obstacle to work for low-income families. Standard theory predicts that married mothers, less-educated mothers, and low-income mothers will be more responsive to high childcare costs. A series of studies throughout the 1990's estimated the magnitude of the effect that childcare expenses have on female labor supply. Generally, all found that an increase in childcare costs would result in a decrease in labor force participation among females. The magnitude of the effect, however, is very much in question. Although, married women are typically more responsive to childcare costs than single women, and less-educated, poor women are more responsive than better-educated, non-poor women (Anderson and Levine 2000).

Among the most notable of these studies were Blau and Robins (1988), Connelly (1992), Michalopoulos, Robins, and Garfinkel (1992), Ribar (1992,1995), Kimmel (1998), and Anderson and Levine (2000). Blau and Robins exploited geographic variation in childcare costs to identify the childcare cost effect and estimated the childcare cost elasticity of employment for married females equals –0.38. The remaining studies exploit individual variation in childcare costs, as captured by the SIPP datasets. Despite using similar data, the childcare cost elasticity of employment for married females in these studies varies from 0.00 (Michalopolous, Robins, and Garfinkel 1992) to –0.92 (Kimmel 1998). The other studies find the elasticity measure equals -0.09 (Ribar 1995) –0.20 (Connelly 1992), -0.36 (Anderson and Levine 2000), -0.74 (Ribar 1995), and –0.78 (Averett, Peters, and Waldman 1997).

The difference in the estimates is due mainly to different functional specifications. The studies that estimate a structural model (Ribar 1995, and Michalopolous, Robins, and

Garfinkel 1992), produce the smallest elasticities. Kimmel (1998) notes that the estimated elasticities are highly dependent on equation specifications. By making changes to the regression equation, Kimmel was able to replicate results similar to the other studies.

Only a few of the studies estimated the childcare cost elasticity of employment for single mothers. Michalopolous, Robins and Garfinkel (1992) along with Ribar (1995) use a structural model to find no difference between married and single females. Since this conflicts with the *a priori* expectations resulting from theory, these findings raise a concern about the validity of the structural models employed in these two studies. Kimmel (1998) found a larger difference. Kimmel's elasticity estimate for single mothers equals –0.22, which compared to –0.92 for married mothers. Anderson and Levine (2000) not only report different estimates for single and married females, they also report different estimates for different education and income levels.

These results confirm the theoretical predictions that married mothers, less-educated and low-income mothers, are more responsive to high childcare costs. The results also indicate that females base their labor market decisions on the net wage of work, which equals the gross wage less hourly childcare costs. Thus, any labor market analysis of the work incentives inherent in the tax and transfer system must incorporate childcare expenses. Consequently, governmental programs that attempt to lower these childcare costs, could increase labor force participation for low-income families.

Three studies have examined issues relating to governmental programs designed to help low-income families overcome the high cost of childcare. Kimmel (1995) used data from the 1987 and 1988 SIPP to conduct a simulation of alternative childcare subsidy programs for poor, single mothers. His findings indicate that childcare subsidies

could dramatically increase the labor force participation rates among the low-income population. Furthermore, benefits that are more generous result in higher labor force participation rates.

Averett, Peters, and Waldman (1997) examine the impact of the federal childcare tax credit on labor market decisions. The childcare tax credit is a non-refundable credit designed to offset a portion of any childcare expenses.[8] Averett, Peters, and Waldman find that the credit has a large impact on labor supply decisions for recipients. Because the childcare tax credit is not refundable, however, low-income families who face no tax liability receive no credit. Consequently, the childcare tax credit is not targeted to help the poorest families.

In the 1990's, individual states began operating their own childcare subsidy programs, partially financed by the federal government. One such program is the subject of a study by Berger and Black (1995). They used the administrative data from a Kentucky program to compare the labor market decisions of program participants and individuals on a waiting list to participate. They find that childcare subsidy recipients in the Kentucky program had higher labor force participation rates than individuals on the waiting lists.

The general findings on childcare expenses and subsidies confirm the theoretical predictions. Childcare costs essentially increase the cost of work, effectively increasing the t from work, and therefore are negatively correlated with labor force participation. Childcare assistance programs effectively decrease the t as the labor supply increases. Consequently, the childcare assistance programs are similar in practice to the EITC, and

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[8] Chapter Two includes a more detailed description of the federal childcare tax credit.

tend to increase labor force participation.

Self-Sufficiency Project (SSP)

From November 1992 and December 1999, the Canadian government operated an experimental WS program targeted to encourage long-term welfare recipients to enter the workforce. Program administrators employed a random assignment research design to determine which individuals were assigned to treatment and control groups. The treatment group was able to receive SSP benefits if they qualified, while the control group could only receive the traditional Income Assistance benefits. Once selected to the program, individuals attended an informational meeting where they learned the details of SSP benefits (Berlin 2000).

To qualify for SSP a potential recipient had to: 1) reside in Vancouver, British Columbia or portions of New Brunswick, 2) receive Income Assistance[9] for more than one year, 3) work at least thirty hours per week, 4) leave Income Assistance, and 5) be selected for the study. The program rewarded those individuals who met the criteria with a generous payment, which exceeded the payment from the welfare system. The SSP benefit equaled one-half the difference between "target earnings" and "actual earnings", where target earnings equaled $37,000 (in Canadian dollars) in Vancouver and $30,000(in Canadian dollars) in British Columbia. While there was some variation in benefit levels, a single mother from New Brunswick working thirty hours at minimum wage received an annual payment of $5,600 (U.S. dollars) in addition to her earnings. The recipient could continue receiving the payment for up to three years (Blank, Card, and Robins 2000).

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[9] Income Assistance is Canada's cash welfare program.

After 18 months, the differences between the treatment and control groups for all labor market outcomes were quite dramatic. 43% of the participants in the treatment group had been employed at some time over the eighteen-month follow-up period. This compared to only 32.3% of the control group. Over the same period, earnings from members in the treatment group were 51% higher than earnings from the control group. On the down side, 92.2% of the treatment group were receiving benefits after 18 months, compared to 82.7% of the control group. Despite their higher earnings, members of the treatment group also received an extra $200 (U.S. dollars) in SSP benefits quarterly compared to the control group. These factors resulted in the treatment group receiving an extra $469 (U.S. dollars) quarterly in total income (earnings plus benefits). These differences were all significant at the 1% level (Berlin 2000).

The results from this study indicate that financial incentives, if large enough, can increase labor force participation and earnings. There are a couple of reasons why the labor market effects from the SSP were larger than the estimated EITC effects. First, the SSP provided much larger benefits. The maximum EITC in 1999 was $2,312 for families with one child, and $3,816 for families with two or more children, while the SSP benefit could reach $5,600. The larger benefit also translates into costs. SSP achieved these labor market outcomes at an additional cost of $200 per participant each quarter. Another explanation could be that one dollar of EITC benefits is not valued equally to one dollar of SSP benefits. Since most EITC recipients only receive the benefit once per year and SSP recipients received a payment monthly, the EITC may not be as effective as the SSP at influencing day-to-day behavior.

Combined NIT and WS Work Incentives

It is important to note that NIT and WS transfer programs are not mutually exclusive. In fact, the recent expansions of the EITC and childcare assistance programs coincided with continued use of traditional NIT programs. Therefore, in order to analyze the true work incentives faced by transfer recipients, one must examine the incentives created by the joint use of NIT and WS transfers. Both types of programs generate an income effect leading to decreased labor supply. Because of their different effects on t, however, the net substitution effects are not so clear. Several studies have examined the interactions between the various NIT and WS programs to determine the true incentives transfer recipients face.

Dickert and Scholz (1994) were among the first to calculate the combined t of the various tax and transfer programs. Their analysis used a simulation based on the 1990 SIPP to calculate an average t for recipients, and included the value of AFDC, food stamps, SSI, federal and state income taxes (including EITC), and payroll taxes. While they found that low-income families generally faced the highest tax rates, these rates rarely exceeded 50% on average. According to their calculations, in 1990 the average t faced by recipients taking a part-time job equaled 47.6%. Once the EITC expansions of the 1990's were included, the average t fell to the range of 22%-28% for families with children.

Giannarelli and Steuerle (1995) also used a simulation based on the 1992 CPS and included all the programs from Dickert and Scholz (1994) plus the value of Medicaid and housing subsidies. The income calculations also included an estimate of childcare expenses, which is treated as a work expense. Giannarelli and Steuerle find that the

inclusion of housing subsidies and Medicaid consistently raises the t. On average, they find the combined t to be consistently above 70%. They also calculate that for a specific family (single mother with two children), the tax rates can be above 100%, and the t is larger as the EITC phases out.[10] Hoynes (1997a) also includes childcare expenses, but excludes Medicaid, housing subsidies and SSI. She calculates tax rates consistently above 50% for a single mother with two children in California. Acs et al. (1998) only include the value of AFDC, food stamps, and taxes (including EITC) to calculate the t faced by a mother with two children in 12 states. They calculate a median rate of 12% as the mother goes from not working to working part-time at a minimum wage job, 28% as the mother goes from part-time minimum wage to full-time minimum wage, and 65% as the mother goes from full-time minimum wage to full-time $9 per hour.

Wilson and Cline (1994) focus on only one state, Minnesota, and include a couple of state-specific programs, a healthcare benefit and a property tax refund for renters. They find that the state-specific programs did not influence t by a large magnitude. Wilson and Cline calculate that t equals 33.8% as the mother goes from not working to part-time work, and 53.3% as the mother goes from part-time to full-time work. As the mother's wage increases while working full-time, t ranges from 70%-106% due to the phase-out of the programs.

Despite including different bundles of programs, the findings from these five studies are remarkably consistent. First, the more programs one includes in the analysis, the higher the tax rate. Second, t is typically lower as the recipient increases labor supply,

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[10] Giannarelli and Stuerle calculate t = 101.2% as the mother's wage increases from full-time minimum wage to 150% of the federal poverty guidelines. The t = 95.1% as the mother's wage increases from 150% to 200% of the federal poverty guidelines.

and is typically higher as the recipient increases the wage rate. The WS programs create this finding. Third, t is generally lower as the mother moves from no work to part-time work, than it is as the mother moves from part-time to full-time work.

III. The Rise of Work Requirements

While the WS programs provide some promise for increasing labor force participation, they do produce significantly higher t as they phase out. Consequently, policymakers have sought new tools to increase labor force participation, without producing simultaneous work disincentives elsewhere. As a result, many policymakers began to advocate work requirements as an alternative to financial incentives.

In 1988, the U.S. Congress passed the Family Support Act, which required states to establish employment and education programs for AFDC recipients. Congress went a step further in 1996 with the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), which abolished the AFDC program and replaced it with Temporary Assistance for Needy Families (TANF). TANF requires virtually all recipients to engage in work activities in order to continue receiving cash benefits. These work activities could include unpaid work such as job search or training programs. TANF also gave states the discretion to simultaneously implement financial incentives (U.S. House of Representatives 1998).

Theory

Moffitt (1983b) derived the theoretical labor supply effects of transfers with a stringent work requirement. Let h be the amount of hours an individual works, and h_R the minimum work requirement. This type of transfer is identical to the typical transfer

program when $h \geq h_R$, and therefore produces the same work disincentive effect in this region. However, when $h < h_R$ the individual is ineligible for benefits. Therefore the work requirement produces a nonnegative effect on labor supply when $h < h_R$ (although some individuals have lower utility levels in this region than in the traditional program). Because of this lost utility, Besley & Coate (1992) found that work requirements could only be part of an optimal transfer mix in non-welfarist settings. However, Brett (1998) extended their model to show that work requirements can be optimal as long as the required work is productive. Even with TANF's work requirements, many states continue to utilize financial incentives to encourage work among the recipient population.[11] Unfortunately, because of little empirical analysis of work requirements, the relative effectiveness of these two policies (work requirements and financial incentives) in increasing labor supply is not well understood.[12]

Empirical Evidence

In part to determine the relative effectiveness of work requirements and financial incentives, from 1994-1998 Manpower Demonstration Research Corporation (MDRC) conducted an analysis of the Minnesota Family Investment Program (MFIP). The MFIP study was a randomized experiment, where study administrators assigned recipients to one of three groups. The first group, the control group, participated in the traditional AFDC program. The second group received financial incentives (essentially a lower t) to

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[11] 48 states plus the District of Columbia use some form of an earned income disregard in their TANF programs to reward work. These earned income disregards effectively lower the t below 100%. Only Arkansas and Wisconsin do not offer this incentive to TANF recipients (Rowe 2000).

[12] Policymakers will be interested in the relative cost-effectiveness of the two policies. Note that financial incentives could increase program costs due to expansion of the eligible population, while work requirements unambiguously lower program costs. Thus, without understanding the relative effectiveness of the two policies at increasing labor supply, the cost-effectiveness of the two policies is also in question. Greenberg (1997) also cautions against ignoring the lost leisure from imposing work requirements.

encourage work. The final group received the financial incentives but also faced a work requirement (Berlin 2000; Knox, Miller, & Gennetian 2000). This framework allowed the researchers to isolate the impact of financial incentives, and determine the impact of work requirements conditional on the presence of financial incentives.

For the estimated impact of financial incentives, the MFIP results are consistent with previous analyses mentioned above. The researchers find that the financial incentives significantly increase the number of recipients ever employed during the study, indicating a positive labor supply effect on the originally non-working recipients. 42.5% of the participants who received financial incentives were employed at some time during the 18-month follow-up period, compared to 36.1% of the control group. This figure is significant at the 5% level. In addition, they find that financial incentives do not significantly affect earnings.[13] This indicates that the negative labor supply effect for working recipients offsets the gains to the initially non-working recipients. In addition, the researchers find that when work requirements are used in conjunction with financial incentives, the work requirements significantly increase both earnings and the probability of working. Participants receiving both work requirements and financial incentives earned an additional $264 quarterly and saw a 17.4 percentage point increase in labor force participation, compared to the control group (Berlin 2000).[14] These findings seem to indicate that policymakers should continue to simultaneously utilize work requirements and financial incentives to increase the labor supply of recipients.

Unfortunately, the MFIP findings may not be useful for state policymakers

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[13] Table 4.2, page 22. Earnings of the treatment group increased by a statistically insignificant $4 per quarter after 18 months.

[14] Table 4.2, page 22. Also financial incentives increased program costs, while work requirements lowered program costs.

attempting to implement an optimal policy mix of work requirements and financial incentives after all. Since under TANF, states are required to implement work requirements but have discretion over the use of financial incentives, the relevant question for state policymakers is: *What is the impact of financial incentives, conditional on the presence of work requirements?* Because of its setup, the MFIP study could not address this question. The MFIP study could only isolate the impact of financial incentives used alone, and the impact of work requirements conditional on the presence of financial incentives (Miller et al. 2000).

One can make some intuitive predictions based on the MFIP study, however. If there are participants that would respond to both work requirements and financial incentives by increasing labor supply (which seems plausible), then the MFIP study may have overstated the effectiveness of financial incentives, conditional on the presence of work requirements, at increasing labor force participation and earnings. Likewise, the MFIP study understated the impact of work requirements on labor force participation and earnings. Thus, one could infer from the MFIP study that the effect of financial incentives conditional on the presence of work requirements would either have an insignificant or *negative* effect on earnings.

IV. Family Structure Incentives

The economic analysis of marriage began with Becker's (1973, 1974) pioneering work, which showed that marriage decisions could be analyzed by using a utility-maximizing choice model. Becker, Landes and Michael (1977) later extended the model to explain divorce decisions as well. In all these models, individuals make family

structure choices by maximizing individual utility. Family income is one component, albeit not the only or necessarily the most important component, of utility. As a result, several studies have examined the financial payoff/penalty to marriage.

This issue is important because of the link between female headship and family poverty. In 1994, 46.8% of female-headed families with children had incomes below the federal poverty guidelines. The numbers are even more striking for minority groups, as 58% of African-American female-headed families, and 61% if Hispanic female-headed families were in poverty (Hoynes 1997a). In total, almost one-half of the families in poverty are female-headed households. If the tax and transfer system encourages female headship, it may also be creating, as Murray (1984) claimed, a poverty trap.

The studies from the last twenty years are generally inconclusive about an effect on female headship. Until very recently, these studies focused on only one program, AFDC, and ignored the impact of other tax and transfer programs. These studies typically exploit cross-state differences in AFDC benefits, or cross-state differences in changes of AFDC benefit levels to identify the welfare effect. Naturally, this presents some empirical concerns about the omission of relevant variables, and endogeneity of AFDC benefit levels and changes. The progression of the literature has been primarily concerned with these empirical issues (Moffitt 1998).

Among these studies were Danziger et al. (1982), Ellwood and Bane (1985) and Hutchens, Jakubson, and Schwartz (1989). Danziger et al. used the 1975 CPS and cross-state differences in benefit levels to identify the welfare effect. Generally, Danziger et al. found that a reduction in AFDC benefit levels would reduce the number of female-headed households. However, the change is so small that AFDC benefits cannot explain

the increase in female-headed households over time. Ellwood and Bane (1985) and Hutchens, Jakubson, and Schwartz (1989) analyzed the impact of AFDC on the living arrangements of single mothers. Standard theory holds that with higher benefit levels, single mothers will be more likely to live on their own, as opposed to living with her parents as a subfamily. Hutchens, Jakubson, and Schwartz used the 1984 CPS and found that state policies, which provide smaller benefits to subfamilies, do affect behavior. Ellwood and Bane used cross-state differences in the changes of benefits over time to find similar results. Both studies agree with Danziger et al., that welfare policies have only a small impact on family structure, and cannot fully explain the increase in female-headed households over time.

There is some evidence, however, that this effect is growing stronger with time. Moffitt (1990) conducted separate cross-sectional analyses for 1969, 1977, and 1985 and found that the receipt of AFDC does influence marriage and female-headship. The estimated effects are consistently small, only attaining significance in the 1985 sample. These findings could indicate that there are long lags in the response to increased benefits, and therefore any welfare effect takes many years to manifest itself.

The evidence from the previous studies seems to indicate that AFDC influences marriage and other family structure decisions. Hoffman and Duncan (1995) examine whether AFDC influences divorce decisions as well. They find that AFDC does not have a significant impact on the probability a couple will divorce, but does increase the probability that a divorcee will receive welfare. In an earlier study, Hoffman and Duncan studied divorced wives, and found that AFDC negatively affects the probability of remarriage (Hoffman and Duncan 1988). Thus, these results suggest that AFDC affects

marriage entrance decisions, but not marriage exit decisions.

One weakness of all these studies is their focus on AFDC, at the expense of other transfer programs. Schultz (1994) extended the analysis to also include Medicaid benefits. As mentioned above, for many years, Medicaid benefits were closely linked to AFDC, and therefore serve to enhance the value of AFDC benefits. To identify the impact of Medicaid, Schultz values Medicaid at its average cost, which differ by state. Schultz finds that both AFDC and Medicaid benefit levels negatively affect the probability that a mother is married.

While a step in the right direction, Schultz's analysis also falls short of capturing the full benefit effect, because it ignores other programs such as food stamps and housing subsidies. Both of these programs include the value of the AFDC benefit in their calculations. Since food stamps provide identical benefits across states, the food stamp program compensates for differences in AFDC benefit levels. If a study ignores food stamps and focuses solely on cross-state variation in AFDC benefits, it will overstate the variation in the benefit sum, creating a mismeasurement problem.

There is, however, a more troubling problem with the previous analyses. When a study relies on cross-state variation of AFDC benefits to identify the welfare effect, it is ignoring the effect of the unobservable social climate in a state. To the extent that these variables are excluded, the study suffers from an omitted variable bias. If the omitted variables are correlated with the benefit levels, then the estimated welfare effect is biased. For example, if a particular state is more accepting of female-headship, the citizens of that state may offer greater benefits to single mothers. In this case, both the social climate and welfare benefits may increase female headship, and therefore the study will overstate

the true effect of welfare.

Two studies have sought to remedy these problems. Moffitt (1994) and Hoynes (1997b). Both studies include AFDC, food stamps, and Medicaid in their analyses,[15] and both studies use panel data and control for area effects. Hoynes also incorporates variables to capture the religious and political climate of a state. Both studies find that when one ignores the area effects, one finds a significant, negative relationship between welfare benefits and female headship. If one includes the area effects, the negative relationship disappears. This supports the claim that previous studies, which ignored area effects, overstated the true welfare effect.

The tax code's treatment of marriage has also generated much discussion recently. Some married couples pay more in federal taxes than they would if they were single. On the other hand, some pay less. Generally, couples with two incomes will pay more if married (a marriage tax), while couples with only one income (or a small second income) pay less if married (a marriage subsidy). This result is due to several factors. First, the progressive nature of the federal tax code means two-income families may rest in a higher tax bracket if their incomes are combined. Second, if the couple is married, the EITC formula considers the income from both spouses. If the couple is not married, the EITC includes the income of only one parent. Since the EITC is a means-tested program, being married reduces the likelihood of qualifying for the credit. Finally, the standard deduction allowed for married couples is less than the combined standard deductions of two single people. Thus, the single individuals will have lower taxable income, holding

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[15] Although the calculations are different. Hoynes (1997b) uses the simple sum of the benefits. Moffit (1994) takes the value of AFDC and food stamps plus the Medicaid value time 0.368. This is an attempt to adjust for the lower valuation of an in-kind benefit.

other factors constant (Feenberg and Rosen 1995).

A few studies have attempted to estimate the impact that the marriage penalty subsidy has on marriage behavior. There are two potential marriage effects, a change in marriage rates and a change in marriage timing. It is possible that a couple's taxes do not influence the decision to marry, but they do influence the decision on when to marry. Alm and Whittington (1995, 1997) find evidence to support the hypothesis that the size of the marriage tax influences both the decision and timing of marriage. Interestingly, Sjoquist and Walker (1995) use a similar analysis but find the magnitude of the marriage tax only influences the timing of marriage, but not the marriage decision itself. The two studies use different dependent variables in their analyses, which could account for the discrepancy.[16] Taken together, the two studies indicate that couples at least base the timing of their weddings on the magnitude of the marriage tax penalty.

None of these studies consider the interaction between the tax and transfer systems. Part of the reason for this omission is that most transfer recipients have earnings too low to pay much in taxes. The recent EITC expansions, however, include more low-income families into the tax system. Dickert-Conlin and Houser (1998) is the only study to date to include an analysis of the tax *and* transfer systems. They included the value of AFDC, food stamps, SSI, EITC, federal and state taxes in their analysis. Based on a sample of federal tax returns, the findings indicate that the tax and transfer system provide conflicting incentives for low-income families. For poor unmarried women, 95.6% will see their transfer benefits decrease if they marry. Simultaneously, 82.3% will see their tax liability decrease if they marry, thereby increasing income. The lost transfer

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[16] Alm and Whittington use the percentage of women aged 15-44 who are married as their dependent variable. Sjoquist and Walker use the fraction of unmarried females older than 15 who marry each year.

income dominates for this population, however, as the couple faces a net marriage penalty equal to 13% of married income. The results are similar for poor married couples, as 93.0% will see their transfer incomes rise if they separate, and 79.1% will see their tax liability increase if they separate. Again, the transfer effect dominates resulting in a net marriage penalty equal to 23% of married income.[17]

Dickert-Conlin (1999) extends the analysis of the tax and transfer programs to determine whether the marriage penalty/subsidy affects marital separation. Using data from the 1990 SIPP, she finds that the magnitudes of the tax marriage penalty and the transfer marriage penalty increase separation rates. Only the tax marriage penalty was significant, however.

While providing the most detailed analysis to date of the tax and transfer incentives, there are a few shortcomings. Dickert-Conlin examines the impact of effective tax rates on a decision to leave a marriage, which is only part of the marriage disincentive. Families facing high tax rates may choose to never enter into marriage. The study ignores this facet, possibly explaining the insignificant impact of transfer penalties on marriage decisions. Also, the study does not include other transfer programs, or state taxes. If these other programs affect the marriage decision as well, then the results suffer from omitted variable bias.

There is one final note about the marriage incentive studies outlined above. When calculating the marriage penalties, these studies compare the total income available to a couple if they marry and if they stay single. This implicitly assumes that if the couple is

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[17] Tables 3 and 7.

not married, then they will cohabit.[18] Only Moffitt, Reville, and Winkler (1998) have explicitly examined the incentives to cohabit, and they focused only on the AFDC program. They found that the AFDC program does produce an incentive to cohabit. They also noted, however, that the AFDC program created an even greater incentive to *clandestinely cohabit* (not reveal the income or presence of the male partner to the tax and transfer agencies). With this unreported cohabitation, the family has less reported income, and therefore qualifies for more transfer benefits. Furthermore, Moffitt, Reville, and Winkler note the lack of enforcement power by welfare agencies. Together, these characteristics imply that many transfer recipients may not report all income. Edin (1991) conducted the only study of this phenomenon. She found extremely high levels of unreported income among transfer recipients in Chicago. However, her sample included only 50 families.

V. Preview of Future Chapters

Chapter Two presents detailed information on the various tax and transfer programs analyzed in this study. This study incorporates a more complete set of tax and transfer programs than were used in previous research. The included programs are: Temporary Assistance for Needy Families (TANF), Food Stamps, Medicaid, Federal Housing Subsidies, Childcare Subsidies, WIC, Child Support, the Earned Income Tax Credit (EITC), the Childcare Tax Credit, the Child Tax Credit, and the Additional Child Tax Credit. Of special note is the inclusion of some state-specific programs like

[18] If the couple were to live apart, they would face separate housing costs, whereas if they cohabit they share these costs. Since the reviewed studies do not incorporate additional housing costs, they must assume that the couple will cohabit if not married.

Childcare Subsidies and Child Support. Likewise, TANF, Medicaid, WIC, and Housing Subsidies, have regulations or benefits specific to Oklahoma, even though these programs exist in other states.

Chapter Three presents the work and family structure incentives generated by the tax and transfer system in Oklahoma. To model the interactions among the various programs, the author used a Microsoft Excel workbook. The workbook is included on the enclosed CD, and contains a set of instructions. The workbook also includes a user-friendly interface that enables the user to input family characteristics and explore the incentives created by the various programs. Because there are too many permutations than could be printed in this forum, the author encourages all interested parties to examine the workbook and explore new scenarios. The results printed in Chapter Three, however, generally apply to other scenarios as well.

By focusing on the case of a representative family consisting of a single mother with two children aged 1 and 3, the author finds that the mother must earn $16 per hour in order to have income equal to the family's total resources when the mother works full-time at minimum wage.[19] The author also calculates the effective tax rates the mother faces as she increases labor supply, and as she increases her hourly wage. Generally, the study finds effective tax rates exceeding those reported elsewhere, typically above 90% and at times approaching 300%! The study also confirms previous findings about the impact of individual programs. Transfers with a NIT structure like TANF, Food Stamps, and Housing Subsidies, unambiguously generate higher effective tax rates. Programs similar to a WS, like the EITC and Childcare Subsidies, decrease the tax rates as the

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[19] Total Resources equals the sum of income from earnings and benefits.

recipient increases labor supply, but raise tax rates as the programs phase-out. Also, the Medicaid and WIC programs generate large "notches" of high effective tax rates when recipients lose eligibility.

Also in Chapter Three, the author calculates the family structure incentives present in welfare policy. Contrary to previous work, the author assumes that a couple has three potential family structures: marriage, cohabitation reported to transfer agencies, and unreported cohabitation – cohabitation concealed from transfer agencies. The study finds that there are large payoffs to concealing cohabitation. In some instances, the couple could nearly double their resources with unreported cohabitation compared to marriage.

Chapter Four presents an empirical analysis of financial work incentives for TANF recipients. By culling a testable hypothesis from the findings of Chapter Three, the author analyzes the effectiveness of financial incentives in the presence of work requirements. Using a sample of female heads of households in Oklahoma's two most populous cities, the study finds that TANF recipients facing a lower t (financial incentives) do not have higher labor force participation rates or earnings.

Chapter Five presents some proposals for reform in Oklahoma's public assistance system. One goal of the proposals is to generally remain cost-neutral. Using the findings from the previous chapters, the author proposes:

1. Raising the TANF tax rate from its current 50%.
2. Allowing long-term recipients who marry to continue receiving the same benefits for a period of three years.

The first proposal is in response to the findings of Chapter Four that TANF financial

incentives do not increase labor force participation or earnings of recipients. The cost savings from a higher TANF tax rate can then be rerouted to fund the second proposal. The second proposal is an attempt to reduce the marriage penalty that long-term recipients face.

Chapter Six presents some concluding remarks and lists some suggestions for future research. Among the suggestions:

1. Exploit policy changes in Oklahoma to empirically analyze the marriage penalties inherent in the tax and transfer system.
2. Determine whether TANF financial incentives actually decrease labor supply and earnings.
3. Examine the impact on wage growth of the high effective tax rates recipients face as they increase their hourly wage.
4. Analyze the impact of Oklahoma's Childcare Subsidy program on labor supply, to determine whether the program should be expanded or modified.

Chapter 2

The Transfer and Tax Programs

Researchers have long known that the various public assistance programs interact in complicated ways. The incentives created by one program influence the incentives created by other programs. To fully understand these spillover effects, it is necessary to understand each program in detail. This chapter presents detailed information on the various transfer and tax programs included in this study. The program rules used in this study are those in effect in the state of Oklahoma as of July 1999.

Temporary Assistance for Needy Families (TANF)

The TANF program is currently the largest cash assistance program available to low-income families. Although similar to the Aid to Families with Dependent Children (AFDC) it replaced in 1997, it has some marked differences designed to increase the work effort of recipients. First, all TANF recipients are required to participate in work-related activities unless specifically exempted. Generally, a recipient is exempt from the work requirement only if there is a child younger than one year of age present in the family. These work-related activities include unsubsidized employment, subsidized employment (where the government provides a subsidy to employers), job search, and education/training programs. Note that neither job search nor the education/training programs provide earnings. Thus, it is possible to satisfy the TANF work requirement with zero earnings. A second difference between TANF and AFDC is that all TANF recipients face a time limit on the receipt of benefits. No TANF recipient will be able to

receive benefits for more than five years during their lifetime (Oklahoma OAC 340:10, 1999).

As in all states, the size of the family's benefit depends upon the family size. Oklahoma's maximum benefit is below the national average, yet above the average for southern states (U.S. House of Representatives 1998, Rowe 2000). The maximum benefit for a family of two (i.e. mother and a child) is $225 per month. Likewise, the maximum benefits for families with three and four people are $292 and $361 per month. The actual benefit amount equals the maximum benefit minus the amount of "countable income". "Countable Income" includes the sum of earned and unearned income less deductions for earned income and childcare expenses. Recipients are able to deduct the first $120 of earned income, plus one-half of all earned income above $120 each month. Recipients are also able to deduct the amount of their out-of-pocket childcare expenses up to a maximum of $200 for children under two years of age, and $175 for other children (Oklahoma OAC 340:10, 1999).

To illustrate how TANF benefits are calculated, consider a family with a single mother and two young children. Assume that the family receives no childcare subsidy, and therefore receives the full childcare deduction if the mother works. Table 2-1 presents the benefit calculations for this family under three different earnings scenarios: 1) when the mother does not work, 2) the mother works part-time at minimum wage ($5.15 hour), and 3) the mother works full-time at minimum wage. The maximum monthly TANF benefit for this family is $292. When the mother has zero earnings, the family receives the maximum benefit. When the mother works part-time at minimum wage, she earns $446 each month. Thus, the mother can deduct the first $120 of earnings

Table 2-1 **TANF Calculation Example**

	Mother's Earnings Scenarios		
	NW	MW-PT	MW-FT
Maximum Benefit	292	292	292
Childcare Expenses	0	390	779
Earned Income	0	446	893
Earned Income Deductions	0	283	507
Child Care Deduction	0	375	375
Countable Income	0	-212	11
Benefit	292	292	281

Family consists of a single mother with two children aged one and three
"NW" Mother does not work
"MW-PT" Mother works part-time at minimum wage
"MW-FT" Mother works full-time at minimum wage

plus one-half of the remainder for a total earned income deduction of $283. After including the $375 childcare deduction, the family has negative countable income. Hence, the family again receives the maximum benefit. When the mother works full-time at minimum wage, she earns $893 each month. The mother is able to deduct $507 from her income for the earned income deduction. In addition, she can deduct the maximum childcare costs of $375. Thus, the family has $11 of countable income. This corresponds to a benefit of $281.

Food Stamps

The Food Stamp program is the largest nutritional assistance program available to low-income families. The benefit calculations are the same for each of the forty-eight contiguous states. Like TANF benefits, the magnitude of the food stamp benefit varies with family size. The maximum benefit for families of two, three, and four people are $230, $329, and $419, respectively. The benefit calculation considers all cash income

available to the family including earned income, unearned income, child support, and TANF benefits. The food stamp benefit equals the maximum benefit less 30% of net income, where countable net income equals total cash income less allowable deductions. Food stamp recipients are able to deduct 20% of earned income, a standard deduction of $134, eligible childcare expenses up to $200 for a child less than two years old, and up to $175 for children older than two years. If after accounting for these deductions the family's housing expenses exceed one-half the remaining income, the family is entitled to an additional deduction for housing expenses. This shelter deduction equals the difference between housing expenses and one-half the adjusted income, where adjusted income equals cash income less the earned income, standard, and childcare deductions (Oklahoma OAC 340, 1999).

To demonstrate how food stamp benefits are computed, consider the following example. Table 2-2 presents the food stamp benefit calculations for a family comprised of a single mother and two children, with three different earnings scenarios: 1) when the mother does not work, 2) the mother works part-time at minimum wage ($5.15/hour), and 3) the mother works full-time at minimum wage. For simplicity, assume that earnings are the only source of income for this family, and that the family receives no childcare subsidy, and therefore receives the full childcare deduction if the mother works. When the mother has zero earnings, the family receives the maximum benefit for a family of three, $329 each month. When the mother has earnings equal to $446, the family is able to take an $89 earned income deduction, the $134 standard deduction, and the $375 childcare deduction. Consequently, the family has net income equal to $-152 and receives the maximum benefit. When the mother earns $893, the family is able to take a $179

Table 2-2 ***Food Stamp Calculation Example***

	Mother's Earnings Scenarios		
	NW	MW-PT	MW-FT
Maximum Benefit	329	329	329
Childcare Expenses	0	390	779
Earned Income	0	446	893
Earned Income Deduction	0	89	179
Standard Deduction	134	134	134
Child Care Deduction	0	375	375
Shelter Deduction	0	0	0
Net Income	-134	-152	205
30% of Net Income	-40	-46	62
Benefit	329	329	267

Family consists of a single mother with two children aged one and three
"NW" Mother does not work
"MW-PT" Mother works part-time at minimum wage
"MW-FT" Mother works full-time at minimum wage

earned income deduction, the $134 standard deduction, and the $375 childcare deduction. In this case, the family has net income of $205 and receives a benefit of $267.

Childcare Subsidies

For families with high childcare costs, childcare subsidies provide benefits that dwarf those from other assistance programs. With the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996, all federal childcare assistance programs were incorporated into the Child Care and Development Fund (CCDF), which provides funds to all 50 states plus the District of Columbia. The states then use these funds to help finance their individual childcare programs. Because states have discretion over the structure of their childcare assistance programs, there is a wide disparity among the states, although all states assist some low-income families

(Long et al. 1998). Despite the large benefits that childcare assistance programs provide low-income families and the existence of these programs in every state, previous analyses of the incentives generated by the tax and transfer system do not include these childcare assistance programs. Unlike previous studies, this study incorporates Oklahoma's childcare assistance program into its analysis of the tax and transfer system.

In Oklahoma, the childcare subsidy can be so large because some recipients are required to only pay relatively small copays. Table 2-3 presents the childcare copay schedule in effect as of July 1999. To determine the amount of the copay, the program considers earned income, unearned income, and the base level of child support. If the sum of these income sources exceeds $833, then the family must pay a portion of the childcare costs, and if income exceeds $2,056, the couple must pay the full cost of care. Consider the earnings scenarios discussed previously, where the mother earns $0, $446, and $893 each month. Assuming the family has no other sources of income and two children in daycare, the childcare copays equal $0, $0, and $32 respectively (Oklahoma Administrative Code 340:70 1999).

The value of the subsidy equals the difference between the total childcare costs and the childcare copay that recipients are required to pay. The Oklahoma Department of Human Services (OKDHS) regularly conducts market surveys to determine the average cost of childcare. The results from these surveys form the basis for the maximum childcare rates OKDHS will pay for childcare services. Table 2-4 presents the full-time daily childcare rates for each county in Oklahoma across various age groups. Consider a family with two children in childcare, a one-year old and a three-year old, who live in Oklahoma County. The full-time daily childcare rates for these children are $19 for the

Table 2-3 **Childcare Copay Schedule**

	Number of Children in Childcare			
Monthly Gross Income	**1**	**2**	**3**	**4**
$0-$833	0	0	0	0
$834-$851	6	12	18	24
$852-$889	12	22	31	41
$890-$929	19	32	45	58
$930-$972	27	45	62	80
$973-$1017	35	55	75	95
$1018-$1064	44	68	91	115
$1065-$1114	54	81	108	135
$1115-$1166	65	95	125	155
$1167-$1221	77	107	137	167
$1222-$1279	90	120	150	180
$1280-$1340	105	135	165	195
$1341-$1404	120	150	180	210
$1405-$1472	132	162	192	222
$1473-$1543	139	169	199	229
$1544-$1618	146	176	206	236
$1619-$1697	154	184	214	244
$1698-$1780	162	192	222	252
$1781-$1867	170	200	230	260
$1868-$1959	179	209	239	269
$1960-$2056	189	219	249	279

Source: Oklahoma Department of Human Services

one-year old and $17 for the three-year old. Thus, the total full-time daily rate for the two children is $36. This study uses these rates to determine the total childcare costs faced by the families. To convert the daily rate to a monthly rate the author uses the formula: Full-Time Monthly Rate = Daily Rate * 5 * 4.33. Thus, the total full-time monthly rate for the two children equals $779. The total part-time monthly rate equals: Part-Time Monthly Rate = Daily Rate * 2.5 * 4.33. When the mother does not work, the total childcare costs equal zero (Oklahoma Administrative Code 340:70 1999).

Table 2-4 *Daily Childcare Rates by County and Age of Child*

	AGE OF CHILD				
COUNTY	**0-1**	**2-3**	**4-5**	**6-12**	**13-17**
Adair	17	14	14	11	0
Alfalfa	17	14	14	11	0
Atoka	17	14	14	11	0
Beaver	17	14	14	11	0
Beckham	17	14	14	11	0
Blaine	17	14	14	11	0
Bryan	17	14	14	11	0
Caddo	17	14	14	11	0
Canadian	19	17	15	11	0
Carter	17	14	14	11	0
Cherokee	17	15	14	11	0
Choctaw	17	14	14	11	0
Cimarron	17	14	14	11	0
Cleveland	19	17	15	11	0
Coal	17	14	14	11	0
Comanche	17	15	14	11	0
Cotton	17	14	14	11	0
Craig	17	14	14	11	0
Creek	17	14	14	11	0
Custer	17	14	14	11	0
Delaware	17	14	14	11	0
Dewey	17	14	14	11	0
Ellis	17	14	14	11	0
Garfield	17	15	14	11	0
Garvin	17	14	14	11	0
Grady	17	14	14	11	0
Grant	17	14	14	11	0
Greer	17	14	14	11	0
Harmon	17	14	14	11	0
Harper	17	14	14	11	0
Haskell	17	14	14	11	0
Hughes	17	14	14	11	0
Jackson	17	15	14	11	0
Jefferson	17	14	14	11	0
Johnston	17	14	14	11	0
Kay	17	15	14	11	0
Kingfisher	17	14	14	11	0
Kiowa	17	14	14	11	0
Latimer	17	14	14	11	0
Leflore	17	14	14	11	0
Lincoln	17	14	14	11	0
Logan	17	15	14	11	0
Love	17	14	14	11	0
McClain	17	15	14	11	0

Table 2-4 *Daily Childcare Rates by County and Age of Child*

	AGE OF CHILD				
COUNTY	0-1	2-3	4-5	6-12	13-17
McCurtain	17	15	14	11	0
McIntosh	17	14	14	11	0
Major	17	15	14	11	0
Marshall	17	14	14	11	0
Mayes	17	14	14	11	0
Murray	17	14	14	11	0
Muskogee	17	14	14	11	0
Noble	17	14	14	11	0
Nowata	17	14	14	11	0
Okfuskee	17	14	14	11	0
Oklahoma	19	17	15	11	0
Okmulgee	17	14	14	11	0
Osage	17	15	14	11	0
Ottawa	17	14	14	11	0
Pawnee	17	14	14	11	0
Payne	17	15	14	11	0
Pittsburg	17	14	14	11	0
Pontotoc	17	14	14	11	0
Pottawatomie	17	14	14	11	0
Pushmataha	17	14	14	11	0
Roger Mills	17	14	14	11	0
Rogers	17	15	14	11	0
Seminole	17	14	14	11	0
Sequoyah	17	14	14	11	0
Stephens	17	15	14	11	0
Texas	17	14	14	11	0
Tillman	17	14	14	11	0
Tulsa	19	17	15	11	0
Wagoner	17	15	14	11	0
Washington	17	15	14	11	0
Washita	17	14	14	11	0
Woods	17	14	14	11	0
Woodward	17	14	14	11	0

Source: Oklahoma Department of Human Services

The use of market rates to calculate childcare costs is similar to the approach of Acs et al. (1998), but differs from the more common approach of assuming childcare

costs equal twenty percent of earned income.[1] The use of market rates in this study, however, has several advantages. First, this study captures differences in childcare costs within Oklahoma. Urban families generally face higher childcare costs than rural families, holding other factors constant. By assuming childcare costs equal a constant proportion of earnings, other studies assume all families face the same childcare market. The approach used in this study incorporates the differences in these market prices.

Second, the approach used in this study allowed the author to model more carefully the effect on childcare costs from increasing labor supply and increasing hourly wages. Increases in labor supply lead to increases in earnings, increases in childcare needs, and increases in childcare costs. Increases in wage levels, however, do not increase childcare needs, and therefore do not increase childcare costs. This study captures this distinction, while studies that assume childcare costs equal a constant proportion of earnings cannot.

One can use the copay amount from Table 2-3 and the childcare costs from Table 2-4 to calculate the childcare subsidy.[2] This step, however, is not necessary to the determination of the incentives generated by the tax and transfer system. In Oklahoma, the state Department of Human Services pays the childcare providers directly. Consequently, the recipients never actually receive the funds. In addition, as mentioned in Chapter One, workers make labor supply decisions based on their net wage—the hourly wage minus work and childcare expenses. Because of these two reasons, what matters is not the value of the subsidy, but the amount of out-of-pocket childcare expenses. For childcare subsidy recipients, the out-of-pocket expense equals the copay

[1] See Wilson and Cline (1994), Hoynes (1997a), and U.S. House of Representatives (1998).
[2] Childcare subsidy equals childcare costs minus the copay amount.

amount. For non-recipients, the out-of-pocket expenses equal the childcare costs.

Medicaid

Oklahoma's Medicaid program is the state's largest healthcare assistance program for low-income families. If the family receives TANF, then all members of the family are eligible for Medicaid. Even if the family does not currently receive TANF benefits, the children (although not the parents[3]) are eligible for Medicaid if the family income is less than 185% of the federal poverty guidelines. Unlike TANF and food stamps, however, Medicaid benefits do not gradually decrease as earnings rise. Once income rises above 185% of the federal poverty guidelines, the children lose Medicaid benefits (Oklahoma Statutes 1999). This results in the well-known "Medicaid notch" discussed by Yellowitz (1996).

There are several different mechanisms to quantify the value of Medicaid benefits. The most straightforward approach involves setting the value of the benefit equal to the value of the healthcare services the recipients consume. This, however, would require detailed knowledge of each recipient's healthcare needs. Since Medicaid is essentially a publicly provided health insurance, another approach involves setting the value of the benefit equal to the price the recipient would pay for similar private insurance. Again, however, this would require detailed knowledge on each recipient's preferences. To avoid these impracticalities, this study sets the value of the benefit equal to the Medicaid capitation rates. These rates represent a measure of average costs for

[3] Former TANF recipients are able to continue receiving Medicaid benefits for nine months after leaving TANF. Since former TANF recipients will eventually lose Medicaid coverage after the nine-month transitional period, the Medicaid benefits in this study assume the nine-month transitional Medicaid coverage has lapsed.

Table 2-5 ***Medicaid Capitation Rates by Age and Gender***

Age	Females	Males
Less than 1 year	262	262
1-5	60	60
6-14	83	83
15-20	99	107
21-44	87	79
Greater than 44	143	143

Source: Oklahoma Health Care Authority

Medicaid services by age and gender. Thus, this study assumes that recipients value Medicaid benefits equal to these average costs. Table 2-5 presents these rates for various age groups and both genders. Hence, a single mother aged 32 with two children aged one and three who qualify for Medicaid, have benefits valued at $207 ($87 + $60 + $60).

Housing Subsidies

The federal housing subsidy program is the largest assistance program designed to help low-income families rent adequate housing. Because housing subsidies are a federal program, the guidelines are mostly identical across states, although local housing authorities administer the subsidies. To offset different housing costs in different locales, the local housing authorities set the maximum subsidy amount equal to the U.S. Department of Housing and Urban Development's "fair market rent" for a particular county. Table 2-6 presents the fair market rents in each county in Oklahoma, for various apartment sizes.

To calculate the subsidy amount, the housing authorities consider all sources of cash income available to the family including earned income, unearned income, child

Table 2-6 **HUD Fair Market Rents by County**

	Number of Bedrooms				
County	0	1	2	3	4
ADAIR	247	284	354	471	540
ALFALFA	247	284	354	471	540
ATOKA	247	284	354	471	540
BEAVER	247	288	354	471	540
BECKHAM	251	284	354	471	540
BLAINE	247	284	354	471	540
BRYAN	247	284	354	471	540
CADDO	247	284	354	471	540
CANADIAN	331	361	468	651	728
CARTER	247	286	357	497	540
CHEROKEE	259	293	354	471	548
CHOCTAW	247	284	354	471	540
CIMARRON	247	284	354	471	540
CLEVELAND	331	361	468	651	728
COAL	247	284	354	471	540
COMANCHE	366	368	469	651	713
COTTON	247	284	354	471	540
CRAIG	247	284	354	483	572
CREEK	332	397	520	724	853
CUSTER	247	284	363	505	583
DELAWARE	247	284	354	471	550
DEWEY	247	284	354	471	540
ELLIS	247	284	354	471	540
GARFIELD	296	300	398	554	634
GARVIN	247	284	354	471	544
GRADY	271	284	367	499	602
GRANT	247	284	354	471	540
GREER	247	284	354	471	540
HARMON	247	284	354	471	540
HARPER	247	284	354	471	540
HASKELL	247	284	354	471	540
HUGHES	247	284	354	471	540
JACKSON	247	321	391	514	580
JEFFERSON	247	284	354	471	540
JOHNSTON	247	284	354	471	540
KAY	274	290	381	531	622
KINGFISHER	247	292	362	474	540
KIOWA	247	284	354	471	540
LATIMER	247	284	354	471	540
LE FLORE	247	284	354	471	540
LINCOLN	265	284	354	471	540
LOGAN	331	361	468	651	728

Table 2-6 *HUD Fair Market Rents by County*

	Number of Bedrooms				
County	**0**	**1**	**2**	**3**	**4**
LOVE	247	284	358	471	540
MAJOR	247	297	354	491	540
MARSHALL	247	284	354	471	540
MAYES	247	288	383	483	540
MCCLAIN	331	361	468	651	728
MCCURTAIN	247	284	354	471	540
MCINTOSH	247	284	354	471	540
MURRAY	247	284	354	471	540
MUSKOGEE	268	301	354	489	540
NOBLE	247	284	354	471	540
NOWATA	247	284	354	471	540
OKFUSKEE	247	284	354	471	540
OKLAHOMA	331	361	468	651	728
OKMULGEE	251	284	354	471	540
OSAGE	332	397	520	724	853
OTTAWA	266	284	354	471	540
PAWNEE	279	284	367	472	540
PAYNE	286	337	432	596	669
PITTSBURG	247	284	354	471	540
PONTOTOC	247	284	354	471	540
POTTAWATOMIE	331	361	468	651	728
PUSHMATAHA	247	284	354	471	540
ROGER MILLS	247	284	354	471	540
ROGERS	332	397	520	724	853
SEMINOLE	247	284	354	471	540
SEQUOYAH	303	307	404	540	567
STEPHENS	251	284	354	471	562
TEXAS	247	294	354	472	540
TILLMAN	247	284	354	471	540
TULSA	332	397	520	724	853
WAGONER	332	397	520	724	853
WASHINGTON	247	339	413	548	640
WASHITA	247	284	354	471	540
WOODS	247	284	354	471	540
WOODWARD	247	284	354	471	540

Source: Oklahoma Housing Finance Agency

support, and TANF benefits. Recipients are able to deduct from income $40 for each dependent in the home, and the family's out-of pocket childcare expenses. The subsidy

Table 2-7 ***Housing Subsidy Calculation Example***

	Mother's Earnings Scenarios		
	NW	MW-PT	MW-FT
Fair Market Rent	468	468	468
Childcare Expenses	0	390	779
Earned Income	0	446	893
Dependent Deductions	80	80	80
Child Care Deduction	0	390	779
Adjusted Income	-80	-24	34
30% of Net Income	-24	-7	10
Housing Subsidy	468	468	458

Family consists of a single mother with two children aged one and three residing in a two-bedroom apartment in Oklahoma County
"NW": Mother does not work
"MW-PT": Mother works part-time at minimum wage
"MW-FT": Mother works full-time at minimum wage

equals the fair market rent less 30% of the adjusted income (United States Code of Federal Regulations 24 CFR. 1999).

To demonstrate the calculation of housing subsidies, consider the family headed by a single mother with two young children discussed earlier. Suppose this family desires a two-bedroom apartment in Oklahoma County, the most populous county in Oklahoma. The fair market rent for a two-bedroom apartment in Oklahoma County as of July 1999 was $468 each month. Also assume that earned income is the only source of income available to the family, and that the family incurs childcare costs of $390 if the mother works part-time, and $779 if the mother works full-time.[4] Table 2-7 presents the housing subsidy calculations for the three earnings scenarios. When the mother has zero earnings, she may deduct $80 from her income for the dependent deduction and $0 for childcare

[4] These figures are from a market survey of childcare providers conducted by the Oklahoma Department of Human Services (OAC 1999).

expenses[5]. This leaves her with an adjusted income less than zero, and she receives the maximum subsidy of $468. When the mother earns $446 each month, she may take the $80 dependent deduction plus a $390 childcare expense deduction. Consequently, her adjusted income is negative, and she again receives the maximum subsidy. Finally, when the mother earns $893 each month, she may take the $80 dependent deduction plus a $779 childcare expense deduction. In this case, her adjusted income equals $34, and her subsidy equals $458.

WIC

WIC is a supplemental nutritional assistance program for Women, Infants, and Children. Children who are younger than five years of age and are in a family with total income less than 185% of the federal poverty guidelines qualify for WIC benefits. Pregnant mothers and mothers of children younger than six months of age are also eligible for benefits as long as total income is less than 185% of the federal poverty guidelines as well. Since women, infants, and children have different nutritional needs, the benefits differ across groups. Table 2-8 presents the value of WIC benefits across

Table 2-8 *Average WIC Expenditures by Age of Child*

Age of Child	Children's Benefits	Women's Benefits	Total Benefit
0-6 months	97	23	120
6-12 months	97	0	97
1 year - 5 years	28	0	28
Greater than 5 years	0	0	0

Source: Oklahoma Department of Health

[5] The mother should have no childcare expenses if she is not working.

different age groups. This study uses the average monthly WIC expenditures for each age group as a measure of benefit value. Thus, this study assumes that recipients value WIC benefits equal to the average expenditures. Hence, a single mother with two children aged one and three who are eligible for WIC benefits receives a benefit valued at $56 monthly ($28 + $28).

Child Support

This study assumes that child support awards follow Oklahoma statutory guidelines that require consideration of both the custodial and non-custodial parents' incomes. This study assumes that the mother is the custodial parent, and therefore receives any child support paid. There are essentially two separate child support awards for each case. First, the non-custodial parent pays a base child support amount. Second, the non-custodial parent must also pay a supplemental child support amount to cover the custodial parent's childcare costs (Oklahoma Statutes 1999, 43 § 118-119).

To calculate the base child support amount, one must first sum the earned and unearned incomes of both the custodial parent and non-custodial parent. Using Table 2-9, one then determines the total base support amount, which is the amount of support the state expects the children to need. The base child support amount paid to the mother then equals the product of the total base support amount and the percentage of total income belonging to the non-custodial parent. The supplemental child support amount equals the product of the custodial parent's childcare costs[9] and the percentage of total income belonging to the non-custodial parent (Oklahoma Statutes 1999, 43 § 118-119).

[9] These childcare costs are the out-of-pocket expenses. If the custodial parent receives a childcare subsidy then the childcare costs include only the copay amount.

Table 2-9 *Total Base Child Support Amount Schedule*

	# of Children					
Monthly Combined Income	**1**	**2**	**3**	**4**	**5**	**6**
0-49	10	17	21	27	30	33
50-99	10	17	21	27	30	33
100-149	17	31	39	49	55	61
150-199	24	45	56	72	80	89
200-249	32	59	73	94	106	117
250-299	40	71	88	113	127	140
300-349	47	82	103	131	146	161
350-399	55	94	118	146	166	181
400-449	62	106	133	165	185	202
450-499	69	117	148	183	205	223
500-549	77	129	163	200	224	243
550-599	84	141	177	217	243	264
600-649	91	152	192	234	262	284
650-699	98	163	206	251	281	303
700-749	105	174	221	268	300	323
750-799	113	185	235	284	318	343
800-849	120	196	249	301	337	363
850-899	128	208	264	317	354	381
900-949	136	221	280	332	370	398
950-999	145	234	296	346	386	414
1000-1049	153	246	312	361	402	431
1050-1099	162	259	327	376	417	448
1100-1149	170	272	343	391	433	464
1150-1199	179	285	359	405	449	481
1200-1249	187	297	375	420	465	498
1250-1299	194	308	387	433	479	513
1300-1349	200	316	397	445	492	525
1350-1399	206	325	407	456	506	538
1400-1449	212	333	417	468	519	551
1450-1499	217	342	426	479	532	564
1500-1549	223	350	436	491	546	577
1550-1599	229	359	446	502	559	590
1600-1649	235	367	455	514	572	602
1650-1699	240	375	465	526	585	616
1700-1749	245	382	475	537	596	630
1750-1799	250	389	485	549	607	644
1800-1849	255	396	494	560	619	659
1850-1899	261	403	504	572	630	673
1900-1949	266	410	514	583	641	687
1950-1999	271	417	524	595	652	701
2000-2049	276	424	533	606	664	716
2050-2099	281	431	543	618	675	730
2100-2149	286	439	554	630	687	743
2150-2199	292	448	565	641	700	756

Table 2-9 **Total Base Child Support Amount Schedule**

	# of Children					
Monthly Combined Income	**1**	**2**	**3**	**4**	**5**	**6**
2200-2249	297	457	577	653	713	769
2250-2299	302	465	588	665	726	782
2300-2349	308	474	600	676	739	795
2350-2399	313	483	611	688	752	807
2400-2449	318	492	623	699	765	820
2450-2499	324	500	634	711	778	833
2500-2549	329	509	645	723	791	846
2550-2599	334	518	657	734	804	858
2600-2649	340	527	668	746	817	871
2650-2699	345	535	680	758	830	884
2700-2749	350	544	691	769	843	897
2750-2799	356	553	703	781	856	909
2800-2849	361	562	714	793	869	922
2850-2899	366	570	726	804	882	935
2900-2949	372	579	737	816	895	948
2950-2999	375	583	741	821	900	953
3000-3049	378	587	744	826	904	959
3050-3099	381	591	747	830	909	964
3100-3149	384	594	751	835	914	970
3150-3199	387	598	754	840	918	975
3200-3249	390	602	758	845	923	981
3250-3299	394	606	761	850	927	986
3300-3349	397	610	765	854	932	992
3350-3399	400	613	768	859	937	997
3400-3449	403	617	772	864	941	1003
3450-3499	406	621	775	869	946	1009
3500-3549	409	625	779	874	951	1014
3550-3599	412	629	782	879	955	1020
3600-3649	415	632	785	883	960	1025
3650-3699	419	636	789	888	964	1031
3700-3749	422	640	792	893	969	1036
3750-3799	425	644	796	898	974	1042
3800-3849	428	648	799	903	978	1047
3850-3899	431	651	803	907	983	1053
3900-3949	434	655	806	912	988	1058
3950-3999	437	659	810	917	992	1064
4000-4049	440	663	813	922	997	1069
4050-4099	444	667	817	927	1002	1075
4100-4149	447	670	820	931	1006	1080
4150-4199	450	676	826	939	1014	1089
4200-4249	454	682	834	948	1024	1101
4250-4299	458	689	843	958	1035	1112
4300-4349	462	696	851	968	1046	1124
4350-4399	466	702	860	978	1057	1135

Table 2-9 **Total Base Child Support Amount Schedule**

	# of Children					
Monthly Combined Income	**1**	**2**	**3**	**4**	**5**	**6**
4400-4449	470	709	868	988	1067	1147
4450-4499	474	715	877	997	1078	1158
4500-4549	478	722	885	1007	1089	1170
4550-4599	482	729	893	1017	1099	1182
4600-4649	486	735	902	1027	1110	1193
4650-4699	490	742	910	1037	1121	1205
4700-4749	494	749	919	1046	1131	1216
4750-4799	497	755	927	1056	1142	1228
4800-4849	501	762	936	1066	1153	1240
4850-4899	505	769	944	1076	1163	1251
4900-4949	509	775	953	1086	1174	1263
4950-4999	513	782	961	1095	1185	1274
5000-5049	517	789	969	1105	1196	1286
5050-5099	521	795	978	1115	1206	1298
5100-5149	525	802	986	1125	1217	1309
5150-5199	529	808	995	1134	1228	1321
5200-5249	533	815	1003	1144	1238	1332
5250-5299	537	822	1012	1154	1249	1344
5300-5349	541	828	1020	1164	1260	1356
5350-5399	545	835	1028	1174	1270	1367
5400-5449	549	842	1037	1183	1281	1379
5450-5499	553	848	1045	1193	1292	1390
5500-5549	557	855	1054	1203	1302	1402
5550-5599	561	862	1062	1213	1313	1413
5600-5649	564	868	1071	1223	1324	1425
5650-5699	568	875	1079	1232	1335	1437
5700-5749	572	881	1088	1242	1345	1448
5750-5799	576	888	1096	1252	1356	1460
5800-5849	580	895	1104	1262	1367	1471
5850-5899	584	901	1113	1272	1377	1483
5900-5949	588	908	1121	1281	1388	1495
5950-5999	592	915	1130	1291	1399	1506
6000-6049	596	921	1138	1301	1408	1517
6050-6099	599	927	1145	1310	1416	1528
6100-6149	602	933	1153	1319	1424	1539
6150-6199	605	938	1161	1328	1432	1550
6200-6249	608	944	1168	1337	1440	1561
6250-6299	611	950	1176	1346	1449	1571
6300-6349	614	956	1184	1355	1457	1582
6350-6399	618	962	1191	1364	1465	1593
6400-6449	621	968	1199	1373	1473	1604
6450-6499	624	974	1207	1382	1481	1615
6500-6549	627	979	1214	1391	1489	1625
6550-6599	630	985	1222	1400	1497	1636

Table 2-9 **Total Base Child Support Amount Schedule**

	# of Children					
Monthly Combined Income	**1**	**2**	**3**	**4**	**5**	**6**
6600-6649	633	991	1230	1409	1505	1647
6650-6699	637	997	1237	1418	1513	1658
6700-6749	640	1003	1245	1427	1521	1669
6750-6799	643	1009	1253	1436	1530	1679
6800-6849	646	1015	1260	1445	1538	1690
6850-6899	649	1020	1268	1454	1546	1701
6900-6949	652	1026	1276	1463	1554	1712
6950-6999	655	1032	1283	1472	1562	1723
7000-7049	659	1038	1291	1481	1570	1733
7050-7099	662	1044	1298	1490	1578	1744
7100-7149	665	1050	1306	1499	1586	1755
7150-7199	668	1055	1314	1508	1594	1766
7200-7249	671	1061	1321	1517	1602	1777
7250-7299	674	1067	1329	1526	1611	1787
7300-7349	677	1073	1337	1535	1619	1798
7350-7399	681	1079	1344	1544	1627	1809
7400-7449	684	1085	1352	1553	1635	1820
7450-7499	687	1091	1360	1562	1643	1831
7500-7549	690	1096	1367	1571	1651	1841
7550-7599	693	1102	1375	1580	1659	1852
7600-7649	696	1108	1383	1589	1667	1863
7650-7699	700	1114	1390	1598	1675	1874
7700-7749	703	1120	1398	1607	1683	1885
7750-7799	706	1126	1404	1616	1692	1895
7800-7849	709	1132	1413	1625	1700	1906
7850-7899	712	1137	1421	1634	1708	1917
7900-7949	715	1143	1429	1643	1716	1928
7950-7999	718	1149	1436	1652	1724	1939
8000-8049	721	1154	1443	1660	1732	1949
8050-8099	723	1159	1450	1668	1741	1959
8100-8149	726	1164	1457	1676	1749	1969
8150-8199	728	1169	1464	1684	1758	1979
8200-8249	730	1174	1470	1692	1766	1989
8250-8299	732	1179	1477	1701	1775	1998
8300-8349	735	1184	1484	1709	1784	2008
8350-8399	737	1189	1491	1717	1792	2018
8400-8449	739	1194	1497	1725	1801	2028
8450-8499	741	1199	1504	1733	1809	2038
8500-8549	744	1204	1511	1741	1818	2048
8550-8599	746	1209	1518	1749	1826	2058
8600-8649	748	1214	1524	1757	1835	2068
8650-8699	750	1219	1531	1765	1843	2078
8700-8749	753	1224	1538	1773	1852	2088
8750-8799	755	1229	1545	1782	1861	2097

Table 2-9 *Total Base Child Support Amount Schedule*

Monthly Combined Income	# of Children 1	2	3	4	5	6
8800-8849	757	1234	1551	1790	1869	2107
8850-8899	759	1239	1558	1798	1878	2117
8900-8949	762	1244	1565	1806	1886	2127
8950-8999	764	1249	1572	1814	1895	2137
9000-9049	766	1253	1578	1822	1903	2147
9050-9099	768	1258	1585	1830	1912	2157
9100-9149	771	1263	1592	1838	1920	2167
9150-9199	773	1268	1599	1846	1929	2177
9200-9249	775	1273	1605	1854	1937	2187
9250-9299	777	1278	1612	1863	1946	2196
9300-9349	780	1283	1619	1871	1955	2206
9350-9399	782	1288	1626	1879	1963	2216
9400-9449	784	1293	1632	1887	1972	2226
9450-9499	786	1298	1639	1895	1980	2236
9500-9549	789	1303	1646	1903	1989	2246
9550-9599	791	1308	1653	1911	1997	2256
9600-9649	793	1313	1659	1919	2006	2266
9650-9699	795	1318	1666	1927	2014	2276
9700-9749	798	1323	1673	1935	2023	2286
9750-9799	800	1328	1680	1944	2032	2295
9800-9849	802	1333	1686	1952	2040	2305
9850-9899	804	1338	1693	1960	2049	2315
9900-9949	807	1343	1700	1968	2057	2325
9950-9999	809	1348	1707	1976	2066	2335
10000 or Greater	811	1352	1713	1984	2074	2345

Source: Oklahoma Department of Human Services

As a result of this formula, the base and supplemental child support awards change as the mother's income changes. Table 2-10 calculates the child support awards under the three different earnings scenarios for the mother. The calculations assume that there are two children, and the father earns $2,000 each month. When the mother has zero earnings, the combined monthly income of the parents equals $2,000 with 100% coming from the father. This corresponds to a base child support award of $424 each month received by the custodial parent. Since the mother faces no childcare costs, there is no supplemental child support amount. When the mother earns $446 each month, the

Table 2-10	*Child Support Calculation Example*		
	Mother's Earnings Scenarios		
	NW	**MW-PT**	**MW-FT**
Custodial Parent's Income	$0	$446	$893
Non-Custodial Parent's Income	$2,000	$2,000	$2,000
Income Sum	$2,000	$2,446	$2,893
Non-Custodial Parent's Portion	100%	82%	69%
Total Base Support	424	492	570
Base Child Support Payment	424	402	394
Childcare Costs	0	390	779
Supplemental Child Support Payment	0	319	539

Family consists of two children
"NW" Mother does not work
"MW-PT" Mother works part-time at minimum wage
"MW-FT" Mother works full-time at minimum wage

combined income of the parents equals $2,446 with 82% coming from the father. In this case, the base child support award equals $402 each month. Since the mother now faces $390 in monthly childcare costs, the state expects the father to share these expenses. The supplemental child support award equals eighty-two percent of $390, or $319 each month. When the mother earns $893 each month, the combined income of the parents now equals $2,893. This corresponds to a base child support award of $394. Since the mother now faces $779 of childcare costs, the supplemental child support award equals $539 each month. Notice that the supplemental child support award increases as childcare costs increase. This indicates that child support could help offset high childcare expenses faced by a mother. Also, note that the base child support decreases as the mother earns more.

Federal and State Taxes

This study makes several assumptions to simplify the tax calculations. First, when unmarried, the mother files as a head of household, and her boyfriend (or potential boyfriend) files as a single adult. When the mother is married, the couple files a joint return. Next, all individuals apply the standard deductions. Finally, the mother always claims the children as dependents. The study does include FICA taxes paid by the employee, but does not include the employer's portion as a tax paid by the employee. This study also includes four separate tax credit programs in its analysis, the Earned Income Tax Credit (EITC), the Childcare Tax Credit, the Child Tax Credit, and the Additional Child Tax Credit. Since the tax calculations assume that only the mother claims the children as dependents, this study assumes that only the mother can claim any of these tax credits.

Earned Income Tax Credit (EITC)

The EITC is a refundable tax credit designed to offset a portion of the FICA taxes paid by low-income families. Table 2-11 presents the 1999 EITC table. To determine the amount of the tax credit, one takes the annual earned income of the family and the number of children in the family, and refers to the appropriate place in the EITC table. The EITC has a phase-in region, where the credit increases as earnings increase, a plateau region, where the credit remains constant as earnings increase, and a phase-out region, where the credit decreases as earnings increase. For a family with one child, the phase-in region ranges from zero earnings up to $6,800 annually. For families with two or more children, the phase-in region continues up to $9,500. At the plateau, the EITC reaches its

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
0	1	0	0
1	50	9	10
50	100	26	30
100	150	43	50
150	200	60	70
200	250	77	90
250	300	94	110
300	350	111	130
350	400	128	150
400	450	145	170
450	500	162	190
500	550	179	210
550	600	196	230
600	650	213	250
650	700	230	270
700	750	247	290
750	800	264	310
800	850	281	330
850	900	298	350
900	950	315	370
950	1000	332	390
1000	1050	349	410
1050	1100	366	430
1100	1150	383	450
1150	1200	400	470
1200	1250	417	490
1250	1300	434	510
1300	1350	451	530
1350	1400	468	550
1400	1450	485	570
1450	1500	502	590
1500	1550	519	610
1550	1600	536	630
1600	1650	553	650
1650	1700	570	670
1700	1750	587	690
1750	1800	604	710
1800	1850	621	730
1850	1900	638	750
1900	1950	655	770
1950	2000	672	790
2000	2050	689	810
2050	2100	706	830
2100	2150	723	850

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
2150	2200	740	870
2200	2250	757	890
2250	2300	774	910
2300	2350	791	930
2350	2400	808	950
2400	2450	825	970
2450	2500	842	990
2500	2550	859	1010
2550	2600	876	1030
2600	2650	893	1050
2650	2700	910	1070
2700	2750	927	1090
2750	2800	944	1110
2800	2850	961	1130
2850	2900	978	1150
2900	2950	995	1170
2950	3000	1012	1190
3000	3050	1029	1210
3050	3100	1046	1230
3100	3150	1063	1250
3150	3200	1080	1270
3200	3250	1097	1290
3250	3300	1114	1310
3300	3350	1131	1330
3350	3400	1148	1350
3400	3450	1165	1370
3450	3500	1182	1390
3500	3550	1199	1410
3550	3600	1216	1430
3600	3650	1233	1450
3650	3700	1250	1470
3700	3750	1267	1490
3750	3800	1284	1510
3800	3850	1301	1530
3850	3900	1318	1550
3900	3950	1335	1570
3950	4000	1352	1590
4000	4050	1369	1610
4050	4100	1386	1630
4100	4150	1403	1650
4150	4200	1420	1670
4200	4250	1437	1690
4250	4300	1454	1710
4300	4350	1471	1730

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
4350	4400	1488	1750
4400	4450	1505	1770
4450	4500	1522	1790
4500	4550	1539	1810
4550	4600	1556	1830
4600	4650	1573	1850
4650	4700	1590	1870
4700	4750	1607	1890
4750	4800	1624	1910
4800	4850	1641	1930
4850	4900	1658	1950
4900	4950	1675	1970
4950	5000	1692	1990
5000	5050	1709	2010
5050	5100	1726	2030
5100	5150	1743	2050
5150	5200	1760	2070
5200	5250	1777	2090
5250	5300	1794	2110
5300	5350	1811	2130
5350	5400	1828	2150
5400	5450	1845	2170
5450	5500	1862	2190
5500	5550	1879	2210
5550	5600	1896	2230
5600	5650	1913	2250
5650	5700	1930	2270
5700	5750	1947	2290
5750	5800	1964	2310
5800	5850	1981	2330
5850	5900	1998	2350
5900	5950	2015	2370
5950	6000	2032	2390
6000	6050	2049	2410
6050	6100	2066	2430
6100	6150	2083	2450
6150	6200	2100	2470
6200	6250	2117	2490
6250	6300	2134	2510
6300	6350	2151	2530
6350	6400	2168	2550
6400	6450	2185	2570
6450	6500	2202	2590
6500	6550	2219	2610

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
6550	6600	2236	2630
6600	6650	2253	2650
6650	6700	2270	2670
6700	6750	2287	2690
6750	6800	2304	2710
6800	6850	2312	2730
6850	6900	2312	2750
6900	6950	2312	2770
6950	7000	2312	2790
7000	7050	2312	2810
7050	7100	2312	2830
7100	7150	2312	2850
7150	7200	2312	2870
7200	7250	2312	2890
7250	7300	2312	2910
7300	7350	2312	2930
7350	7400	2312	2950
7400	7450	2312	2970
7450	7500	2312	2990
7500	7550	2312	3010
7550	7600	2312	3030
7600	7650	2312	3050
7650	7700	2312	3070
7700	7750	2312	3090
7750	7800	2312	3110
7800	7850	2312	3130
7850	7900	2312	3150
7900	7950	2312	3170
7950	8000	2312	3190
8000	8050	2312	3210
8050	8100	2312	3230
8100	8150	2312	3250
8150	8200	2312	3270
8200	8250	2312	3290
8250	8300	2312	3310
8300	8350	2312	3330
8350	8400	2312	3350
8400	8450	2312	3370
8450	8500	2312	3390
8500	8550	2312	3410
8550	8600	2312	3430
8600	8650	2312	3450
8650	8700	2312	3470
8700	8750	2312	3490

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
8750	8800	2312	3510
8800	8850	2312	3530
8850	8900	2312	3550
8900	8950	2312	3570
8950	9000	2312	3590
9000	9050	2312	3610
9050	9100	2312	3630
9100	9150	2312	3650
9150	9200	2312	3670
9200	9250	2312	3690
9250	9300	2312	3710
9300	9350	2312	3730
9350	9400	2312	3750
9400	9450	2312	3770
9450	9500	2312	3790
9500	9550	2312	3816
9550	9600	2312	3816
9600	9650	2312	3816
9650	9700	2312	3816
9700	9750	2312	3816
9750	9800	2312	3816
9800	9850	2312	3816
9850	9900	2312	3816
9900	9950	2312	3816
9950	10000	2312	3816
10000	10050	2312	3816
10050	10100	2312	3816
10100	10150	2312	3816
10150	10200	2312	3816
10200	10250	2312	3816
10250	10300	2312	3816
10300	10350	2312	3816
10350	10400	2312	3816
10400	10450	2312	3816
10450	10500	2312	3816
10500	10550	2312	3816
10550	10600	2312	3816
10600	10650	2312	3816
10650	10700	2312	3816
10700	10750	2312	3816
10750	10800	2312	3816
10800	10850	2312	3816
10850	10900	2312	3816
10900	10950	2312	3816

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
10950	11000	2312	3816
11000	11050	2312	3816
11050	11100	2312	3816
11100	11150	2312	3816
11150	11200	2312	3816
11200	11250	2312	3816
11250	11300	2312	3816
11300	11350	2312	3816
11350	11400	2312	3816
11400	11450	2312	3816
11450	11500	2312	3816
11500	11550	2312	3816
11550	11600	2312	3816
11600	11650	2312	3816
11650	11700	2312	3816
11700	11750	2312	3816
11750	11800	2312	3816
11800	11850	2312	3816
11850	11900	2312	3816
11900	11950	2312	3816
11950	12000	2312	3816
12000	12050	2312	3816
12050	12100	2312	3816
12100	12150	2312	3816
12150	12200	2312	3816
12200	12250	2312	3816
12250	12300	2312	3816
12300	12350	2312	3816
12350	12400	2312	3816
12400	12450	2312	3816
12450	12500	2312	3816
12500	12550	2302	3802
12550	12600	2294	3792
12600	12650	2286	3781
12650	12700	2278	3771
12700	12750	2270	3760
12750	12800	2262	3750
12800	12850	2254	3739
12850	12900	2246	3729
12900	12950	2238	3718
12950	13000	2230	3708
13000	13050	2222	3697
13050	13100	2214	3686
13100	13150	2206	3676

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
13150	13200	2198	3665
13200	13250	2190	3655
13250	13300	2182	3644
13300	13350	2174	3634
13350	13400	2166	3623
13400	13450	2158	3613
13450	13500	2150	3602
13500	13550	2142	3592
13550	13600	2134	3581
13600	13650	2126	3571
13650	13700	2118	3560
13700	13750	2110	3550
13750	13800	2102	3539
13800	13850	2094	3529
13850	13900	2086	3518
13900	13950	2078	3507
13950	14000	2070	3497
14000	14050	2062	3486
14050	14100	2054	3476
14100	14150	2046	3465
14150	14200	2038	3455
14200	14250	2030	3444
14250	14300	2022	3434
14300	14350	2014	3423
14350	14400	2006	3413
14400	14450	1998	3402
14450	14500	1990	3392
14500	14550	1982	3381
14550	14600	1974	3371
14600	14650	1966	3360
14650	14700	1958	3350
14700	14750	1950	3339
14750	14800	1942	3328
14800	14850	1934	3318
14850	14900	1926	3307
14900	14950	1918	3297
14950	15000	1910	3286
15000	15050	1902	3276
15050	15100	1894	3265
15100	15150	1886	3255
15150	15200	1878	3244
15200	15250	1870	3234
15250	15300	1862	3223
15300	15350	1854	3213

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
15350	15400	1846	3202
15400	15450	1838	3192
15450	15500	1830	3181
15500	15550	1822	3171
15550	15600	1814	3160
15600	15650	1806	3149
15650	15700	1798	3139
15700	15750	1790	3128
15750	15800	1782	3118
15800	15850	1774	3107
15850	15900	1766	3097
15900	15950	1758	3086
15950	16000	1750	3076
16000	16050	1742	3065
16050	16100	1734	3055
16100	16150	1726	3044
16150	16200	1718	3034
16200	16250	1710	3023
16250	16300	1702	3013
16300	16350	1694	3002
16350	16400	1686	2992
16400	16450	1678	2981
16450	16500	1670	2970
16500	16550	1662	2960
16550	16600	1654	2949
16600	16650	1646	2939
16650	16700	1638	2928
16700	16750	1630	2918
16750	16800	1622	2907
16800	16850	1614	2897
16850	16900	1606	2886
16900	16950	1598	2876
16950	17000	1591	2865
17000	17050	1583	2855
17050	17100	1575	2844
17100	17150	1567	2834
17150	17200	1559	2823
17200	17250	1551	2812
17250	17300	1543	2802
17300	17350	1535	2791
17350	17400	1527	2781
17400	17450	1519	2770
17450	17500	1511	2760
17500	17550	1503	2749

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
17550	17600	1495	2739
17600	17650	1487	2728
17650	17700	1479	2718
17700	17750	1471	2707
17750	17800	1463	2697
17800	17850	1455	2686
17850	17900	1447	2676
17900	17950	1439	2665
17950	18000	1431	2655
18000	18050	1423	2644
18050	18100	1415	2633
18100	18150	1407	2623
18150	18200	1399	2612
18200	18250	1391	2602
18250	18300	1383	2591
18300	18350	1375	2581
18350	18400	1367	2570
18400	18450	1359	2560
18450	18500	1351	2549
18500	18550	1343	2539
18550	18600	1335	2528
18600	18650	1327	2518
18650	18700	1319	2507
18700	18750	1311	2497
18750	18800	1303	2486
18800	18850	1295	2476
18850	18900	1287	2465
18900	18950	1279	2454
18950	19000	1271	2444
19000	19050	1263	2433
19050	19100	1255	2423
19100	19150	1247	2412
19150	19200	1239	2402
19200	19250	1231	2391
19250	19300	1223	2381
19300	19350	1215	2370
19350	19400	1207	2360
19400	19450	1199	2349
19450	19500	1191	2339
19500	19550	1183	2328
19550	19600	1175	2318
19600	19650	1167	2307
19650	19700	1159	2297
19700	19750	1151	2286

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
19750	19800	1143	2275
19800	19850	1135	2265
19850	19900	1127	2254
19900	19950	1119	2244
19950	20000	1111	2233
20000	20050	1103	2223
20050	20100	1095	2212
20100	20150	1087	2202
20150	20200	1079	2191
20200	20250	1071	2181
20250	20300	1063	2170
20300	20350	1055	2160
20350	20400	1047	2149
20400	20450	1039	2139
20450	20500	1031	2128
20500	20550	1023	2118
20550	20600	1015	2107
20600	20650	1007	2096
20650	20700	999	2086
20700	20750	991	2075
20750	20800	983	2065
20800	20850	975	2054
20850	20900	967	2044
20900	20950	959	2033
20950	21000	951	2023
21000	21050	943	2012
21050	21100	935	2002
21100	21150	927	1991
21150	21200	919	1981
21200	21250	911	1970
21250	21300	903	1960
21300	21350	895	1949
21350	21400	887	1939
21400	21450	879	1928
21450	21500	871	1917
21500	21550	863	1907
21550	21600	855	1896
21600	21650	847	1886
21650	21700	839	1875
21700	21750	831	1865
21750	21800	823	1854
21800	21850	815	1844
21850	21900	807	1833
21900	21950	799	1823

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
21950	22000	792	1812
22000	22050	784	1802
22050	22100	776	1791
22100	22150	768	1781
22150	22200	760	1770
22200	22250	752	1759
22250	22300	744	1749
22300	22350	736	1738
22350	22400	728	1728
22400	22450	720	1717
22450	22500	712	1707
22500	22550	704	1696
22550	22600	696	1686
22600	22650	688	1675
22650	22700	680	1665
22700	22750	672	1654
22750	22800	664	1644
22800	22850	656	1633
22850	22900	648	1623
22900	22950	640	1612
22950	23000	632	1602
23000	23050	624	1591
23050	23100	616	1580
23100	23150	608	1570
23150	23200	600	1559
23200	23250	592	1549
23250	23300	584	1538
23300	23350	576	1528
23350	23400	568	1517
23400	23450	560	1507
23450	23500	552	1496
23500	23550	544	1486
23550	23600	536	1475
23600	23650	528	1465
23650	23700	520	1454
23700	23750	512	1444
23750	23800	504	1433
23800	23850	496	1423
23850	23900	488	1412
23900	23950	480	1401
23950	24000	472	1391
24000	24050	464	1380
24050	24100	456	1370
24100	24150	448	1359

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
24150	24200	440	1349
24200	24250	432	1338
24250	24300	424	1328
24300	24350	416	1317
24350	24400	408	1307
24400	24450	400	1296
24450	24500	392	1286
24500	24550	384	1275
24550	24600	376	1265
24600	24650	368	1254
24650	24700	360	1244
24700	24750	352	1233
24750	24800	344	1222
24800	24850	336	1212
24850	24900	328	1201
24900	24950	320	1191
24950	25000	312	1180
25000	25050	304	1170
25050	25100	296	1159
25100	25150	288	1149
25150	25200	280	1138
25200	25250	272	1128
25250	25300	264	1117
25300	25350	256	1107
25350	25400	248	1096
25400	25450	240	1086
25450	25500	232	1075
25500	25550	224	1065
25550	25600	216	1054
25600	25650	208	1043
25650	25700	200	1033
25700	25750	192	1022
25750	25800	184	1012
25800	25850	176	1001
25850	25900	168	991
25900	25950	160	980
25950	26000	152	970
26000	26050	144	959
26050	26100	136	949
26100	26150	128	938
26150	26200	120	928
26200	26250	112	917
26250	26300	104	907
26300	26350	96	896

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
26350	26400	88	886
26400	26450	80	875
26450	26500	72	864
26500	26550	64	854
26550	26600	56	843
26600	26650	48	833
26650	26700	40	822
26700	26750	32	812
26750	26800	24	801
26800	26850	16	791
26850	26900	8	780
26900	26950	0	770
26950	27000	0	759
27000	27050	0	749
27050	27100	0	738
27100	27150	0	728
27150	27200	0	717
27200	27250	0	706
27250	27300	0	696
27300	27350	0	685
27350	27400	0	675
27400	27450	0	664
27450	27500	0	654
27500	27550	0	643
27550	27600	0	633
27600	27650	0	622
27650	27700	0	612
27700	27750	0	601
27750	27800	0	591
27800	27850	0	580
27850	27900	0	570
27900	27950	0	559
27950	28000	0	549
28000	28050	0	538
28050	28100	0	527
28100	28150	0	517
28150	28200	0	506
28200	28250	0	496
28250	28300	0	485
28300	28350	0	475
28350	28400	0	464
28400	28450	0	454
28450	28500	0	443
28500	28550	0	433

Table 2-11 *EITC Table*

Earned Income		# of Children	
At Least	But Less Than	One	Two or More
28550	28600	0	422
28600	28650	0	412
28650	28700	0	401
28700	28750	0	391
28750	28800	0	380
28800	28850	0	370
28850	28900	0	359
28900	28950	0	348
28950	29000	0	338
29000	29050	0	327
29050	29100	0	317
29100	29150	0	306
29150	29200	0	296
29200	29250	0	285
29250	29300	0	275
29300	29350	0	264
29350	29400	0	254
29400	29450	0	243
29450	29500	0	233
29500	29550	0	222
29550	29600	0	212
29600	29650	0	201
29650	29700	0	191
29700	29750	0	180
29750	29800	0	169
29800	29850	0	159
29850	29900	0	148
29900	29950	0	138
29950	30000	0	127
30000	30050	0	117
30050	30100	0	106
30100	30150	0	96
30150	30200	0	85
30200	30250	0	75
30250	30300	0	64
30300	30350	0	54
30350	30400	0	43
30400	30450	0	33
30450	30500	0	22
30500	30550	0	12
30550	30580	0	3
30580		0	0

Source: Internal Revenue Service

maximum level. For families with one child, the plateau exists on earnings between $6,800 and $12,500, with a maximum benefit of $2,312 annually. For families with two or more children, the plateau exists on earnings between $9,500 and $12,500 annually, with a maximum benefit of $3,816 annually. Finally, the phase-out region continues until the size of the credit reaches zero. The credit reaches zero for families with one child when annual earnings reach $26,928. The credit reaches zero for families with two or more children when annual earnings reach $30,580 (Internal Revenue Service 1999). As of July 1999, there was no Oklahoma Earned Income Tax Credit.

Childcare Tax Credit

The childcare tax credit, formally known as the Child and Dependent Care Expenses Tax Credit, is a non-refundable credit designed to help low-income families offset the high cost of childcare. The calculations for the childcare tax credit are based on IRS Form 2441. Essentially the program includes as eligible expenses the yearly out-of-pocket childcare costs up to $2,400 for one child and $4,800 for two or more children. Recipients may potentially deduct a portion of these eligible expenses. The program uses a sliding-scale system to determine the exact proportion of eligible expenses that a family may potentially deduct. Families with lower adjusted gross income may deduct a higher proportion, while families with higher incomes must deduct a smaller proportion.[*] Since the credit is non-refundable, however, the size of the credit may not exceed the amount of the tax owed before any other credits are applied (Internal Revenue Service 1999). The

[*] Families with Federal Adjusted Gross Income less than $10,000 may potentially deduct 30% of eligible expenses, while families with Federal Adjusted Gross Income greater than $28,000 may potentially deduct 20% of eligible expenses.

state of Oklahoma allows recipients of the Federal Childcare Tax Credit to also receive a State Childcare Tax Credit. The State Childcare Tax Credit equals 20% of the federal credit.

Child Tax Credit

Like the Childcare Tax Credit, the Child Tax Credit is non-refundable. The calculations for the Child Tax Credit are based on the IRS Child Tax Credit Worksheet. This program allows families to potentially receive a tax credit up to $500 for each child. Since the credit is non-refundable, the size of the credit is limited to the amount of taxes owed after the Childcare Tax Credit is included (Internal Revenue Service 1999). Thus, the receipt of the Childcare Tax Credit may reduce the size of the Child Tax Credit. Oklahoma does not have a state Child Tax Credit.

Additional Child Tax Credit

Like the EITC, the Additional Child Tax Credit is a refundable credit. This program, however, excludes families with fewer than three children. The calculations for the Additional Child Tax Credit are based on IRS Form 8812. Essentially, this credit equals the smallest of either: 1) the amount of FICA taxes paid by the family less the size of the EITC; or 2) the potential Child Tax Credit less the actual Child Tax Credit (Internal Revenue Service 1999).

Chapter 3

Oklahoma's Work and Family Structure Incentives

The purpose of this chapter is to analyze the work and family structure incentives in Oklahoma's public assistance system. This analysis serves as the basis for the empirical analysis of Chapter Four. While other researchers have studied the incentive effects of public assistance programs, this study incorporates a more comprehensive set of programs than previous work. Most notably, this study illustrates the importance of state-specific programs such as childcare subsidies and child support, which the national studies often ignore.

With a more complete set of programs, this study generally finds higher effective marginal tax rates than those reported elsewhere. In addition, this study finds higher marriage penalties associated with public assistance than previously reported. Finally, this chapter produces four testable hypotheses researchers can use to estimate how these incentives affect recipient behavior. Section I discusses how the various tax and transfer programs interact. Section II isolates the impact of each individual program by comparing alternative combinations of programs. Section III illustrates the impact of changing other parameters such as the number of children in the family. Section IV discusses the marriage incentives created by Oklahoma's public assistance programs. Section V presents some testable hypotheses researchers can use to estimate the effects of the work and marriage incentives.

There is one final comment about the results printed in this chapter. To model the interactions among the various programs, the author used a Microsoft Excel workbook.

The workbook is included with this study, and contains a set of instructions. The workbook also includes a user-friendly interface that enables the user to input family characteristics and explore the incentives created by the various programs. Because there are too many permutations than could be printed in this forum, the author encourages all interested parties to examine the workbook and explore new scenarios. The results printed in this chapter, however, generally apply to other scenarios as well.

I. Benefit Calculations for a Representative Family

This study uses a representative family to illustrate the interaction of the various public assistance programs. The family consists of a single mother, age 32, a one-year old son, and a three-year old daughter. Both of the children need childcare. The family resides in a two-bedroom apartment in Oklahoma County, Oklahoma's most populous county. No family member is disabled. The calculations assume that the family participates in all programs for which it is eligible. The included programs are TANF, Food Stamps, Medicaid, Housing subsidies, Childcare subsidies, WIC, EITC, Childcare Tax Credit, and the Child Tax Credit.[1] While participation in multiple programs is common, not everyone participates in all programs for which they are eligible. By assuming full program participation, the analysis in this section captures the complete interaction among the various programs. Section II, which isolates the impact of the individual programs, considers alternative program combinations.

As the mother's earned income changes, the amount of transfers and tax credits the family receives changes as well. Figure 3-1 illustrates the monthly total resources available to this family at different earnings levels for the mother. The first column

[1] This family will never be eligible for the additional child tax credit because there are only two children.

FIGURE 3-1

Benefits Calculation for a Representative Family
Increasing Mother's Hourly Wage

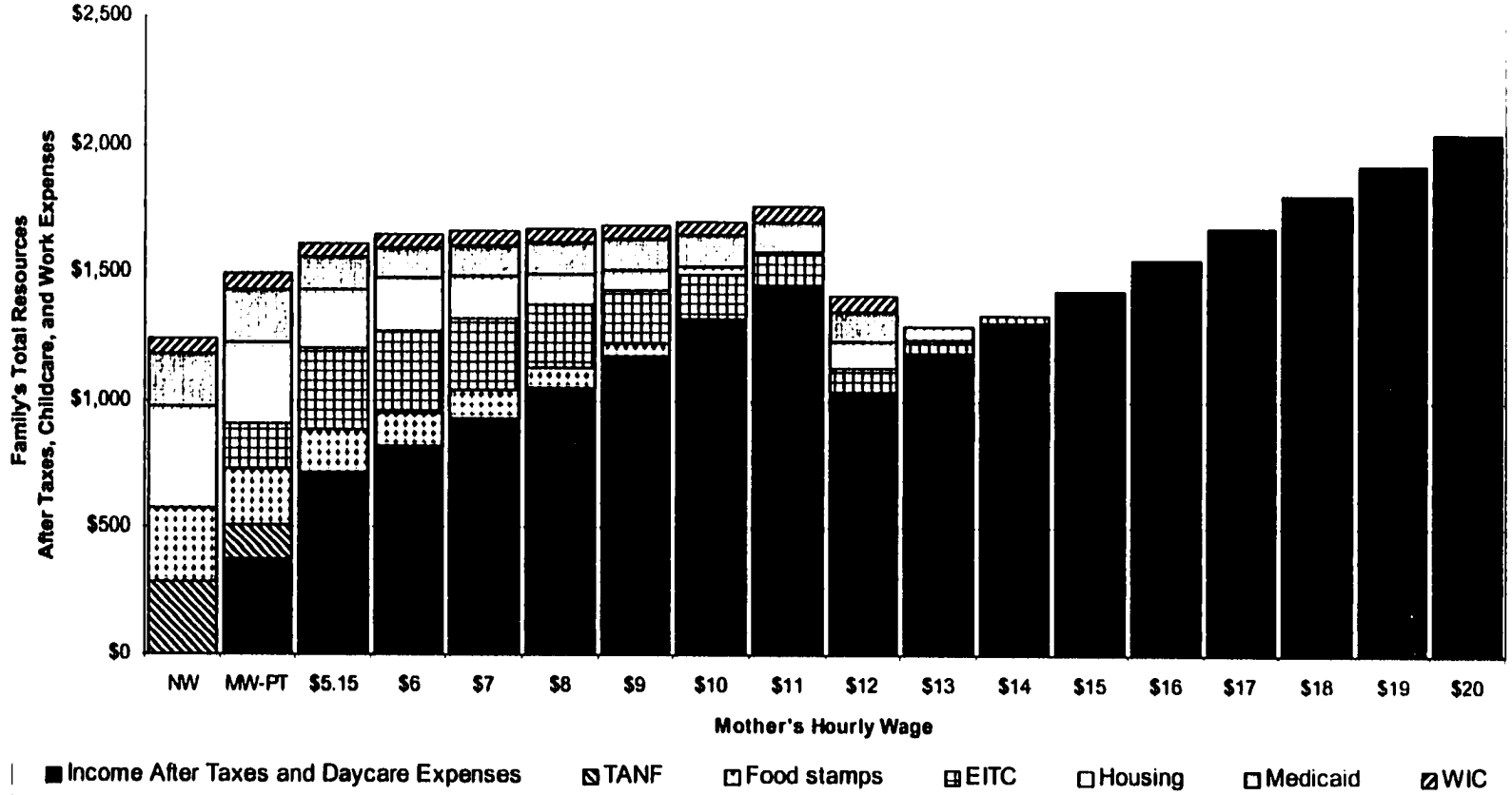


Table 3-1 — *Benefit Calculations for a Representative Family*

	Mother's Hourly Wage								
	NW	**$5.15-PT**	**$ 5.15**	**$ 6.00**	**$ 7.00**	**$ 8.00**	**$ 9.00**	**$10.00**	**$11.00**
Income	0	446	893	1040	1213	1387	1560	1733	1907
Federal Income Taxes	0	0	0	0	0	26	52	78	103
Less: Childcare Tax Credit	0	0	0	0	0	26	44	46	48
Less: Child Tax Credit	0	0	0	0	0	0	8	32	55
Net Federal Income Taxes	0	0	0	0	0	0	0	0	0
State Income Taxes	0	1	5	8	13	19	28	37	47
Less: Childcare Tax Credit	0	0	0	0	0	5	9	9	10
Net State Income Taxes	0	1	5	8	13	14	19	28	38
Childcare Costs	0	390	779	779	779	779	779	779	779
Childcare Copay	0	0	32	68	107	150	176	192	209
Work Expenses	0	34	67	67	67	67	67	67	67
FICA Taxes	0	34	68	80	93	106	119	133	146
Income After Taxes, Childcare, and Work Expenses	0	378	720	818	934	1049	1179	1314	1447
TANF	292	129	0	0	0	0	0	0	0
Food Stamps	282	223	165	140	110	81	48	11	0
Medicaid	207	207	121	121	121	121	121	121	121
Housing Subsidies	404	319	234	200	160	121	77	30	0
WIC	56	56	56	56	56	56	56	56	56
EITC	0	179	318	318	281	245	208	171	135
Total Resources	1241	1492	1613	1652	1661	1673	1688	1702	1759
Effective Marginal Tax Rates	44%	73%	73%	95%	93%	92%	92%	67%	301%

Representative Family Consists of a Single Mother and Two Children Aged One and Three
"NW": Mother does not work; "$5.15-PT": Mother works 20 hours per week earning $5.15 per hour; All other wage levels assume 40 hour workweeks

Table 3-1 (cont.) *Benefit Calculations for a Representative Family*

	Mother's Hourly Wage								
	$12.00	$ 13.00	$14.00	$15.00	$16.00	$17.00	$18.00	$19.00	$20.00
Income	2080	2253	2427	2600	2773	2947	3120	3293	3467
Federal Income Taxes	130	155	182	208	233	260	285	312	338
Less: Childcare Tax Credit	88	84	80	80	80	80	80	80	80
Less: Child Tax Credit	42	71	83	83	83	83	83	83	83
Net Federal Income Taxes	0	0	18	45	70	96	122	148	175
State Income Taxes	58	69	81	92	104	116	127	139	151
Less: Childcare Tax Credit	18	17	16	16	16	16	16	16	16
Net State Income Taxes	40	52	65	76	88	100	111	123	135
Childcare Costs	779	779	779	779	779	779	779	779	779
Childcare Copay	779	779	779	779	779	779	779	779	779
Work Expenses	67	67	67	67	67	67	67	67	67
FICA Taxes	159	172	186	199	212	225	239	252	265
Income After Taxes, Childcare, and Work Expenses	1034	1183	1312	1434	1557	1679	1802	1924	2046
TANF	0	0	0	0	0	0	0	0	0
Food Stamps	0	0	0	0	0	0	0	0	0
Medicaid	121	0	0	0	0	0	0	0	0
Housing Subsidies	102	50	0	0	0	0	0	0	0
WIC	56	0	0	0	0	0	0	0	0
EITC	98	62	26	0	0	0	0	0	0
Total Resources	1411	1295	1337	1434	1557	1679	1802	1924	2046
Effective Marginal Tax Rates	167%	76%	44%	29%	30%	29%	30%	30%	29%

Representative Family Consists of a Single Mother and Two Children Aged One and Three
"NW": Mother does not work; "$5.15-PT": Mother works 20 hours per week earning $5.15 per hour; All other wage levels assume 40 hour workweeks

represents the monthly total resources available to the family if the mother does not work. The second column represents the family's monthly total resources if the mother works part-time (20 hours per week) at a minimum wage job. The third, and subsequent columns, represent the family's monthly total resources if the mother works full-time at various wages. Table 3-1 contains all the numbers underlying Figure 3-1. The family's total resources equal the sum of transfer income and earned income less taxes, childcare, and work expenses.

The treatment of childcare subsidies in the total resource calculations deserves a special comment. Following the suggestions of Blank (1997) and Acs et al. (1998) along with the findings on the labor supply effects of childcare costs, this study treats childcare expenses in the same manner as other work expenses. If any children require childcare, childcare costs, like work expenses, rise as the mother increases labor supply. As a result of this treatment, the childcare subsidies are not directly visible in Figure 3-1. The childcare subsidies reduce childcare expenses, and therefore appear as an increase in "income after taxes and expenses". This treatment is necessary to properly calculate the work incentives the mother faces. This point becomes clear by using Table 3-1 to examine childcare costs when the mother does not work, and when she works part-time. Note that as the mother enters part-time work, the childcare subsidy increases to $390 per month. The subsidy increase makes it appear that there is a benefit to entering work. This appearance is only illusory, because the mother's childcare copay has not changed. Thus, while comparing the family's resources when the mother works part-time to the family's resources when the mother does not work, it is clear that the subsidy has not changed the amount of resources the family must devote to childcare. By treating childcare costs like

a work expense, one can avoid this distortion created by the childcare subsidy.

There are three striking characteristics of Oklahoma's public assistance system depicted in Figure 3-1 and Table 3-1. First, note that if the mother increases her hourly wage from $5.15 to $11 per hour, there is little change in the family's total resources. When the mother earns $5.15 per hour, the family's resources total $1,613 monthly. This compares to $1,759 when the mother earns $11 per hour. In this case, more than doubling the hourly wage increases total resources by 9%. This result is mainly due to the gradual phase-out of the EITC, Food Stamps, Housing and Childcare Subsidies. When the mother works full-time at $5.15 per hour, she receives $165 of Food Stamps, $234 in housing subsidies, and the maximum $318 of EITC. She also pays a childcare copay of $32. When the mother earns $6 per hour, she loses $25 of Food Stamps, and $34 in housing subsidies. She must also pay $36 more for her childcare copay. Next, when the mother earns $7 per hour, she loses another $30 of Food Stamps, $40 of housing subsidies, and $37 of the EITC[2]. Her childcare copay now increases by another $39.

Of the four programs whose phase-outs contribute to this problem, only the childcare subsidy is not a federal program. Interestingly, the phase-out of the childcare subsidy mitigates the phase-out of Food Stamps and Housing subsidies, while simultaneously increasing the Childcare Tax Credit. This happens because out-of-pocket childcare costs influence Food Stamp benefits, housing subsidies, and the Childcare Tax Credit. In states that do not phase-out childcare subsidies in this region, the phase-out of Food Stamps and Housing subsidies are more rapid. Likewise, the Childcare Tax Credit does not increase as rapidly. Consequently, because Food Stamps, Housing Subsidies, the EITC, and Childcare Tax Credit are federal programs that phase out more rapidly in the

[2] At an hourly wage of $7, this mother enters the EITC phase-out region.

absence of a childcare subsidy phase-out, this region of Figure 3-1 applies to other states as well.

The second noticeable characteristic about Figure 3-1 is the dramatic decrease in resources as the mother's hourly wage increases from $11 to $12. Most of the $348 decrease in total resources is caused by the family's loss of the childcare subsidy. When the mother earns $11 per hour, she pays a childcare copay of $209 and the family receives a childcare subsidy of $570. Once the mother's hourly wage increases to $12 per hour, the mother pays a copay equal to the full cost of childcare, $779, and therefore receives no subsidy. This lost childcare subsidy is partially offset by the increase in housing subsidies from $0 to $102.[3] However, neither the increased housing subsidy, nor the increased earnings could completely offset the lost childcare subsidy.

All states currently offer programs to help low-income families afford adequate childcare. Since childcare subsidies are administered by the states, there is a wide disparity in services. Long et al. (1998) report that families in Alabama with incomes less than 130% of the federal poverty guidelines qualify for childcare subsidies, while families in Minnesota can qualify with incomes up to 257% of the federal poverty guidelines. These income limits do not imply that all eligible families receive childcare benefits, however. Because of a lack of funds, most states, including Minnesota and California, effectively limit benefits to recent TANF recipients. As a result, recipients in many states face a sudden loss of childcare benefits as their income rises (Acs et al. 1998, and Long et al. 1998). Thus, in many states recipients face a decline in resources similar to the one depicted in Figure 3-1, although the decline may be at different wage levels.

[3] Recall that housing subsidy calculations consider the amount of childcare costs. When the family must pay the full $779 for childcare, they are able to deduct more from income, thereby making them eligible for an increased housing subsidy.

It is possible that the mother will change her childcare arrangements once she loses her childcare subsidy. She may choose a less-expensive, lower quality form of childcare once she faces higher costs. As a result, her family's resources may not decline so dramatically. Some may argue that the total resource calculations should include the movement to lower-cost childcare. While more realistically capturing the financial effects of the lost subsidy, such an approach ignores the lost utility resulting from the change in childcare arrangements. This lost utility is not apparent in Figure 3-1. To avoid this problem, this study simply assumes that the mother will not change her childcare arrangements once she loses her subsidy. Consequently, if the mother changes the childcare arrangements, Figure 3-1 will overstate the true decline in utility.

The third noticeable characteristic of Figure 3-1 is that this mother would need to earn over $16 per hour (approximately $32,000 annually[4]) in order to have monthly total resources equal to what the family has when she earns $5.15 per hour. This finding is a direct result of the first two characteristics. The phase-out of the various programs slows the growth of total resources. Likewise, the additional childcare expenses incurred when the childcare subsidy is lost, reverberates throughout higher wage levels. Consequently, this mother must triple her earnings to be as well off as she is at minimum wage.

While Figure 3-1 is helpful in determining the effect the various assistance programs have on the family's total resources, in order to analyze the work disincentives of the tax and transfer system, one needs to determine both the income and substitution effects generated by the programs. Each of the programs included in this analysis increases the resources available to the family. Consequently, each program produces an income effect, which reduces labor supply according to the traditional income-leisure

[4] Assuming the worker works 2,000 hours annually (40 hours per week for 50 weeks).

model outlined in Chapter One. The substitution effect is determined solely by Effective Marginal Tax Rates. The formula for the Effective Marginal Tax Rate is:

$$Effective\ MTR = 1 - \frac{\Delta\ in\ total\ resources}{\Delta\ in\ earned\ income}.$$

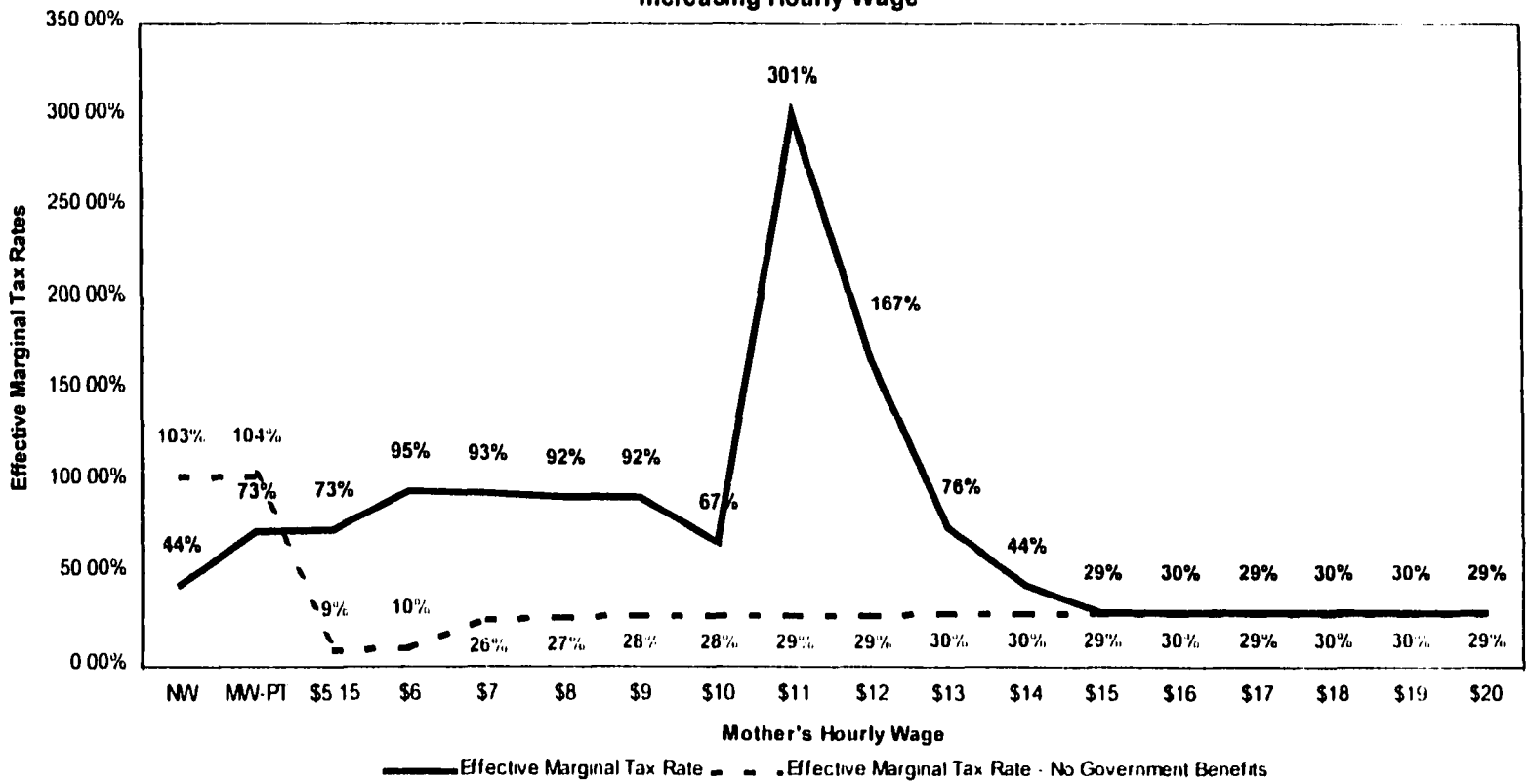
Figure 3-2 depicts the effective MTR schedule for the representative family. The solid line represents the effective MTRs with assistance programs, and the dotted line represents the effective MTRs without any government assistance[5]. The proper interpretation for each MTR in Figure 3-2 is the tax rate faced by the mother if she increased her earnings to the next earnings level in the chart. For example, the MTR listed at $5.15 is the tax rate faced by the mother if she increased her hourly wage from $5.15 to $6 per hour. Likewise, the MTR listed at $6 is the tax rate faced by the mother if she increased her hourly wage to $7 per hour.

When the mother participates in the various programs, she faces an effective MTR of 44% on the decision to move from not working, to working part-time at a minimum wage job. She also faces an effective MTR of 73% on the decision to move from working part-time to working full-time at a minimum wage job. Note the tax rates above 90% ranging from $6 to $9 per hour. This region corresponds to region of Figure 3-1 where total resources increased minimally as the mother's wage increased. These extremely high effective tax rates are mainly driven by the phase-out of the Food Stamp, Housing subsidy, EITC, and childcare subsidy benefits. Consequently, participants in these programs face similarly high tax rates across the nation. Moving along the wage scale, the notch at $11 is very noticeable. The decline in total resources brought about by the lost childcare subsidy translates into an enormously high effective tax rate of 301% at

[5] The effective MTRs without government assistance exclude the value of the tax credits.

FIGURE 3-2

Effective Marginal Tax Rates for Representative Family
Increasing Hourly Wage



$11 per hour. These tax rates are generally in the upper range of those reported in previous studies and discussed in Chapter One, although the 301% notch exceeds any reported elsewhere.

While none of the previous studies found effective MTRs approaching 300%, two of the studies mentioned in Chapter One, Giannarelli and Stuerle (1995) and Wilson and Cline (1994), found MTRs that at times slightly exceeded 100%. Both analyses, like this study, examined the case of a single mother with two children. Generally, these studies find MTRs range from 50%-75% as the mother increases labor supply, and range from 65%-105% as the mother increases her wage. These results are consistent with the MTRs presented in Figure 3-2, with the exception of the 300% childcare subsidy notch. As Section II will illustrate, Oklahoma's childcare subsidy program is responsible for the 301% MTR notch, and corresponding decrease in total resources. Neither Giannarelli and Stuerle nor Wilson and Cline included a childcare subsidy program in their analyses. Thus, the inclusion (or exclusion) of childcare subsidies can dramatically alter the incentives recipients face. Since all 50 states currently employ some form of childcare subsidies, many states have similar notches. Therefore any complete analysis of the work incentives generated by the tax and transfer system should include childcare subsidies.

By comparing the effective MTRs in the presence of government programs to those in the absence of government programs, it becomes apparent that the various programs have a substantial impact on the effective MTRs and work incentives facing recipients. In the absence of government programs, there would be no childcare subsidy program. Consequently, as the mother works more her childcare costs rise. The costs are so large that they create an effective MTR of 103% on the move from not working to

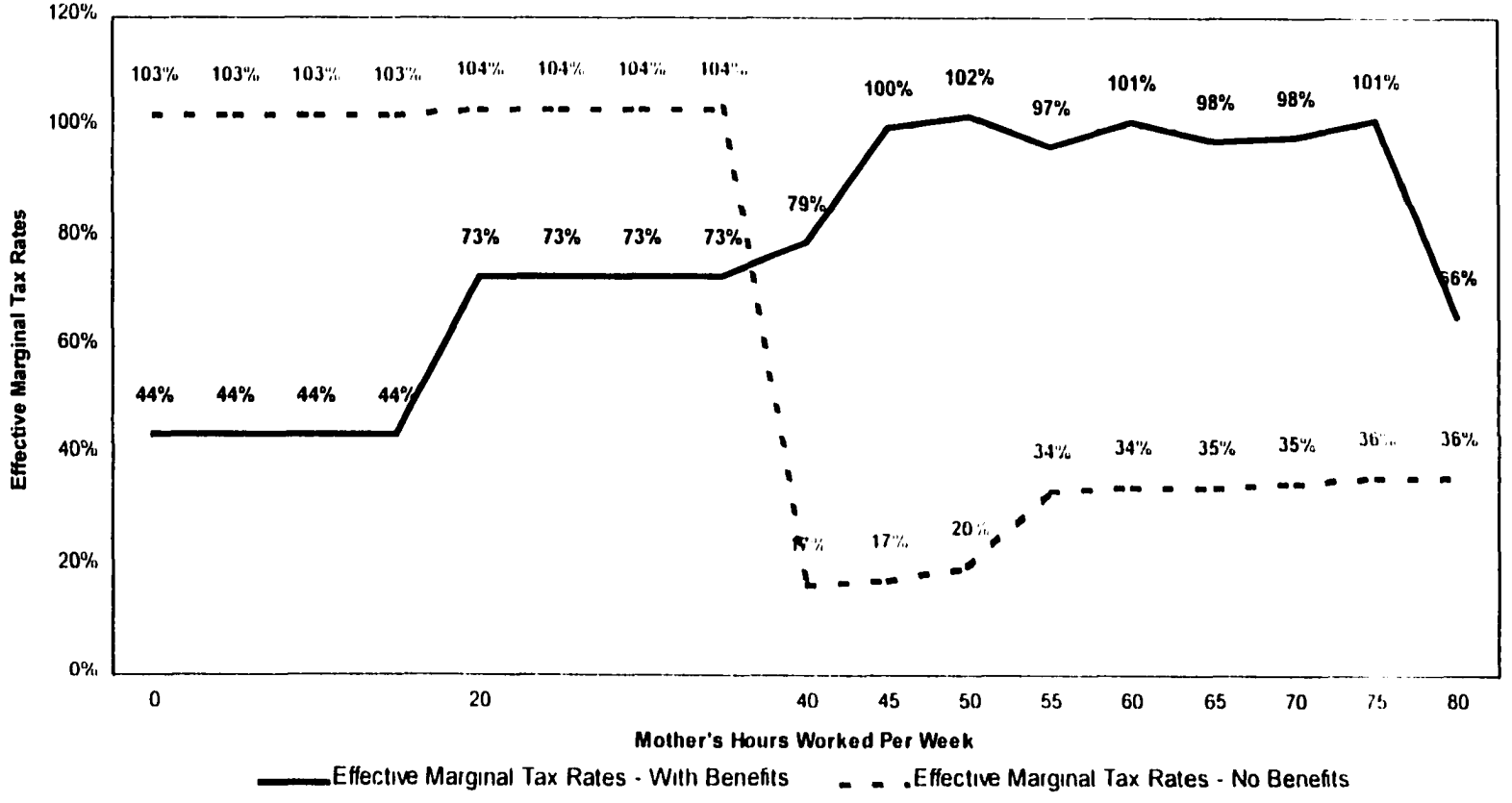
part-time work. Likewise, the effective MTR equals 104% on the move from part-time to full-time work. In other words, without government assistance, childcare and other expenses consume the mother's entire income and more. Once the mother is working full-time, however, the effective MTRs are quite low. These MTRs capture only the federal and state explicit taxes.

These results highlight the importance of carefully modeling the incentives faced by the mother. Some may argue that, because benefit levels depend upon earned income, one should ignore the distinction between an earnings increase resulting from increasing the hours worked and an earnings increase resulting from a higher hourly wage. These individuals may suggest to calculate total resources and MTRs at different earnings levels instead of different labor supply or wage levels. Such an approach, however, would not capture the true effect of childcare expenses on work incentives. Because childcare expenses increase when labor supply increases, it is necessary to model the labor supply incentives separately from the incentives to increase the hourly wage.

The first two data points in Figure 3-2 present the MTRs faced by the mother as she increases her labor supply. The remaining data points depict the MTRs faced by the mother as she increases her hourly wage. Childcare costs are assumed to change only as the mother changes labor supply. Once the labor supply is fixed, Figure 3-2 assumes childcare costs do not change. Figure 3-3 presents the Effective MTRs at different hours worked by the mother as she moves from 0-20 hours per week, 20-40 hours per week, and 5 hour intervals thereafter. The author assumes that childcare costs increase from 0-40 hours, but do not increase if the mother works more than 40 hours per week. These calculations assume the mother earns $5.15 per hour, and represent the more traditional

FIGURE 3-3

Effective Marginal Tax Rates for Representative Family
Increasing Hours Worked



labor supply choice. Note that Figure 3-2 also captures the decision to enter part-time or full-time work, and is therefore a more complete diagram. Therefore, the author will generally focus on figures similar to Figure 3-2, but will use figures similar to Figure 3-3 when he wants to focus on the labor supply decision.

II. The Impact of Individual Transfer Programs

Section I discussed how the various programs jointly influence effective MTRs for a representative family, by focusing on one combination of tax and transfer programs. This section discusses how each program individually affects the MTR schedule. With this knowledge, one can better understand how alternative combinations of transfer and tax programs affect MTRs. For example, suppose a family does not participate in the housing subsidy program. By knowing the impact housing subsidies have on the MTR schedule, one can also know how the MTR schedule for a family who does not receive housing assistance differs from the MTR schedule of a family that does.

In order to isolate the individual program effects, the author starts with the case of no government programs, adds one program, and recalculates the MTRs. While there are numerous different permutations for the ordering of the programs, the one presented here captures the main effects of each program. While the specific MTR calculations may differ with a different order, the general effects are the same. The order in which programs are added is: 1)TANF, 2)Food Stamps, 3)Medicaid, 4)Housing Subsidies, 5)Childcare Subsidies, 6)WIC, 7)EITC, 8)Childcare Tax Credit, 9)Child Tax Credit, and 10)Child Support. Figure 3-4 presents the MTR calculations under the ten scenarios.

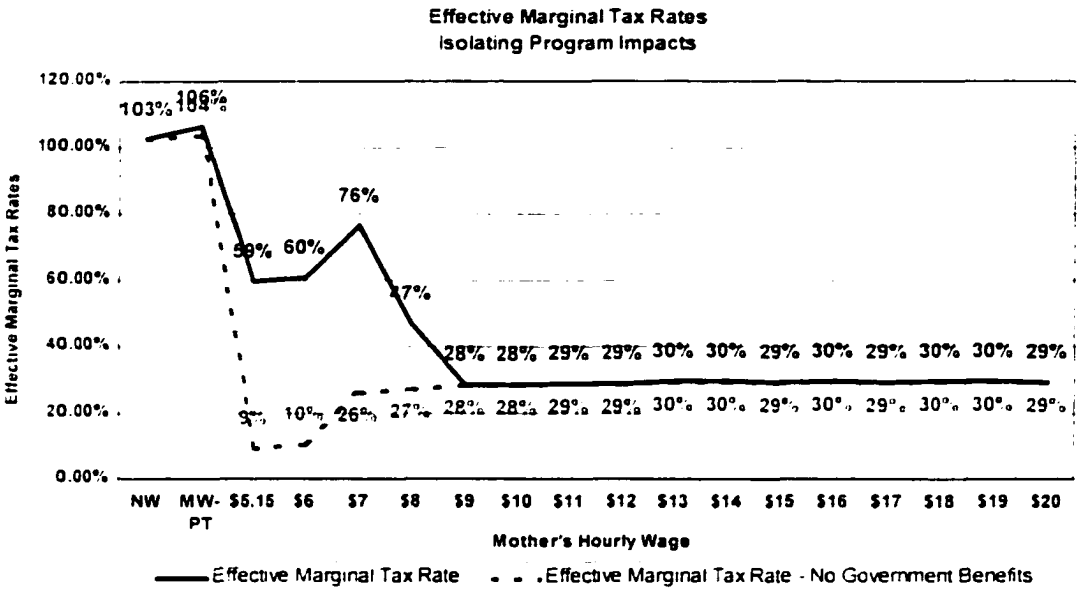
TANF and Food Stamps both have similar effects on the MTR schedule, which is not surprising because they have similar NIT designs. As shown in Figure 3-4(A) and Figure 3-4(B), TANF and Food Stamps both raise MTRs as the benefits phase-out. Figure 3-4(C) illustrates the impact from adding Medicaid to the policy mix. The addition of Medicaid introduces two notches to the MTR schedule, at $8 and $12 per hour. The first notch is created when the mother loses TANF and, therefore, Medicaid benefits. At $12 per hour, the children are no longer eligible for Medicaid, creating the second notch.

Figure 3-4(D) includes housing subsidies in the MTR calculations. Because of the structure of the housing subsidy program, the inclusion of housing assistance increases the MTR schedule at all income levels where the family receives the benefit. Thus, TANF recipients who concurrently receive housing assistance face higher MTRs than TANF recipients who do not receive housing assistance. This characteristic of housing subsidies will prove very useful for the empirical analysis in Chapter Four.

TANF, Food Stamps, Medicaid, and Housing Subsidies are programs included in many analyses on the work incentives of public assistance. Figure 3-4(E) illustrates the MTRs when childcare subsidies are also included. This state-specific program has been ignored in previous analyses of work incentives generated by the tax and transfer system, but dramatically changes the MTR schedule. In fact, the childcare subsidy program gives the MTR schedule its distinctive shape. The inclusion of childcare subsidies tends to lower the MTRs for wage levels below $11, but the income threshold for receiving childcare subsidies forms an enormous notch at the $11 level.

FIGURE 3-4
Effective Marginal Tax Rates—Isolating Individual Programs

A. TANF



B. TANF, Food Stamps

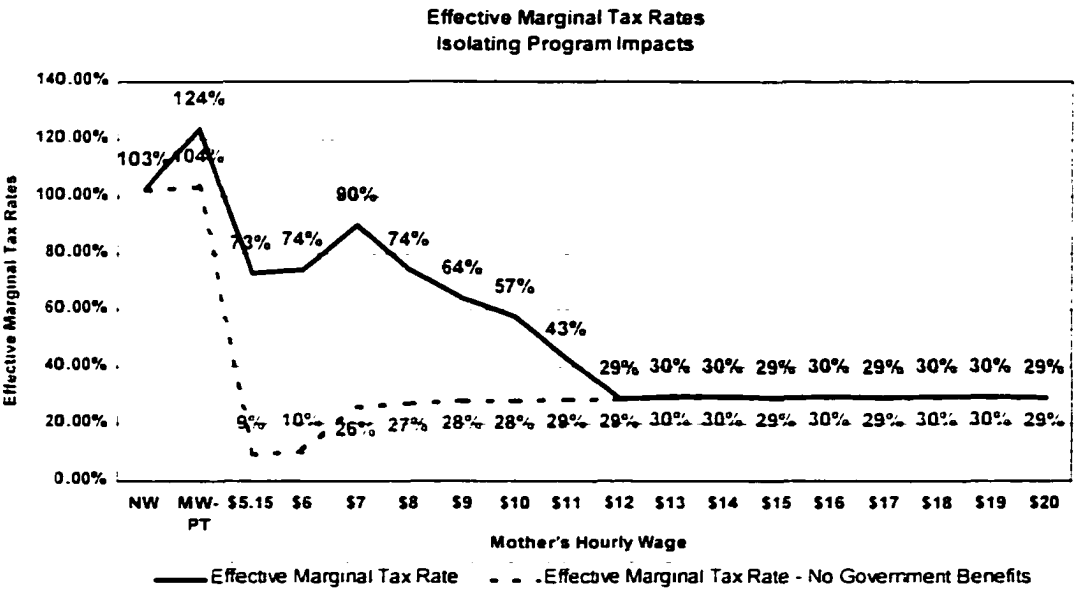
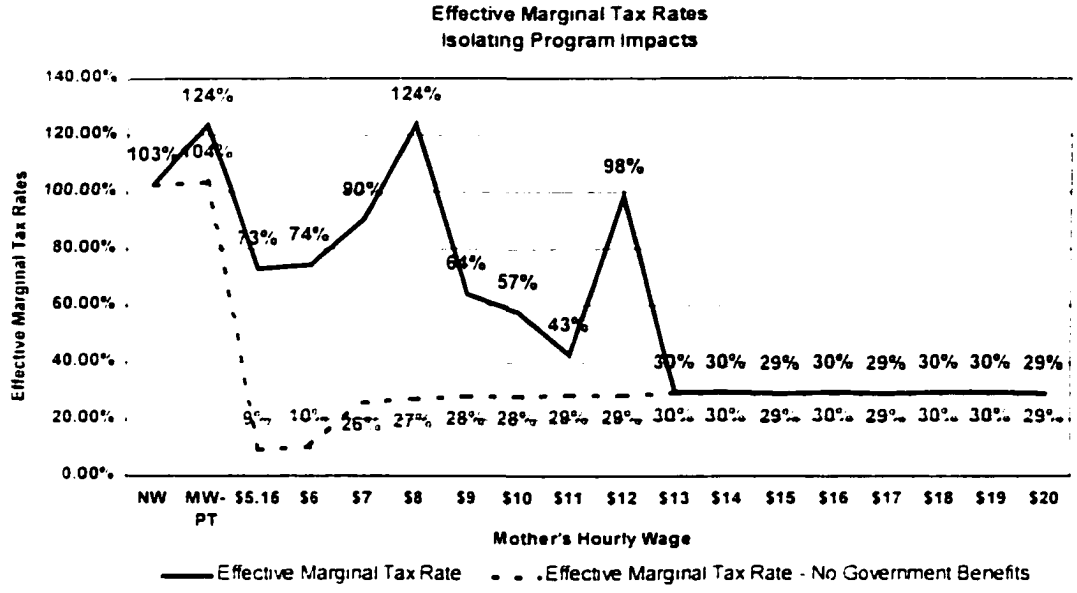


FIGURE 3-4 (cont.)

C. TANF, Food Stamps, Medicaid



D. TANF, Food Stamps, Medicaid, Housing

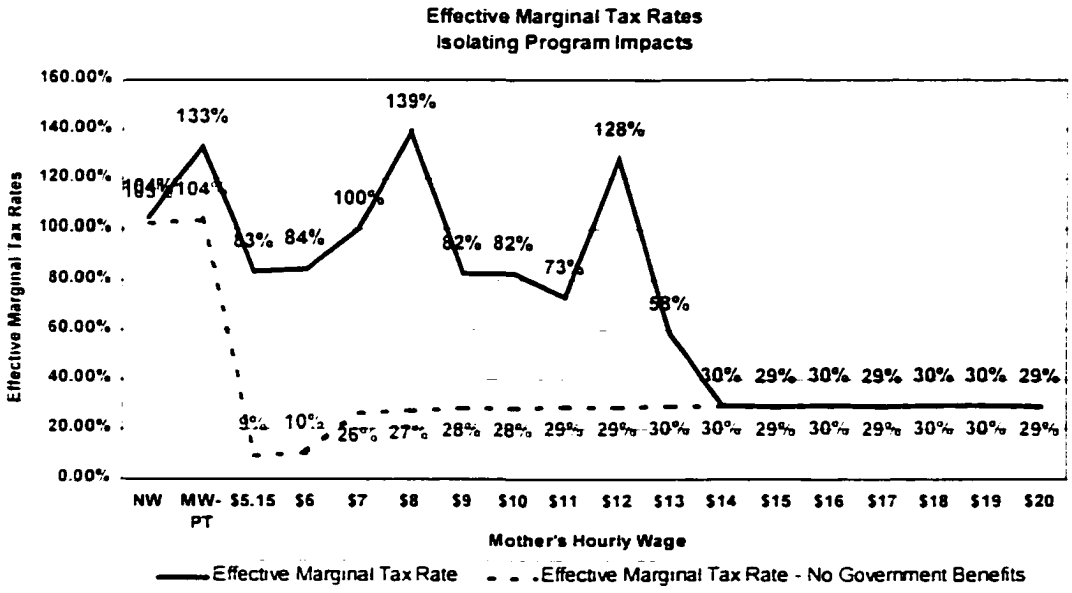
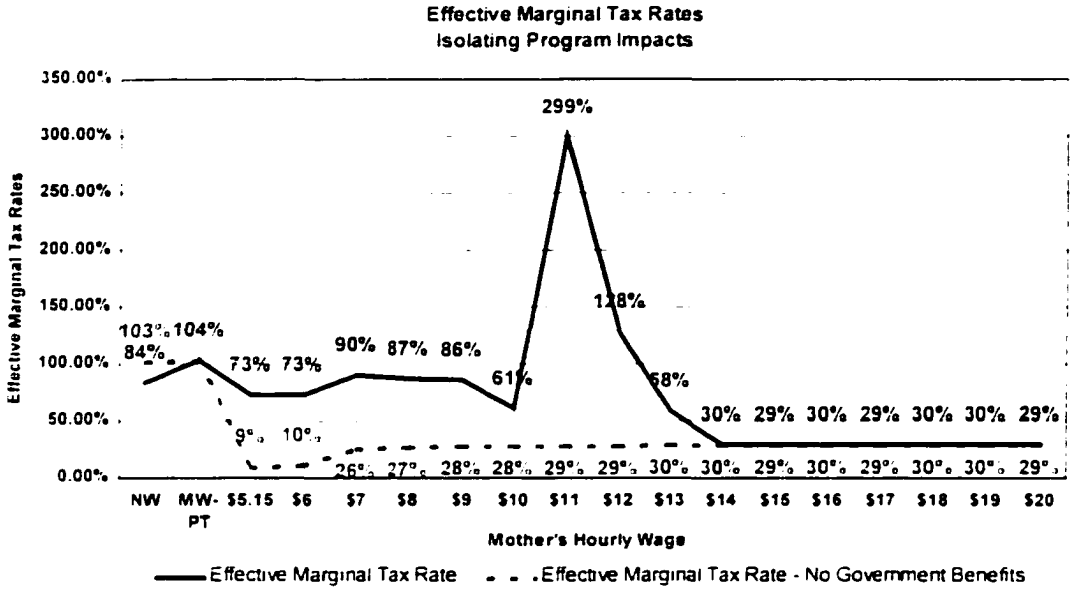


FIGURE 3-4 (cont.)

E. TANF, Food Stamps, Medicaid, Housing, Childcare Subsidies



F. TANF, Food Stamps, Medicaid, Housing, Childcare, WIC

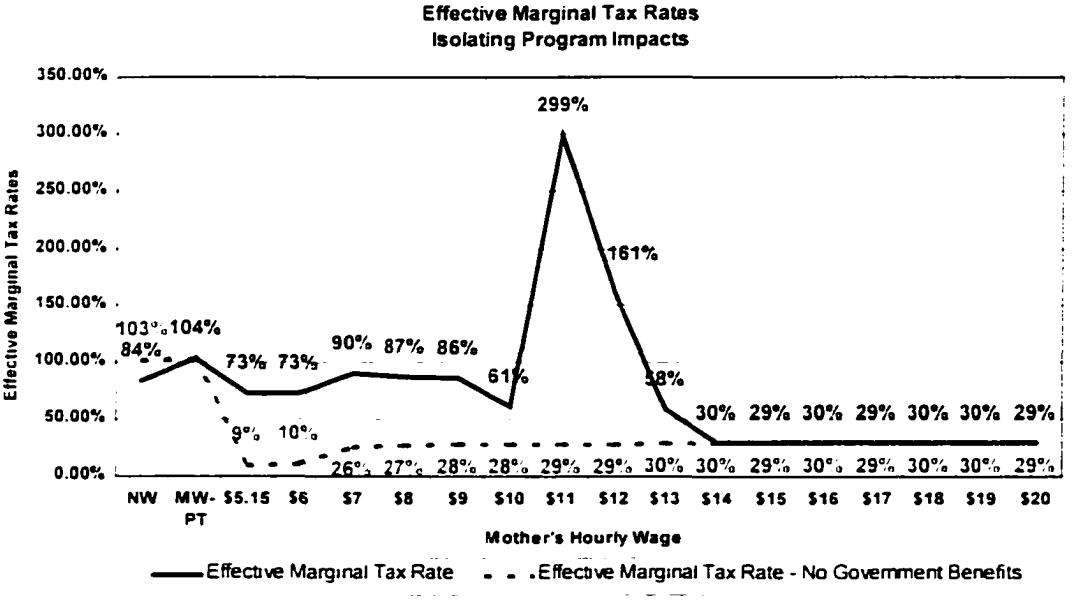
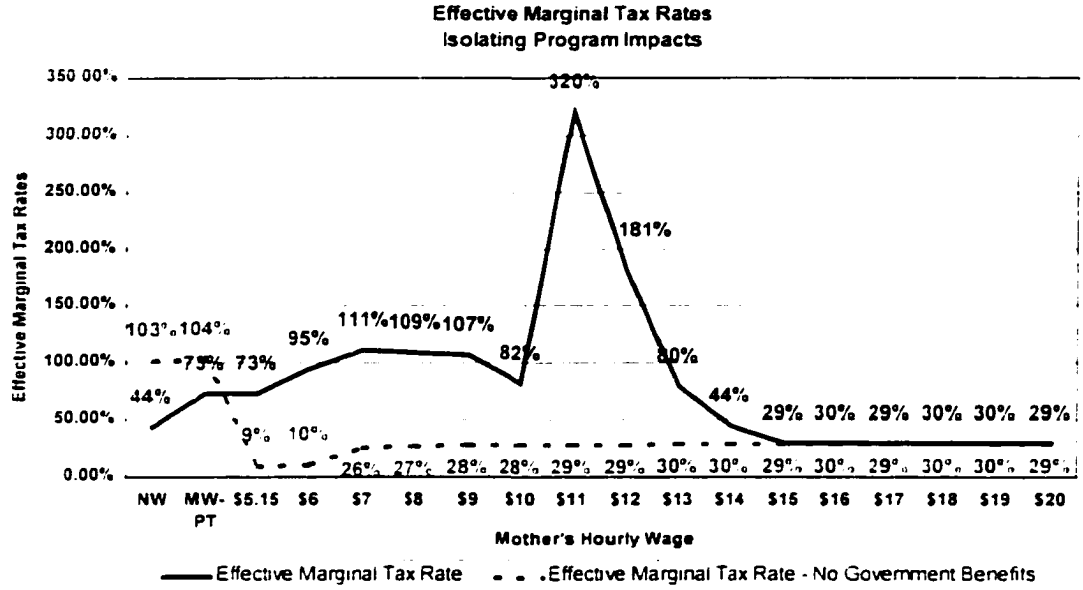


FIGURE 3-4 (cont.)
G. TANF, Food Stamps, Medicaid, Housing, Childcare, WIC, EITC



H. TANF, Food Stamps, Medicaid, Housing, Childcare, WIC, EITC, Childcare Tax Credit

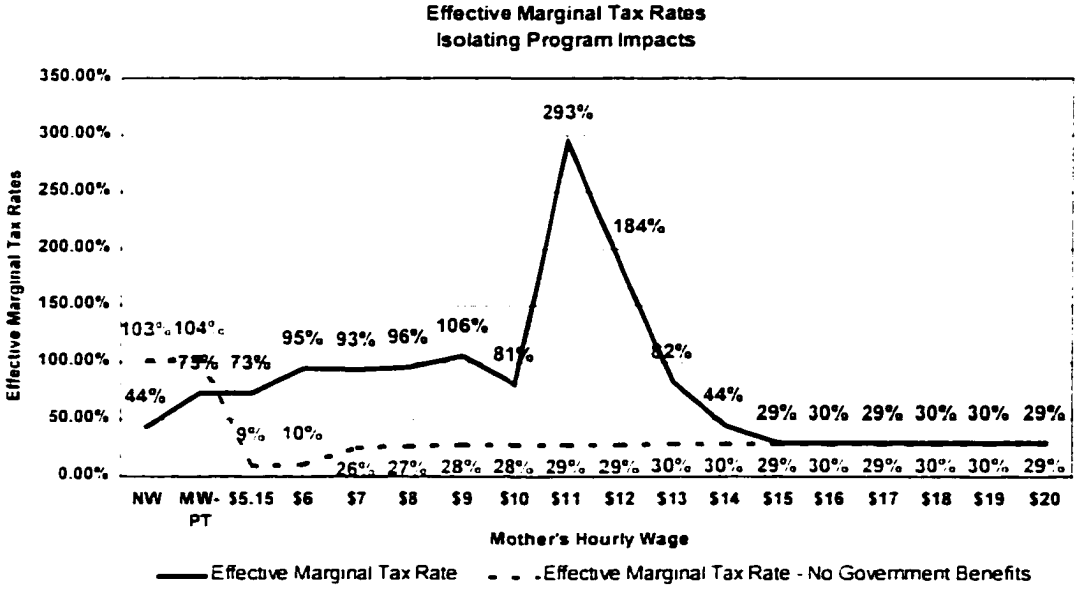
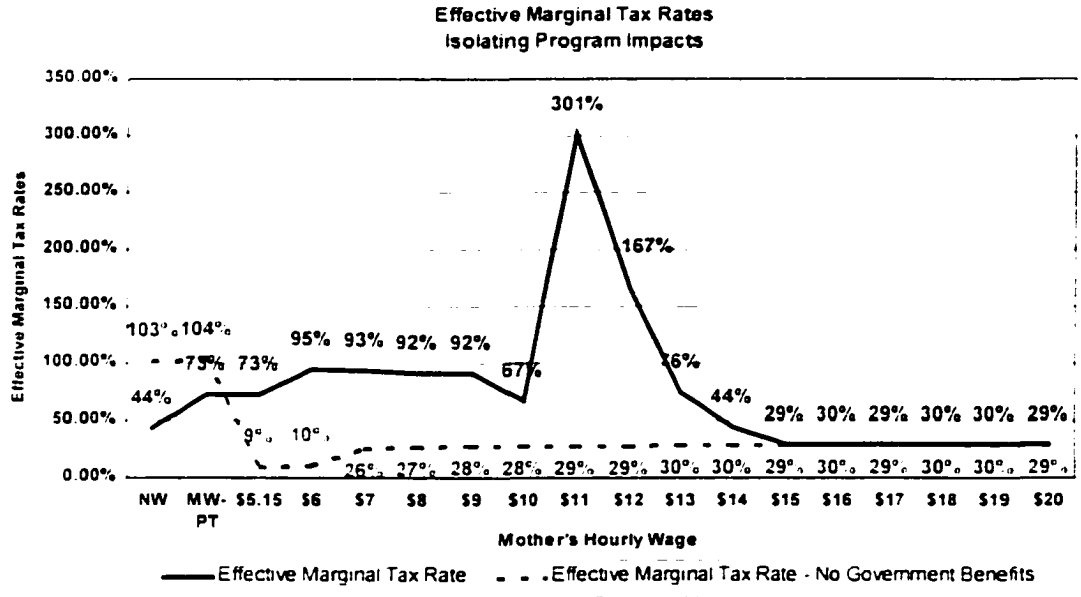
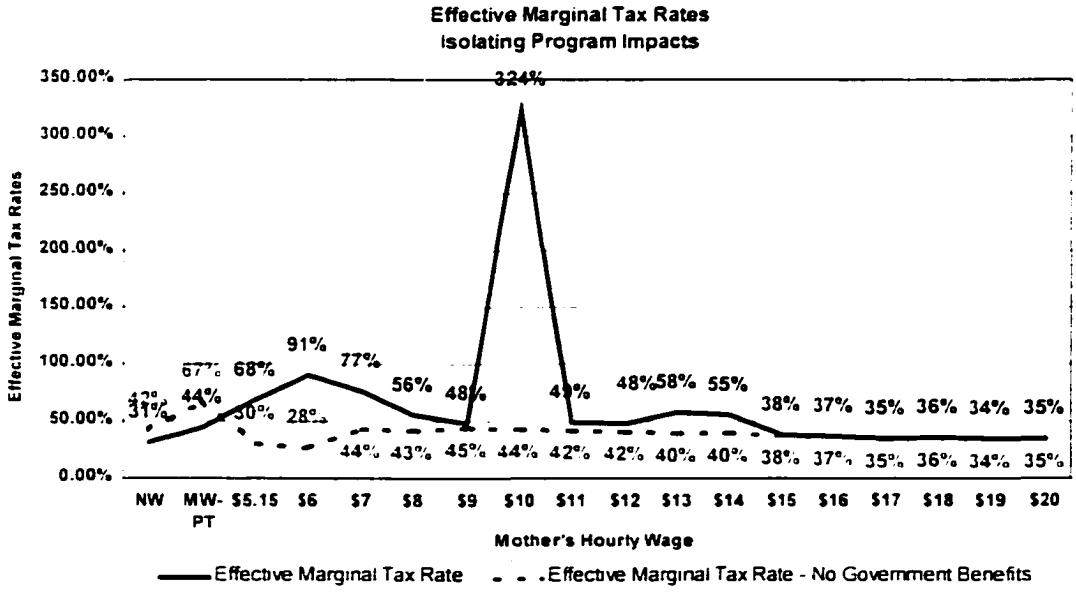


FIGURE 3-4 (cont.)

I. TANF, Food Stamps, Medicaid, Housing, Childcare, WIC, EITC, Childcare Tax Credit, Child Tax Credit



J. TANF, Food Stamps, Medicaid, Housing, Childcare, WIC, EITC, Childcare Tax Credit, Child Tax Credit, Child Support



Despite having a large impact on the MTR at the notch, the childcare subsidies only have a minimal impact on the MTRs the mother faces as she enters work. Since childcare expenses create the large MTRs, why do the childcare subsidies fail to dramatically reduce the MTRs? The answer comes from the fact that for TANF, Food Stamps, and Housing Subsidies, childcare costs are considered when calculating benefit levels. With the inclusion of a childcare subsidy, the recipient faces a quicker phase-out of TANF, Food Stamps, and Housing Subsidy benefits. Therefore, childcare subsidies designed to make work more attractive are most effective with recipients who do not participate in other transfer programs.

The WIC benefits, included in Figure 3-4(F) are similar to Medicaid, as the family no longer qualifies once they earn above 185% of the federal poverty guidelines. Thus, WIC influences the MTR schedule only at the point where the family is on the verge of losing benefits, at $12 per hour for this family. At this wage level a WIC notch exists in addition to the Medicaid notch. While somewhat obscured by the childcare notch at $11, the Medicaid/WIC notch is quite large (161% MTR in this scenario).

Figures 3-4(G), (H), and (I) illustrate the MTRs that include the three tax credits for which this family may qualify. First, the EITC in Figure 3-4(G) lowers the MTRs as the mother enters work. Once the mother enters the phase-out region around $6 per hour, the MTRs increase by approximately 20 percentage points. The Childcare Tax Credit and the Child Tax Credit included in Figures 3-4(H) and (I) erase most, but not all of the EITC phase-out for this family. There is no certainty, however, that individuals consider the EITC and other tax credits when making labor supply choices, even if the individuals receive the credits. The complicated benefit calculations combined with a once-per-year

benefit, may keep the credits from influencing behavior. In this case, the effective MTRs faced by recipients should be calculated by excluding the tax credits. Thus, if individuals do not consider the tax credits when making labor supply decisions then the individuals face higher MTRs as they increase hours worked.

Finally, Figure 3-4(J) illustrates the MTR schedule with all of the transfer and tax programs plus child support included. Notice that with the addition of child support the MTRs are generally smaller. The childcare notch, however, has moved and increased in magnitude. Also, note the change in the MTR with no government benefits schedule, which do include the child support awards. Without government benefits, the MTR faced by the mother as she moves to part-time work or full-time work, are significantly lower than she faces without any child support. Recall that supplemental child support awards help the custodial parent meet childcare expenses. Without any child support, these childcare expenses create large MTRs when the mother enters work. Consequently, these child support awards reduce the MTRs the mother faces as she enters work. This provides evidence that strong child support enforcement can help reduce some barriers to work.

With knowledge of how each program influences the MTR schedule, one can now determine how each program affects work incentives. All of the assistance programs create an income effect leading to decreased labor supply. However, many assistance programs produce substitution effects which conflict with the income effect. With similar NIT designs, TANF, Food Stamps, and Housing Subsidy programs each unambiguously raise MTRs, and therefore generate a substitution effect leading recipients to decrease labor supply. For these programs both the income and substitution effects work in the same direction creating an unambiguous work disincentive. This finding serves as the

basis for the empirical analysis of Chapter Four.

The Medicaid and WIC programs also tend to raise MTRs, but only when the family is on the verge of losing benefits. Thus, the income and substitution effects generated by these programs also lead to unambiguous decreases in labor supply. Families on the verge of losing benefits, however, face the largest effect. These families face both the income and substitution effects generated by the program. Families that are not on the cusp of losing benefits face only the income effect.

The EITC does not have a guaranteed benefit, because its structure resembles a WS program. The program, however, does generate an income effect decreasing labor supply. At the same time, the EITC lowers the MTRs the mother faces as she moves into work, thereby creating a substitution effect that increases labor supply. For this program, the income and substitution effects conflict producing an ambiguous effect on hours worked. Clearly, the work disincentives associated with a wage subsidy program like the EITC are much less severe than the disincentives generated from traditional transfer programs.

The childcare subsidy program also does not provide a guaranteed benefit. A parent must work in order to face childcare expenses and qualify for a subsidy. Like the EITC, the childcare subsidy program produces conflicting income and substitution effects creating to an ambiguous labor supply impact. Because the change in MTRs is smaller for participants who are also recipients of TANF, Food Stamps, and Housing Subsidies, the substitution effect should also be smaller for these recipients holding all other factors constant.

III. The Impact from Changing the Number of Children

Section II discussed how changes in program participation influence MTRs, and thereby change work incentives. This section discusses how changes in the number of children can influence the MTRs. In all transfer programs families with more children generally qualify for larger benefits, and qualify for benefits at higher levels of income[9]. Consequently, the MTRs should differ across family size. If the work incentives differ by the number of children, then any empirical analysis would need to control for this variation. To calculate the MTRs the author assumes that if eligible, the family participates in TANF, Food Stamps, Housing Subsidies, Medicaid, Childcare Subsidies, WIC, EITC, Childcare Tax Credit, Child Tax Credit, and the Additional Child Tax Credit.

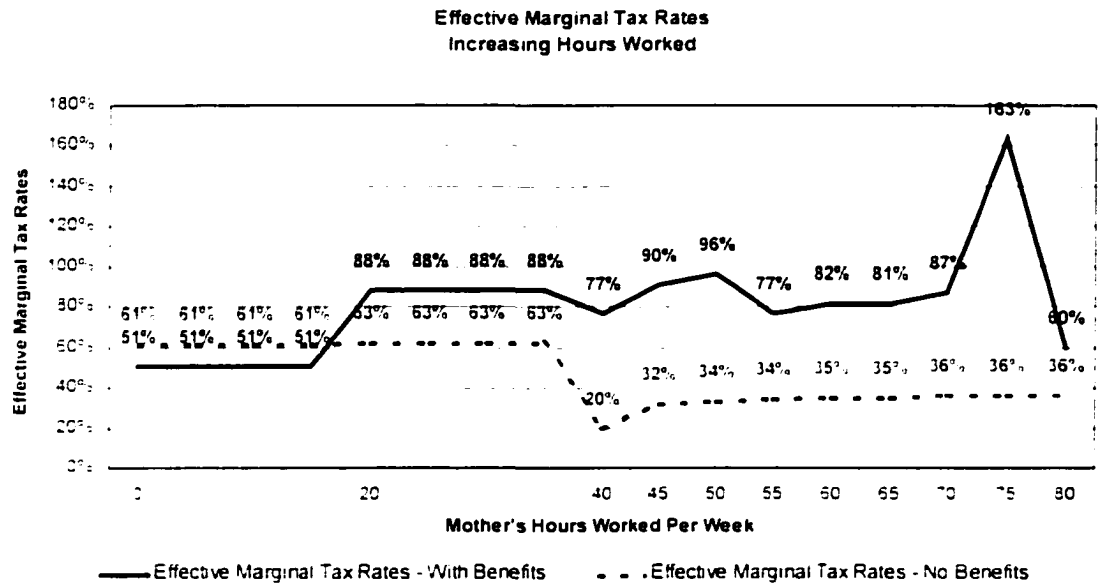
When the family has one child, the author assumes the child is a one-year old male, who needs childcare. When the family has two children, the author assumes there is a three-year old female in addition to the one-year old male. For this family, both children need childcare. This is the same representative family from Section I. When the family has three children, the author assumes there is a seven-year old female in addition to the one-year old male and three-year old female. The results presented here, however, apply to other program combinations, and to different children's ages.

Figure 3-5 presents the MTRs faced by the mother as she increases her hours worked, when she has one, two, and three children. The number of children makes little

[9] There are some restrictions to this rule. Housing subsidies increase if the family rents a larger apartment. Since the number of children and size of the apartment should be positively correlated, families with more children tend to receive larger housing subsidies. Childcare subsidies and the childcare tax credit increase if there are more children needing childcare. The presence of more older children will not influence these benefits. WIC benefits increase if there are more children under age five. The EITC is larger for families with two children than families with one child. However, families with more than two children do not receive larger benefits than families with two children.

FIGURE 3-5
Effective Marginal Tax Rates for Families with Different Numbers of Children

A. One Child



B. Two Children

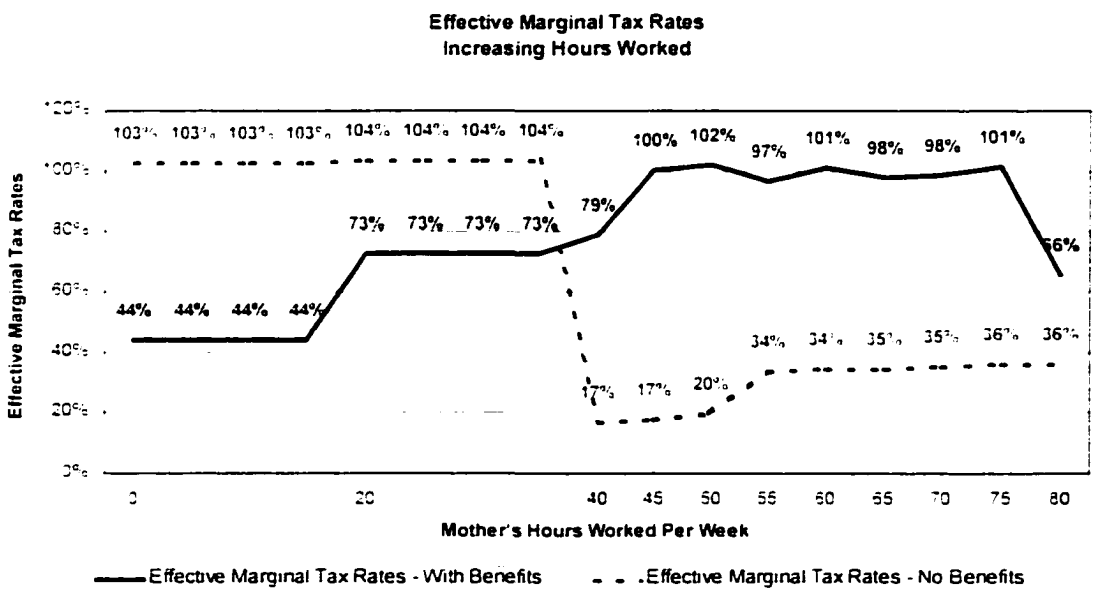
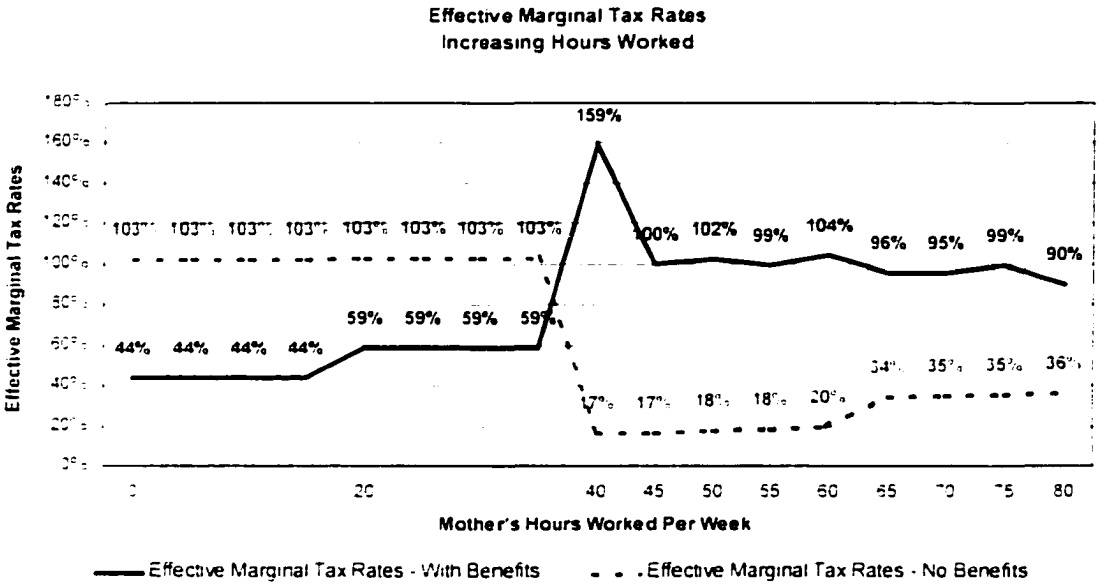


FIGURE 3-5 (cont.)

C. Three Children



difference in the MTRs faced by the mother as she increases her labor supply from 0-20 hours per week. With one child, the tax rate equals 51% while the tax rate equals 44% when there are two or three children. The number of children, however, does influence the MTR faced by the mother as she increases her labor supply from 20-40 hours per week. With one child, the MTR equals 88% as the mother moves from part-time to full-time work. Likewise, with two children the MTR equals 73%, and with three children the MTR equals 59%.

Table 3-2 presents the benefit amounts underlying the MTRs for parts of Figure 3-5. If the family has one child, total resources only increase by $53 as the mother moves from part-time to full-time work. If the family has two children, total resources increase by $121 as the mother moves from part-time to full-time work. This larger increase in

Table 3-2 *Total Resources With Different Numbers of Children*

	1 Child			2 Children			3 children		
	Mother's Earnings Scenarios								
	NW	MW-PT	MW-FT	NW	MW-PT	MW-FT	NW	MW-PT	MW-FT
TANF	225	62	0	292	129	0	361	198	7
Food stamps	206	145	62	282	223	165	351	293	253
EITC	0	152	193	0	179	318	0	179	318
Housing	413	328	218	404	319	234	396	311	244
Medicaid	147	147	60	207	207	121	290	290	290
WIC	28	28	28	56	56	56	56	56	56
Income After Taxes and Daycare Expenses	0	378	731	0	378	720	0	379	722
Total Resources	**1018**	**1239**	**1292**	**1241**	**1492**	**1613**	**1454**	**1705**	**1889**

All families have a single mother plus:
One Child: one-year old male; Two Children: one-year old male and a three-year old female; Three Children: one-year old male, three-year old female; seven-year old female.
"NW": mother does not work; "MW-PT": mother works part-time at minimum wage ($5.15); "MW-FT": mother works full-time at minimum wage

resources translates into the lower MTRs from Figure 3-5. The bulk of the additional increase comes from the EITC. If the family has one child the EITC increases by $41 as the mother moves from part-time to full-time work. This compares to an increase of $139 if the family has two children. As mentioned in Chapter Two, the EITC is larger for families with two or more children than it is for families with one child.

If the family has three children, total resources increase by $184 as the mother moves from part-time to full-time work. This compares to a $121 increase when the family has two children. A large part of this difference is due to the presence of a Medicaid notch when the family has two children. Because the mother loses TANF benefits in the two-child case, she also loses her Medicaid benefit. Thus in the two-child case, the Medicaid benefit decreases by $86. In the three-child case the mother remains eligible for TANF, and therefore remains eligible for Medicaid. Consequently, there is no decrease in Medicaid benefits in the three-child case. This translates into a lower MTR for a mother with three children.

Because the number of children influences the MTRs faced by the mother as she moves from part-time to full-time work, families with more children face different work incentives than families with fewer children. The relationship between number of children and labor supply, however, is not clear. The lower MTRs when the family has more children, creates a substitution effect that increases labor supply. On the other hand, notice that with more children, families can qualify for larger TANF, Food Stamps, EITC, Medicaid, and WIC benefits. These larger benefits create an income effect that decreases labor supply. Therefore, the number of children has an ambiguous work incentive effect. Since the number of children does influence the work incentives the

mother faces, the empirical analysis of Chapter Four controls for the number of children.

IV. Marriage Disincentives Resulting from the Tax and Transfer System

It is well known that one of the leading causes of family poverty is the existence of female-headed households. Some authors like Charles Murray (1984) claim that public assistance policies in the United States are to blame for the growth in female-headed households over the last thirty years. As mentioned in Chapter One, however, researchers have found little evidence to support this claim. This section analyzes the incentives to marry under Oklahoma's public assistance system.

To analyze the marriage incentives from the tax and transfer system, the author compares the total resources available to a family under different family structures. Essentially, this approach captures the financial payoff/penalty to marriage.[7] In this analysis, the family consists of the representative family from the previous sections, which includes a mother with two young children, plus the biological father of the children. By assumption, the father works full-time with an hourly wage of $8. To capture any interaction between the mother's labor supply and marriage decisions, the author varies the mother's wage. The total resource calculations under each family structure consider the income and benefits of both parents and both children.

Figure 3-6 presents the total resources available to the four individuals when the parents marry, and when they cohabit. By assumption, the couple openly informs the tax and transfer agencies of their living arrangements. Because the only difference between the two family structures is the legal status of marriage, this comparison captures the

[7] Certainly there are non-pecuniary factors that also influence a decision to marry, which are not included in this analysis.

FIGURE 3-6

Cohabit-Married Comparison for a Representative Family

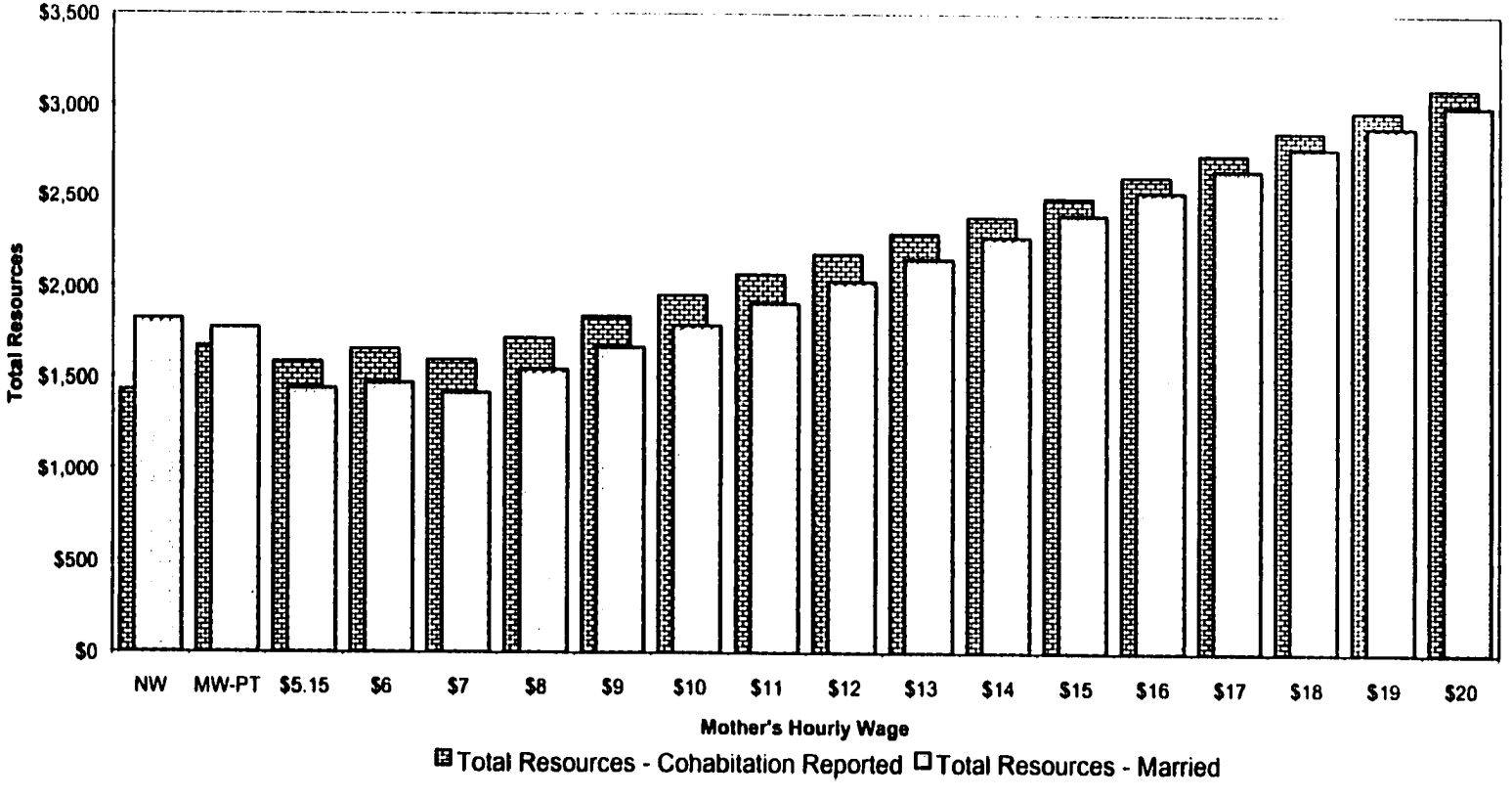


Table 3-3 — *Benefit Calculations for a Representative Family - Married*

	Mother's Hourly Wage								
	NW	**$5.15-PT**	**$ 5.15**	**$ 6.00**	**$ 7.00**	**$ 8.00**	**$ 9.00**	**$10.00**	**$11.00**
Income	1387	1833	2279	2427	2600	2773	2947	3120	3293
Federal Income Taxes	0	47	115	137	163	188	215	240	267
Less: Childcare Tax Credit	0	47	84	80	80	80	80	80	80
Less: Child Tax Credit	0	0	31	57	83	83	83	83	83
Net Federal Income Taxes	0	0	0	0	0	25	51	77	103
State Income Taxes	16	38	65	75	87	98	110	122	133
Less: Childcare Tax Credit	0	9	17	16	16	16	16	16	16
Net State Income Taxes	16	28	48	59	71	82	94	106	117
Childcare Costs	0	390	779	779	779	779	779	779	779
Childcare Copay	0	200	779	779	779	779	779	779	779
Work Expenses	67	101	134	134	134	134	134	134	134
FICA Taxes	106	140	174	186	199	212	225	239	252
Income After Taxes, Childcare, and Work Expenses	1198	1364	1143	1269	1417	1540	1663	1785	1907
TANF	0	0	0	0	0	0	0	0	0
Food Stamps	126	79	25	0	0	0	0	0	0
Medicaid	121	121	121	121	0	0	0	0	0
Housing Subsidies	76	2	42	0	0	0	0	0	0
WIC	56	56	56	56	0	0	0	0	0
EITC	245	151	56	26	0	0	0	0	0
Total Resources	1821	1773	1443	1471	1417	1540	1663	1785	1907
Effective Marginal Tax Rates	111%	174%	81%	131%	29%	30%	29%	30%	30%

Representative Family Consists of a Single Mother and Two Children Aged One and Three
"NW": Mother does not work, "$5.15-PT": Mother works 20 hours per week earning $5.15 per hour, All other wage levels assume 40 hour workweeks

Table 3-3 (cont.) *Benefit Calculations for a Representative Family - Married*

	Mother's Hourly Wage								
	$12.00	**$ 13.00**	**$14.00**	**$15.00**	**$16.00**	**$17.00**	**$18.00**	**$19.00**	**$20.00**
Income	3467	3640	3813	3987	4160	4333	4507	4680	4853
Federal Income Taxes	293	318	345	370	397	423	448	475	500
Less: Childcare Tax Credit	80	80	80	80	80	80	80	80	80
Less: Child Tax Credit	83	83	83	83	83	83	83	83	83
Net Federal Income Taxes	130	155	181	207	233	260	285	311	337
State Income Taxes	145	157	169	180	192	204	215	233	245
Less: Childcare Tax Credit	16	16	16	16	16	16	16	16	16
Net State Income Taxes	129	141	153	164	176	188	199	217	229
Childcare Costs	779	779	779	779	779	779	779	779	779
Childcare Copay	779	779	779	779	779	779	779	779	779
Work Expenses	134	134	134	134	134	134	134	134	134
FICA Taxes	265	278	292	305	318	332	345	358	371
Income After Taxes, Childcare, and Work Expenses	2029	2152	2274	2397	2519	2641	2764	2880	3003
TANF	0	0	0	0	0	0	0	0	0
Food Stamps	0	0	0	0	0	0	0	0	0
Medicaid	0	0	0	0	0	0	0	0	0
Housing Subsidies	0	0	0	0	0	0	0	0	0
WIC	0	0	0	0	0	0	0	0	0
EITC	0	0	0	0	0	0	0	0	0
Total Resources	2029	2152	2274	2397	2519	2641	2764	2880	3003
Effective Marginal Tax Rates	29%	30%	29%	30%	30%	29%	33%	29%	30%

Representative Family Consists of a Single Mother and Two Children Aged One and Three
"NW": Mother does not work; "$5.15-PT": Mother works 20 hours per week earning $5.15 per hour, All other wage levels assume 40 hour workweeks

Table 3-4 *Benefit Calculations for a Representative Family - Cohabitation Reported*

	Mother's Hourly Wage								
	NW	**$5.15-PT**	**$ 5.15**	**$ 6.00**	**$ 7.00**	**$ 8.00**	**$ 9.00**	**$10.00**	**$11.00**
Income	1387	1833	2279	2427	2600	2773	2947	3120	3293
Federal Income Taxes	120	120	120	120	120	145	171	198	223
Less: Childcare Tax Credit	0	0	0	0	0	26	52	78	92
Less: Child Tax Credit	0	0	0	0	0	0	0	0	11
Net Federal Income Taxes	120	120	120	120	120	120	120	120	120
State Income Taxes	44	45	50	52	57	64	72	81	92
Less: Childcare Tax Credit	0	0	0	0	0	5	10	16	18
Net State Income Taxes	44	45	50	52	57	58	62	66	73
Childcare Costs	0	390	779	779	779	779	779	779	779
Childcare Copay	0	200	779	779	779	779	779	779	779
Work Expenses	67	101	134	134	134	134	134	134	134
FICA Taxes	106	140	174	186	199	212	225	239	252
Income After Taxes, Childcare, and Work Expenses	1050	1228	1022	1156	1311	1470	1627	1782	1935
TANF	0	0	0	0	0	0	0	0	0
Food Stamps	126	79	25	0	0	0	0	0	0
Medicaid	121	121	121	121	0	0	0	0	0
Housing Subsidies	76	2	42	0	0	0	0	0	0
WIC	56	56	56	56	0	0	0	0	0
EITC	0	179	318	318	281	245	208	171	135
Total Resources	1429	1665	1584	1650	1592	1715	1835	1954	2070
Effective Marginal Tax Rates	47%	118%	55%	134%	29%	31%	31%	33%	35%

Representative Family Consists of a Single Mother and Two Children Aged One and Three
"NW": Mother does not work; "$5.15-PT": Mother works 20 hours per week earning $5.15 per hour, All other wage levels assume 40 hour workweeks

Table 3-4 (cont.) *Benefit Calculations for a Representative Family - Cohabitation Reported*

	Mother's Hourly Wage								
	$12.00	**$ 13.00**	**$14.00**	**$15.00**	**$16.00**	**$17.00**	**$18.00**	**$19.00**	**$20.00**
Income	3467	3640	3813	3987	4160	4333	4507	4680	4853
Federal Income Taxes	249	275	301	328	353	379	405	431	458
Less: Childcare Tax Credit	88	84	80	80	80	80	80	80	80
Less: Child Tax Credit	42	71	83	83	83	83	83	83	83
Net Federal Income Taxes	120	120	138	164	190	216	242	268	294
State Income Taxes	102	113	125	137	148	160	171	183	195
Less: Childcare Tax Credit	18	17	16	16	16	16	16	16	16
Net State Income Taxes	84	96	109	121	132	144	155	167	179
Childcare Costs	779	779	779	779	779	779	779	779	779
Childcare Copay	779	779	779	779	779	779	779	779	779
Work Expenses	134	134	134	134	134	134	134	134	134
FICA Taxes	265	278	292	305	318	332	345	358	371
Income After Taxes, Childcare, and Work Expenses	2084	2232	2362	2484	2607	2729	2851	2973	3095
TANF	0	0	0	0	0	0	0	0	0
Food Stamps	0	0	0	0	0	0	0	0	0
Medicaid	0	0	0	0	0	0	0	0	0
Housing Subsidies	0	0	0	0	0	0	0	0	0
WIC	0	0	0	0	0	0	0	0	0
EITC	98	62	26	0	0	0	0	0	0
Total Resources	2182	2295	2387	2484	2607	2729	2851	2973	3095
Effective Marginal Tax Rates	35%	47%	44%	29%	30%	29%	30%	30%	30%

Representative Family Consists of a Single Mother and Two Children Aged One and Three
"NW": Mother does not work; "$5.15-PT": Mother works 20 hours per week earning $5.15 per hour; All other wage levels assume 40 hour workweeks

payoff/penalty to marriage. Tables 3-3 and 3-4 present the calculations that form the basis for the diagram.

As Figure 3-6 illustrates, the existence of a marriage payoff/penalty depends on the mother's earnings. When the mother does not work, the family's resources equal $1,821 if the couple is married, and they equal $1,429 if they cohabit. This translates into a $392 marriage payoff each month. This payoff is due to the tax treatment of the father's income. When the couple is married and the mother does not work, the family pays no net federal tax[8] and only $16 each month in a state tax. When the couple cohabits and the mother does not work, the family pays $120 monthly in net federal tax and $44 in state tax. Additionally, the couple receives an EITC benefit equal to $245 when married that they will not receive if they cohabit.[9]

When the mother works full-time, the family's resources total $1,443 if the couple is married, and they total $1,584 if they cohabit. Thus, the family faces a marriage penalty of $141 per month. Again, this penalty is due to the tax code. The EITC equals $56 each month if the couple is married, and equals $318 each month if the couple cohabits.[10] The cohabiting couple receives a larger benefit because the calculation only considers the mother's earnings. At a full-time minimum wage job, the mother reaches the plateau portion of the EITC. The married couple, however, must include both spouse's earnings in the benefit calculation. Consequently, the married couple reaches the phase-out portion of the EITC, thereby receiving a smaller credit. The net federal taxes

[8] Net Federal Tax equals Federal Tax Less Childcare Tax Credit and Child Tax Credit. Net Federal Tax does not include the Earned Income Tax Credit. The EITC is treated separately in the analysis.
[9] These EITC calculations assume the father never takes the EITC. The mother always claims the children as dependents, and always takes the EITC. If the father takes the EITC in this instance, the benefit would equal $245, the same as if the couple married. Thus, the marriage payoff would equal $147.
[10] Note that there is no reason for the father to claim the EITC in this case. The family receives the largest EITC benefit if the mother claims the credit.

do mitigate the EITC effect somewhat as married couples pay $120 less than cohabiting couples each month.

The EITC continues to create a marriage penalty as the mother earns more. If the couple is married, the EITC phases-out when the mother earns above $6 per hour. If the couple cohabits, however, the EITC does not phase-out completely until after the mother's hourly wage exceeds $14 per hour. Thus, at hourly wages up to $14 the EITC contributes to the marriage penalty. Unlike the case where the mother earned $5.15 per hour, the net federal and state taxes are less favorable to married couples as the mother earns more. If the mother earns $10 per hour, the net federal and state taxes are nearly identical when the couple is married as to when they cohabit. If the mother earns more than $10 per hour, the net federal and state taxes also contribute to the marriage penalty.[11]

Because the marriage payoff/penalty depends on the mother's earnings, the mother's marriage decision could affect her labor supply choice, and vice versa. Interestingly, if the couple is married, the family's total resources actually decline as the mother increases labor supply. When the mother does not work, the family receives $1,821 in total resources. This number falls to $1,773 if the mother works part-time, and to $1,443 if the mother works full-time. This corresponds to an effective MTR of 111% as the mother moves from not working to part-time work, and an effective MTR of 174% as the mother moves from part-time to full-time work. The cause of the high MTRs is the increase in childcare costs as the mother goes to work coupled with the decline in Food Stamp, Housing, and EITC benefits. If the mother does not work, the family faces no childcare costs. If the mother works full-time, the married couple does not qualify for a

[11] This result is dependent upon the father's wage. If the father earns more, the breakeven point, where net federal taxes for married and cohabiting couple are equal, tends to rise as well.

childcare subsidy, and therefore must absorb all the childcare costs.[12] As a result, a married mother with children faces a large disincentive to increasing her labor supply at a minimum wage job.

The interaction between labor supply and the marriage payoff penalty complicates the computation of the marriage incentives. One cannot simply equate the marriage payoff/penalty and marriage incentives. The marriage payoff/penalty computed above holds the earnings of the mother constant. Clearly, this is an implausible assumption. If the parents marry, the mother may choose not to work because of the high MTRs. If the parents cohabit, the mother may choose to work full-time. In order to calculate the marriage incentive, one must compare the family's total resources while married, with the appropriate labor supply choice, to the family's total resources while cohabiting, with the appropriate labor supply choice. The difference in utility between these two calculations equals the marriage incentive.

Figure 3-6 illustrates the differences in total resources when the couple marries and when they cohabit. However, these are not the only two options available to couples. Besides marrying and cohabiting, the couple could choose to live apart and maintain separate residences. The couple could also choose to cohabit and conceal the income and presence of the father from the tax and transfer agencies. The benefits computations are identical for both of these possibilities. The only difference is that when living apart, the couple must finance two separate homes. With clandestine cohabitation, the couple resides in the same home, and faces the same household expenses as couples that are married or report cohabitation. Edin (1991) and Blank (1997) provide support that

[12] The cohabiting couple does not qualify for a childcare subsidy either. However, this negative effect is offset by the EITC bonanza discussed previously.

unreported income and cohabitation is common among transfer recipients. For these reasons, this study focuses on unreported cohabitation. Figure 3-7 compares the family's total resources when the couple marries, reports cohabitation, and does not report cohabitation. Table 3-5 reports the calculations that form the basis for the unreported cohabitation columns in Figure 3-7.

The most striking result is that a family is always at least as well off financially by not reporting cohabitation. This creates a strong incentive for the parents to enter into an unreported cohabiting relationship. Likewise, it creates a strong disincentive for the mother to marry the father of her children. When the mother does not work, the mother, father and two children have combined total resources equal to $2,291. This compares to the family's resources of $1,821 if the parents marry. This translates into a marriage penalty of $470 each month.

The additional total resources available to the family when the parents clandestinely cohabit are mainly due to the receipt of transfer benefits. If the mother does not work and does not report cohabiting with the father, the family qualifies for $292 of TANF, $282 of Food Stamps, $207 of Medicaid, and $404 of Housing Subsidies. If the mother marries the father, she receives $0 of TANF, $126 of Food Stamps, $121 of Medicaid, and $76 of Housing Subsidies. Even favorable treatment in the tax code for married couples cannot offset the additional benefits from unreported cohabitation.

If the mother works full-time at minimum wage, the marriage penalty becomes more obscene. In this case, the family's resources total $2,663 if the parents do not report cohabitation, they total $1,443 if the parents marry, and they total $1,584 if they report cohabitation. In this example, the couple faces a "reporting penalty" equal to $1,079

FIGURE 3-7

Single-Cohabit-Married Comparison

When the Male is the Biological Father of the Children

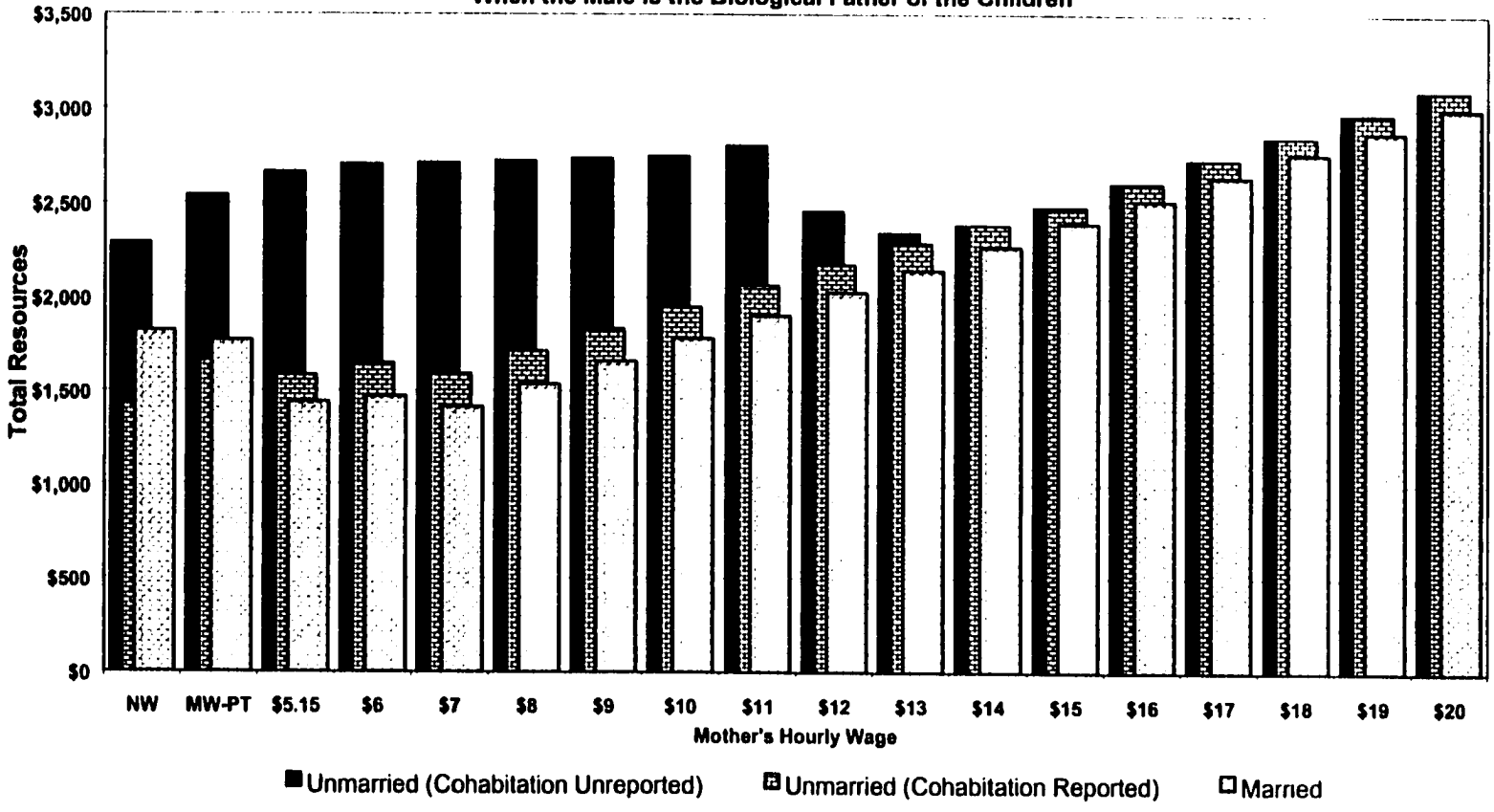


Table 3-5 *Benefit Calculations for a Representative Family - Cohabitation Unreported*

	Mother's Hourly Wage								
	NW	**$5.15-PT**	**$ 5.15**	**$ 6.00**	**$ 7.00**	**$ 8.00**	**$ 9.00**	**$10.00**	**$11.00**
Income	1387	1833	2279	2427	2600	2773	2947	3120	3293
Federal Income Taxes	120	120	120	120	120	145	171	198	223
Less: Childcare Tax Credit	0	0	0	0	0	26	44	46	48
Less: Child Tax Credit	0	0	0	0	0	0	8	32	55
Net Federal Income Taxes	120	120	120	120	120	120	120	120	120
State Income Taxes	44	45	50	52	57	64	72	81	92
Less: Childcare Tax Credit	0	0	0	0	0	5	9	9	10
Net State Income Taxes	44	45	50	52	57	58	63	72	82
Childcare Costs	0	390	779	779	779	779	779	779	779
Childcare Copay	0	0	32	68	107	150	176	192	209
Work Expenses	67	101	134	134	134	134	134	134	134
FICA Taxes	106	140	174	186	199	212	225	239	252
Income After Taxes, Childcare, and Work Expenses	1050	1428	1770	1867	1984	2099	2229	2364	2497
TANF	292	129	0	0	0	0	0	0	0
Food Stamps	282	223	165	140	110	81	48	11	0
Medicaid	207	207	121	121	121	121	121	121	121
Housing Subsidies	404	319	234	200	160	121	77	30	0
WIC	56	56	56	56	56	56	56	56	56
EITC	0	179	318	318	281	245	208	171	135
Total Resources	2291	2542	2663	2702	2711	2723	2738	2752	2808
Effective Marginal Tax Rates	44%	73%	73%	95%	93%	92%	92%	67%	301%

Representative Family Consists of a Single Mother and Two Children Aged One and Three
"NW": Mother does not work; "$5.15-PT": Mother works 20 hours per week earning $5.15 per hour; All other wage levels assume 40 hour workweeks

Table 3-5 (cont.) *Benefit Calculations for a Representative Family - Cohabitation Unreported*

	Mother's Hourly Wage								
	$12.00	$ 13.00	$14.00	$15.00	$16.00	$17.00	$18.00	$19.00	$20.00
Income	3467	3640	3813	3987	4160	4333	4507	4680	4853
Federal Income Taxes	249	275	301	328	353	379	405	431	458
Less: Childcare Tax Credit	88	84	80	80	80	80	80	80	80
Less: Child Tax Credit	42	71	83	83	83	83	83	83	83
Net Federal Income Taxes	120	120	138	164	190	216	242	268	294
State Income Taxes	102	113	125	137	148	160	171	183	195
Less: Childcare Tax Credit	18	17	16	16	16	16	16	16	16
Net State Income Taxes	84	96	109	121	132	144	155	167	179
Childcare Costs	779	779	779	779	779	779	779	779	779
Childcare Copay	779	779	779	779	779	779	779	779	779
Work Expenses	134	134	134	134	134	134	134	134	134
FICA Taxes	265	278	292	305	318	332	345	358	371
Income After Taxes, Childcare, and Work Expenses	2084	2232	2362	2484	2607	2729	2851	2973	3095
TANF	0	0	0	0	0	0	0	0	0
Food Stamps	0	0	0	0	0	0	0	0	0
Medicaid	121	0	0	0	0	0	0	0	0
Housing Subsidies	102	50	0	0	0	0	0	0	0
WIC	56	0	0	0	0	0	0	0	0
EITC	98	62	26	0	0	0	0	0	0
Total Resources	2461	2345	2387	2484	2607	2729	2851	2973	3095
Effective Marginal Tax Rates	167%	76%	44%	29%	30%	29%	30%	30%	30%

Representative Family Consists of a Single Mother and Two Children Aged One and Three
"NW": Mother does not work; "$5.15-PT": Mother works 20 hours per week earning $5.15 per hour; All other wage levels assume 40 hour workweeks

monthly, and a marriage penalty of $1,220 monthly. The reporting penalty equals the lost resources if the couple chooses to report the father's presence to authorities. Clearly, when the mother works full-time there is a large incentive to conceal the presence of the father. Likewise, there is little financial incentive for the mother to marry the father of her children. By concealing the father's presence in this case, the family can increase their total resources by 84% compared to marriage.

Like the case where the mother does not work, the marriage penalty when the mother works full-time at minimum wage is due to the receipt of some transfer benefits. By not reporting cohabitation, the family receives $165 of Food Stamps, $234 of Housing Subsidies, and $318 in EITC. This compares to $25 of Food Stamps, $42 of Housing Subsidies, and $56 in EITC for the couple if married. Also, the family receives $25 of Food Stamps, $42 of Housing Subsidies, and $318 in EITC if the couple reports cohabitation. Note that these are all federal programs, which produce similar incentives in other states as well.

The largest single contributor, however, to the marriage penalty is Oklahoma's Childcare subsidy program. With unreported cohabitation, the family pays only a $32 copay for $779 of childcare costs. This amounts to a childcare subsidy of $747 each month. When the couple marries or reports cohabitation, the family does not qualify for a subsidy, and therefore must pay the full cost of childcare, $779. Thus, Oklahoma's childcare subsidy program creates a $747 difference in family resources between couples who do not report cohabitation and couples that marry.

As of July 1999, Oklahoma's childcare subsidy program considered the income of a cohabiting or married male only if he was the biological father of the children. If the

cohabiting or married male was not the biological father of the children, the income was not included. This discrepancy in the treatment of a cohabiting/married male leads to different marriage incentives if the male is not the biological father of the children. Figure 3-8 presents the total resources comparisons when the male is not the biological father of the children. Notice that the marriage disincentive shrinks dramatically. In this case, the family faces the same childcare costs regardless of family structure.

Figure 3-8 is not just illustrative of some cases in Oklahoma; it has national implications as well. Since the marriage penalty from the childcare subsidy program does not exist when the male is not the biological father of the children, the marriage penalty depicted in Figure 3-8 is due solely to Food Stamps, Housing Subsidies, and the EITC. Recipients nationwide face the marriage penalties inherent in these programs. Whether or not the male is the biological father of the children, does not influence the benefit calculations for these programs. For these national programs, couples with unreported cohabitation and a mother that works full-time at minimum wage receive an additional $140 of Food Stamps, an extra $192 of Housing Subsidies, and an additional $262 in EITC compared to couples who are married. These marriage penalties are identical to those found for these programs when the male is the biological father of the children.

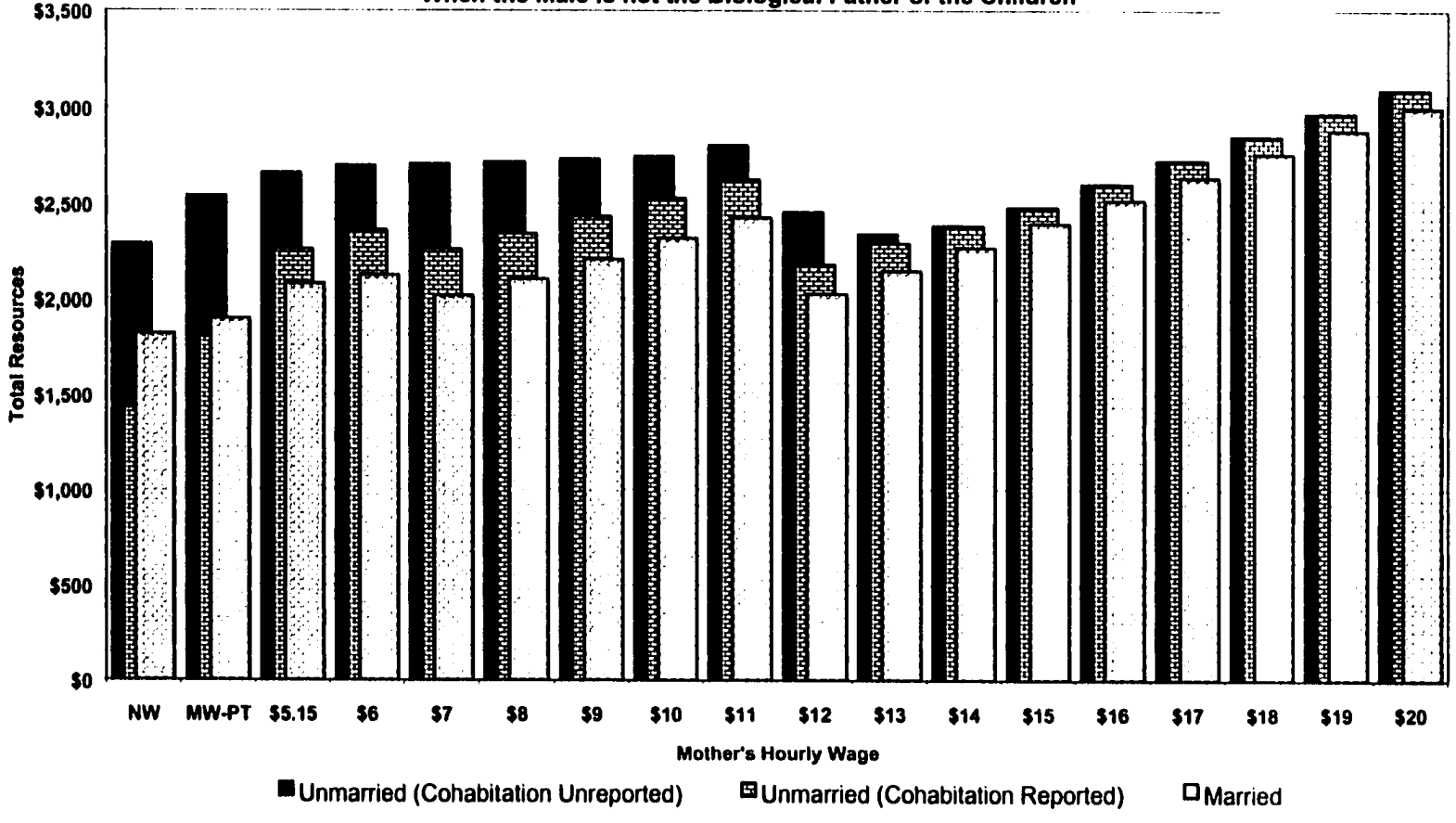
V. Conclusion and Hypotheses

This chapter modeled the complex interactions between the various public assistance programs in Oklahoma as of July 1999. Generally, the study found that by including a more comprehensive set of programs, including some state-specific programs ignored in other studies, the effective MTRs are higher than most of those reported

FIGURE 3-8

Single-Cohabit-Married Comparison

When the Male is not the Biological Father of the Children



elsewhere. Additionally, the state-specific programs, like childcare subsidies, have a large impact on the MTRs faced by a mother. Also, this chapter isolated the impact of each program in order to determine the work disincentives created by each benefit. Finally, by comparing the family's resources when the adults are married to the resources when the adults do not report cohabitation, this study finds the tax and transfer system generates larger marriage penalties than those reported elsewhere. Because federal programs create some of these results, and because all states currently employ childcare subsidy programs, these findings apply to other states as well.

The preceding analysis allows the author to derive some testable hypotheses about work and marriage behavior. As mentioned earlier, the structure of the housing subsidy program creates income and substitution effects that combine to unambiguously discourage work. Consequently, if the receipt of housing subsidies is exogenously determined—and this study provides evidence in Chapter Four to support this supposition—then these two hypotheses should be valid:

1. TANF recipients who concurrently receive housing subsidies have lower labor force participation rates than TANF recipients who do not receive housing subsidies, holding other factors constant.
2. TANF recipients who concurrently receive housing subsidies will have lower earnings than TANF recipients who do not receive housing subsidies, holding other factors constant.

These hypotheses form the basis of the empirical analysis of Chapter Four. Using the TANF population for the sample provides several benefits. First, state administrative data is available containing information on the earnings and demographic characteristics of

the TANF population. Second, the test allows one to indirectly test for the impact of a lower MTR in the presence of TANF work requirements.

The findings from this chapter also lead to a testable hypothesis on the marriage incentives. In October 1999, the state of Oklahoma changed its guidelines for the treatment of income from a male in the household who is not the biological father of the children. As of October 1999, the benefit calculations for the childcare subsidy will consider the income of a cohabiting/married male. If the incentives do influence marriage and labor market behavior then these following hypotheses are valid:

1. The combined marriage/cohabitation rate among women with children receiving childcare subsidies will decline after October 1999, holding other factors constant.
2. Married women with children receiving childcare subsidies will decrease their labor supply after October 1999, holding other factors constant.

These hypotheses form the basis for future research.

Chapter 4

The Effectiveness of TANF Financial Work Incentives In the Presence of Work Requirements

Since the joint use of work requirements and financial incentives is a relatively new development in welfare policy, previous research on the labor supply impacts of financial incentives may not be as applicable today. As Chapter One showed, the MFIP study is the only study that examined the labor supply effects stemming from the joint use of work requirements and financial incentives. MFIP was a randomized experiment where participating individuals were divided into one of three groups. One group faced financial incentives and work requirements, a second group received financial incentives only, and the control group participated in the traditional transfer programs. MFIP researchers found that financial incentives used alone significantly increased labor force participation, but had no impact on earnings. The study also found that work requirements, conditional on the presence of financial incentives, significantly increased both labor market participation and earnings (Berlin 2000).

The MFIP study, however, was not designed to estimate the impact of work requirements alone or the effect of financial incentives conditional on the presence of work requirements. This information is most relevant to state policymakers today. Current TANF rules force states to impose work requirements, but give states the flexibility to implement financial incentives. The relevant question for state policymakers is: *What is the effect of financial incentives conditional on the presence of work requirements?*

This chapter seeks to address this question so that state policymakers can better choose an optimal mix of transfer programs. This chapter conducts an empirical analysis

on the effectiveness of financial incentives in the presence of work requirements, by examining the response of TANF recipients in Oklahoma to higher effective tax rates. The layout of this chapter is as follows. Section I presents the hypotheses tested in this chapter. Section II describes the data and specification employed in this study. Section III discusses the assumption that the receipt of federal housing subsidies is exogenously determined for this sample. Section IV presents the empirical results and analysis. Section V provides some concluding remarks.

I. Testable Hypotheses

One approach that captures the effectiveness of financial incentives in the presence of work requirements involves exploiting differences in the combined MTR, t_c, of TANF recipients that stem from differences in participation in the federal housing subsidy program. Table 4-1 presents calculations of total income and t_c at different labor supply levels for a representative family in Oklahoma. The family consists of a single mother with two young children who receive TANF, Food Stamps, Medicaid, Child-Care Subsidies, and the Earned Income Tax Credit (EITC). The mother receives a market wage equal to the federal minimum wage of $5.15 per hour. The family's total income equals the sum of after-tax earnings and the value of all the benefits the family receives. Also,

$$t_c = 1 - \frac{\Delta\ Total\ Income}{\Delta\ Earned\ Income}.$$

The t_c at 0 hours represents the t_c faced by the family if the single mother increased her labor supply to 20 hours per week. Likewise, the t_c at 20 hours represents the t_c faced by the family if the mother increased her labor supply to 40 hours per week.

Table 4-1 — ***Comparison of Income and Tax Rates (Housing Subsidy Recipients vs. Non-recipients)***

	Mother's Labor Supply Per Week		
Single Mother with One Child	**0 Hours**	**20 Hours**	**40 Hours**
	Without Federal Housing Subsidy		
Total Income†	$630	$996	$1,130
Combined Tax Rate (t_c)	18%	70%	
	With Federal Housing Subsidy		
Total Income‡	$1,018	$1,239	$1,292
Combined Tax Rate (t_c)	51%	88%	
Single Mother with Two Children	**0 Hours**	**20 Hours**	**40 Hours**
	Without Federal Housing Subsidy		
Total Income†	$828	$1,204	$1,381
Combined Tax Rate (t_c)	16%	60%	
	With Federal Housing Subsidy		
Total Income‡	$1,185	$1,436	$1,557
Combined Tax Rate (t_c)	44%	73%	
Single Mother with Three Children	**0 Hours**	**20 Hours**	**40 Hours**
	Without Federal Housing Subsidy		
Total Income†	$1,126	$1,471	$1,702
Combined Tax Rate (t_c)	23%	48%	
	With Federal Housing Subsidy		
Total Income‡	$1,454	$1,705	$1,889
Combined Tax Rate (t_c)	44%	59%	

† *Includes Earnings, TANF, Food Stamps, Medicaid, Child-Care Subsidies, EITC, Federal and State Taxes*

‡ *Includes Earnings, TANF, Food Stamps, Medicaid, Child-Care Subsidies, EITC, Federal and State Taxes, and Federal Housing Subsidies*

Family Resides in a Two-Bedroom Apartment in Oklahoma County

Because of the NIT design of housing subsidies, at all labor supply levels the family has higher total income and higher t_c when receiving housing assistance. These results arerobust to other family scenarios as well as other combinations of programs. Thus, TANF recipients who also receive housing assistance receive a higher G and face a higher t_c than TANF recipients who do not receive housing assistance. Because of this,

the income and substitution effects unambiguously discourage work for TANF recipients who also receive housing assistance compared to TANF recipients who do not. This study exploits the variation in housing subsidy participation to determine the impact of this work disincentive on labor supply. To accomplish this feat, this study assumes that the receipt of housing assistance is exogenously determined.[1] Using earnings as a proxy for labor supply, the two hypotheses tested in this chapter are:

1. TANF recipients who concurrently receive federal housing assistance should have a lower probability of working than TANF recipients who do not receive federal housing assistance; and
2. TANF recipients who concurrently receive federal housing assistance should have lower levels of earnings than TANF recipients who do not receive federal housing assistance should[2].

These hypotheses do not directly address the impact of work requirements on financial incentives. Since all TANF recipients face work requirements, however, these hypotheses do address the effect of both a higher G and t_c in the presence of work requirements. If housing subsidies negatively affect labor supply for TANF recipients, then there are three possible explanations:

1. The higher G associated with housing subsidies decreases labor supply; or
2. The higher t_c associated with housing subsidies decreases labor supply; or
3. Both the higher G and t_c decrease labor supply.

If housing subsidies do not negatively affect labor supply for TANF recipients, then there

[1] This study provides evidence to support this claim below.
[2] Note that a recipient may fulfill the TANF work requirement by doing unpaid work like job search and training. Thus, they may satisfy the work requirement, but have zero earnings. For the empirical analysis, such a worker is considered to be not working or not employed.

is only one explanation, neither the higher G nor the higher t_c associated with housing subsidies decreases labor supply. Conversely, a lower t_c (increased financial incentives) in the presence of work requirements does not increase labor supply. Thus a finding that housing subsidies do not negatively impact labor supply for TANF recipients would suggest that increased financial incentives in the presence of work requirements are ineffective at increasing labor supply for the population of TANF recipients.

One concern about these hypotheses stems from the valuation of in-kind housing benefits. A recipient views an in-kind benefit as equivalent to a cash benefit of the same magnitude if the recipient makes the same consumption choices as he/she would with the cash benefit. On the other hand, if the in-kind benefit distorts the consumption choices, then the recipient must value the in-kind benefit less than cash. As Leonisio (1988) shows, the lesser valuation of an in-kind program reduces the resulting work disincentives. The size of the impact, however, is much less clear. Generally, as a recipient's income increases, the size of the in-kind benefit decreases. If the recipient makes the same consumption choices with the smaller benefit, then the recipient must divert other cash income to offset the decreased benefit. In this case, the recipient values the in-kind benefit equal to cash over the relevant range. However, if the recipient reduces his/her consumption in response to the lower benefit, then the lost total income is not as large as the benefit reduction. In this case, the in-kind benefit is not equivalent to cash, and effectively results in the recipient facing a lower t.

Michael Murray (1994) estimated the impact of in-kind transfers on the t that recipients face. He found that in-kind transfer programs distort consumption choices, and result in smaller work disincentives than equivalent cash programs. This includes an

effectively lower G and t. He also found, however, that the statutory t's are still more important than the valuation of the benefit in determining the financial incentives the recipients face. Specifically, he found that welfare recipients who also receive housing benefits face a higher t than welfare recipients who do not concurrently receive housing benefits do. Thus according to this finding, the hypotheses presented in this section are valid tests of financial incentives even if recipients do not value housing subsidies equal to cash.

II. Data and Specification

Due to a unique characteristic of the housing subsidy program in both Oklahoma City and Tulsa as of July 1999, the sample consists only of TANF recipients from these two cities. Using the Oklahoma Department of Human Services (OKDHS) administrative database, the author collected information on all active Oklahoma TANF recipients as of July 1999 who were female household heads. This database contains information on the recipient's earnings, the recipient's demographic information, and whether the recipient receives a federal housing subsidy. To ensure that all included recipients face the same work requirements, the sample includes only TANF required work participants. Some individuals are temporarily exempt from the TANF work requirement due to the presence of a young child. The sample excludes these individuals. Finally, the sample includes only those families with three or fewer children. These families comprise a large majority of TANF families.

As mentioned in Chapter Three, the work incentives faced by a single mother vary with the number of children. Because of this variability in work incentives, the

author conducts separate analyses for families with one child, two children, and three children, in addition to an analysis pooling families from all three groups. There are 1270 observations for families with one child, 1125 observations for families with two children, and 720 observations for families with three children.

The author implements a probit analysis to estimate the impact of housing assistance on the probability of working, and a tobit analysis to estimate the impact of housing assistance on earnings. Table 4-2 contains detailed descriptions of each variable employed in the regressions, and Table 4-3 lists the mean and standard deviation of each variable included in the analysis. For each sample, there are four different estimated models. Model One is the base model. Besides a dummy variable indicating the receipt of housing subsidies, the base model includes demographic variables that could influence the probability of working. Such variables include the recipient's age, education, race, and city.

Model Two includes the base model and some additional variables capturing the impact of children on labor market behavior. The studies on the labor supply effects of childcare assistance tend to find that families with very young children have lower levels of labor supply. Because the presence of young or old children may change the job opportunities available to the recipient, this model includes three dummy variables for the presence of young children, old children, and an interaction term, respectively.

Model Three includes the base model as well as some additional variables, which control for any unobservable characteristics of the recipients that may influence labor market behavior. Some recipients may have some unobservable characteristics that might lead to a spurious correlation between receipt of housing assistance, and the probability

Table 4-2 *Definition of Variables*

Dependent Variables

Employed: A dummy variable used in Probit regressions which takes the value of 1 if "Earned Income" is greater than 0.

Earned Income: Variable used in the Tobit regression, measured in monthly dollar amounts.

Independent Variables

Age: Age of the female head of household, measured in years.

African-American: A dummy variable which takes the value of 1 if the head of household is an African-American.

Other Race: A dummy variable which takes the value of 1 if the head of household is of any other race. Included in this category are Asian-Americans, American Indians, and Hispanic Americans.

Diploma: A dummy variable which takes the value of 1 if the female head of household has a high school diploma or a GED.

Housing: A dummy variable which takes the value of 1 if the family receives federal housing assistance.

OKC: A dummy variable which takes the value of 1 if the family resides in Oklahoma City. This variable is only used in the regressions pooling the OKC and Tulsa samples.

Number of Children: A discrete variable equal to the number of children in the family. For this sample, this variable only takes the value of one, two, or three. This variable is only used in the regressions pooling all families.

Young Children: A dummy variable which takes the value of 1 if one of the children is less than 5 years old.

Older Children: A dummy variable which takes the value of 1 if one of the children is older than 12 years old.

Young & Older Children: A dummy interaction variable which takes the value of 1 if one of the children is less than 5, and one of the children is older than 12.

Current Spell: Variable which measures the length of the current TANF/AFDC "spell". This variable is measured in months.

Current Spell-Squared: Quadratic term which equals the current spell length squared.

Current Spell*Housing: An interaction term which equals the product of current spell length and the Housing dummy variable

Table 4-3	*Sample Summary Statistics*		
Variable	**MEAN**	**ST. DEV**	**Models**
Employed	0.236	0.42486	Probit
Earned Income	154.850	323.58	Tobit
OKC	0.748	0.43405	--
Number of Children	1.823	0.77966	--
Housing	0.395	0.48897	1,2,3,4
Age	29.138	8.3653	1,2,3,4
African-American	0.587	0.49237	1,2,3,4
Other Race	0.088	0.28282	1,2,3,4
Diploma	0.541	0.49838	1,2,3,4
Young Children	0.577	0.49418	2,4
Older Children	0.212	0.40848	2,4
Young & Older Children	0.022	0.1451	2,4
Current Spell	14.450	25.858	3,4
Current Spell-Squared	877.230	4138.4	3,4
Current Spell * Housing	6.733	19.42	3,4

of working. The author uses three variables derived from the length of the current TANF spell to attempt to control for the unobservable characteristics. Recipients in the midst of a long TANF spell may have a different willingness to enter the workforce than recipients on short spells. To capture this potential effect, this model includes variables for the length of the current TANF spell, a quadratic term, and an interaction term between the current TANF spell length and housing receipt. Finally, Model Four includes all of the explanatory variables. Note that because of the interaction term between housing and current spell length that appears in Models Three and Four, the total impact from receiving housing assistance is estimated by the sum of the housing and interaction term variables.

III. Endogeneity Issues

These testable hypotheses raise an important econometric concern that needs to be addressed in order for any empirical test to be valid. The use of differences in program

participation as a source of variation raises the possibility of a self-selection problem. The self-selection problem arises when individuals choose to participate in a program, thereby making program participation endogenous. One can correct for this problem by jointly modeling the labor supply and participation decisions. However, since the participation decisions are binary, estimation requires the computation of multiple probit integrals. Unfortunately, with many different programs interacting in complex ways, the problem quickly becomes intractable.

However, there are reasons to believe that the endogeneity concerns are less applicable to the housing subsidies examined in this study. Unlike other in-kind transfer programs, federal housing subsidies are not an entitlement because there is not enough assistance available to provide for all the applicants. Consequently, the housing authorities ration the housing benefits. To determine whether the rationing process results in an exogenous sorting of TANF recipients one must determine whether any factors influencing the selection of an individual to receive housing subsidies are correlated with labor market outcomes. If there is such a correlation, then the rationing process would lead to a spurious correlation between the receipt of housing assistance and labor market outcomes, thereby producing biased regression estimates of the housing effect. Thus, it is important to examine the rationing process in order to interpret the empirical results of this chapter.

Telephone interviews with staff from both the Oklahoma City and Tulsa Housing Authorities, which administer federal housing subsidies, indicate a unique rationing process in place as of July 1999. In both locales, the housing authority uses waiting lists to ration the limited subsidies. They then award the subsidies based on the placement of

applicants in the queue. For potential recipients, the hard part is getting on the waiting lists. Both the Oklahoma City and Tulsa Housing Authorities often close their waiting lists to new applicants, thereby keeping the applicants off the lists. When the waiting lists shrink, the housing authorities open up the lists again for more applicants. The housing authorities do not announce the openings and closings to the public, and thus potential recipients are unaware when the list will open again. If a potential recipient happens to apply during the "open" period, they are placed on the lists. This rationing process sorts the potential housing subsidy recipients, including some into the program, and excluding others from it. The key to determining into which group an applicant falls is simply the timing of the application. If an applicant applies on a good day, they are included. On a bad day, they are excluded. This rationing process increases the likelihood that participation in the housing subsidy program in these locales is not endogenously determined.

The rationing process in Oklahoma City and Tulsa works to limit the ability of individuals to choose to participate in the program, as the housing authorities restrict access. However, in order to receive subsidies, an individual must first choose to apply. Consequently, the rationing process alone does not completely eliminate the choice to participate. Although as shown in Table 4-1, the receipt of housing assistance increases total resources for all eligible families. Since all individuals in the sample are TANF recipients, therefore eligible for housing subsidies, all individuals in this sample can increase total income by participating in the housing assistance program.

Even though all TANF recipients can potentially receive a financial payoff to applying for housing assistance, not all TANF recipients will necessarily apply with

equal zeal. Potential recipients will attempt to apply for housing subsidies (and continue applying) as long as the expected gain from applying exceeds the expected costs. The expected gain depends upon the size of the benefit and the probability of being placed on the waiting lists. The expected costs depend on the disutility each individual receives from the effort required to apply for assistance. Thus, individuals with a larger expected benefit and a smaller disutility from applying should be more aggressive in applying for housing assistance. Individuals that are more aggressive and attempt to apply more often are more likely to eventually apply during an "open" period. Thus, these individuals have a higher probability of receiving housing assistance.

It is conceivable that the factors influencing individuals to apply more frequently are correlated with labor market outcomes. Since individuals with the lowest earnings potential will receive larger lifetime housing benefits, ceteris paribus, those individuals may apply more frequently. Thus, those individuals who receive housing subsidies would have lower earnings potential than non-housing recipients would. If true, then there is a spurious relationship between housing assistance and labor market outcomes, creating biased regression estimates. In this case, the regression estimates of the effect of housing assistance on labor market outcomes would be biased downward, suggesting that the receipt of housing assistance has a more negative effect on earnings and labor force participation.

It is also conceivable that the bias could run in the other direction. If the disutility derived from applying for assistance is negatively correlated with earnings potential, then the regression estimates of the effect of housing assistance would be upward biased. This could occur if an individual possesses traits that produce a lower disutility from applying

(i.e. persistence or determination), also increase earnings potential. However, the conventional wisdom on the direction of the bias holds that recipient vs. non-recipient comparisons (like the ones used in this study) generally produce regression estimates of the welfare effect that are biased downward.[3]

To help determine if the rationing process exogenously determines the receipt of housing assistance, thereby producing unbiased regression estimates, this study performs a diagnostic test comparing the characteristics of the housing recipients to non-housing recipients. Note that this test can only compare observable characteristics. To the extent that there are unobservable differences between housing recipients and non-housing recipients, the findings in this chapter are questionable. Although the inclusion into the regression equations of variables capturing the current TANF spell length, a TANF spell quadratic term, and a TANF spell/housing interaction term, attempt to control for unobservable differences.

If the potential housing recipients were exogenously sorted through the unique rationing process one would expect that housing recipients should have similar characteristics as non-housing recipients. To test for differences between the two groups, one needs to jointly test for differences in the means of the various demographic variables. To conduct such a test, the author performs a Seemingly Unrelated Regression (SUR) estimation of three equations. The complete model is:

[3] See Moffitt (1992). A brief discussion of this issue is contained in footnote 11 on pg. 15.

$$Age = \beta_{0,1} + \beta_{1,1} \times Housing + \varepsilon_1$$
$$Education = \beta_{0,2} + \beta_{1,2} \times Housing + \varepsilon_2$$
$$White = \beta_{0,3} + \beta_{1,3} \times Housing + \varepsilon_3$$
$$Young\ Children = \beta_{0,4} + \beta_{1,4} \times Housing + \varepsilon_4$$
$$Older\ Children = \beta_{0,5} + \beta_{1,5} \times Housing + \varepsilon_5$$
$$Young\ \&\ Older\ Children = \beta_{0,6} + \beta_{1,6} \times Housing + \varepsilon_6$$
$$Number\ of\ Children = \beta_{0,7} + \beta_{1,7} \times Housing + \varepsilon_7$$
$$Current\ TANF\ Spell = \beta_{0,8} + \beta_{1,8} \times Housing + \varepsilon_8$$

$$H_0 : \beta_{1,1} = \beta_{1,2} = \beta_{1,3} = \beta_{1,4} = \beta_{1,5} = \beta_{1,6} = \beta_{1,7} = \beta_{1,8} = 0$$

The dependent variables in each equation are age, education, and race of the TANF recipient, along with variables capturing the presence of young children, older children, and young and older children, respectively. Finally, the model includes dependent variables for the number of children and the length of the current TANF spell. The "white" variable is set equal to one if the recipient is Caucasian, and zero otherwise. All other variables are described in Table 4-2. Each equation only consists of a constant term and a variable for housing receipt. If the TANF recipient receives federal housing assistance, then the housing variable equals one, otherwise zero. If there are no observable differences in age, education, or race of housing recipients compared to non-housing recipients, then the estimated SUR coefficients of the housing variables should jointly equal zero. The author employed a Wald χ^2 test to determine whether the housing coefficients jointly equal zero. The author conducted this test first for the entire sample, next for Oklahoma City observations only, and finally for the Tulsa observations only.

Table 4-4 presents the SUR results and Wald χ^2 statistics. For the entire sample, the results from the Wald test are highly significant with χ^2 = 114.083. Thus, there are

Table 4-4 — *SUR Estimation Results*

Dependent Variable	Both Cities		OKC		Tulsa	
	β0	β1	β0	β1	β0	β1
Age	29 088***	0 1277	28 741***	-0 0798	30 472***	-0 1355
	(0 193)	(0 306)	(0 209)	(0 352)	(0 459)	(0 637)
Education	0 5377***	0 009	0 5335***	0 009	0 5544***	0 0009
	(0 011)	(0 018)	(0 013)	(0 022)	(0 026)	(0 035)
Race	0 3822***	-0 145***	0 3802***	-0 1933***	0 3899***	-0 0509
	(0 011)	(0 017)	(0 012)	(0 02)	(0 025)	(0 034)
Young Children	0 5700***	0 0165	0 5753***	0 0169	0 5491***	0 0259
	(0 011)	(0 018)	(0 013)	(0 021)	(0 026)	(0 035)
Older Children	0 2166***	-0 0127	0 2017***	-0 0112	0 2759***	-0 0449
	(0 009)	(0 015)	(0 010)	(0 017)	(0 022)	(0 031)
Young & Older Children	0 0234***	-0 0047	0 2057***	0 0013	0 0345***	-0 0222**
	(0 003)	(0 005)	(0 004)	(0 006)	(0 008)	(0 011)
Number of Children	1 7776***	0 1160***	1 7711***	0 0954***	1 8037***	0 1447**
	(0 018)	(0 028)	(0 020)	(0 034)	(0 040)	(0 056)
Current TANF Spell	12 759***	4 2792***	12 472***	3 6593***	13 907***	4 9675**
	(0 593)	(0 944)	(0 595)	(1 001)	(1 666)	(2 313)
Wald χ^2	114 083***		116 862***		24 459***	

Null Hypothesis for Wald χ^2 test is $\beta_{1\ Age} = \beta_{1\ Education} = \beta_{1\ Race} = \beta_{1\ Young\ Children} = \beta_{1\ Older\ Children} = \beta_{1\ Young\ \&\ Older\ Children} = \beta_{1\ Number\ Children} = \beta_{1\ Spell} = 0$

***, **, * *Indicate significance at the 1%, 5%, and 10% levels*

Numbers in Parentheses are Standard Errors

significant differences in observable characteristics between housing subsidy recipients and non-recipients. An examination of the SUR coefficients reveals that this result is due entirely to differences in race, number of children, and current TANF spell length. For the entire sample, African-Americans are much more likely to participate in the housing subsidy program. Likewise, families with more children and longer current TANF spells are more likely to receive housing subsidies.

In order to determine whether the results differ between the two cities, the author conducted the SUR analysis on the Oklahoma City and Tulsa samples separately. For the Oklahoma City sample, there are significant differences in observable characteristics as $\chi^2 = 116.862$. Again, the differences in Oklahoma City are mainly driven by the same variables. The Tulsa sample also contains significant differences between housing and non-housing recipients as $\chi^2 = 24.459$. The differences in Tulsa are due to differences in the current TANF spell length and number of children. From these results, it is clear that housing recipients in Oklahoma City are much more likely to be African-Americans than are non-housing recipients. Clearly, the rationing process in Oklahoma City is not completely exogenous, at least with respect to race. The important question however, is how does this affect the empirical tests below? The Tulsa sample does not suffer from this same problem with the race variable.

Because of these results, when the author tests for the impact of financial incentives, the author conducts separate analyses on both the Tulsa and Oklahoma City samples in addition to a pooled sample. The results from this analysis, which are presented below, do not show a marked difference between the Tulsa and Oklahoma City

samples. Consequently, this suggests that the unexplained sorting of African-Americans in the Oklahoma City sample does not dramatically bias the results.

The differences between housing and non-housing recipients caused by the current TANF spell length and number of children variables may be more problematic, however. For the entire sample, housing recipients tend to have significantly longer current TANF spell lengths and significantly more children. If one assumes that longer-term TANF recipients also have lower future earnings potential, then longer-term TANF recipients would have higher expected benefits resulting from housing assistance. Consequently, longer-term TANF recipients may more aggressively pursue housing subsidies, thereby explaining the positive correlation between housing subsidies and current TANF spell. Likewise, families with more children are eligible for larger housing benefits, and therefore may more aggressively pursue housing subsidies. This explains the positive correlation between housing subsidies and the number of children. Unfortunately, this suggests that there are factors influencing the receipt of housing assistance that are correlated with labor market outcomes. In this case, the correlation produces downward biased estimates of the housing effect on labor market outcomes.

There is also a more benign explanation for the number of children variable, however. Even though all individuals in the sample currently qualify for housing subsidies, they may not have always qualified in previous months or years. Since families with more children are generally able to receive larger benefits and have larger earnings disregards, families with more children qualify for housing subsidies at higher income levels. Thus, families with more children are more likely than families with fewer children to have qualified for housing assistance in previous time periods. Consequently,

housing recipients may be more likely to have more children simply because of the different program rules facing families with different numbers of children. Because of the different treatment of families with different numbers of children, when the author tests for the impact of financial incentives on earnings and labor force participation the author conducts separate analyses for families with one, two, and three children in addition to a pooled sample.

Unfortunately, the SUR analysis is unable to detect any differences in unobservable characteristics such as persistence or determination. If housing recipients receive assistance because they were more aggressive in applying, then the regression results presented below may be biased. As mentioned above, if the individuals with the lowest earnings potential are the most persistent in applying for housing subsidies, then the regression estimates presented below will be biased downward. If the individuals with higher earnings potential are the most persistent in applying for housing subsidies, then the regression estimates presented below will be biased upward.

IV. Results

The probit and tobit regression results are reported in Tables 4-5 thru 4-17. Table 4-5 presents the results of the probit analysis for the regression that includes both cities, while tables 4-6 and 4-7 present the probit results for the Tulsa and Oklahoma City samples, respectively. Tables 4-8 thru 4-10 report the probit results for families with one child, two children, and three children. Table 4-11 states the tobit regression results for the sample that includes both cities. Tables 4-12 and 4-13 exhibit the tobit regressions for the Tulsa and Oklahoma City samples. Tables 4-14 thru 4-16 display the tobit results for

Table 4-5 ***Probit Results – Both Cities – All Families***

	1	*2*	*3*	*4*
Housing	**0.0525**	**0.0509**	**0.0492**	**0.0465**
	(0.0524)	(0.0525)	(0.0611)	(0.0612)
Age	**0.0025**	**0.0051**	**-0.0022**	**0.0008**
	(0.0031)	(0.0042)	(0.0032)	(0.0043)
African-American	**-0.0732**	**-0.0693**	**-0.0799**	**-0.0753**
	(0.0558)	(0.0560)	(0.0561)	(0.0563)
Other Race	**-0.0870**	**-0.0862**	**-0.0803**	**-0.0796**
	(0.0956)	(0.0956)	(0.0961)	(0.0961)
High-School Diploma	**0.1260** ***	**0.1245** ***	**0.1173** **	**0.1155** **
	(0.0513)	(0.0514)	(0.0516)	(0.0516)
OKC	**-0.0889**	**-0.0897**	**-0.0949**	**-0.0954**
	(0.0577)	(0.0578)	(0.0582)	(0.0583)
Number of Children	**0.2590** ***	**0.2598** ***	**0.2526** ***	**0.2534** ***
	(0.0321)	(0.0326)	(0.0322)	(0.0327)
Young Kids	---	**0.0067**	---	**0.0145**
		(0.0689)		(0.0694)
Older Kids	---	**-0.0911**	---	**-0.0960**
		(0.0828)		(0.0834)
Young & Older Kids	---	**0.1147**	---	**0.1082**
		(0.1829)		(0.1842)
Current Spell	---	---	**0.0103** ***	**0.0103** ***
			(0.0022)	(0.0022)
Current Spell Squared	---	---	**-0.00004** ***	**-0.00003** ***
			(0.00001)	(0.00001)
Spell*Housing	---	---	**-0.0015**	**-0.0015**
			(0.0019)	(0.0019)
Constant	**-1.2524** ***	**-1.3178** ***	**-1.2041** ***	**-1.2848** ***
	(0.1280)	(0.1691)	(0.1305)	(0.1711)
Number of Observations	**3115**			
Percent Receiving Housing	**39.52%**			
Percent With Earnings > $0	**23.63%**			

Dependent Variable is "Employed"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-6 ***Probit Results - Tulsa - All Families***

	1	*2*	*3*	*4*
Housing	**0.0342** (0.0988)	**0.0356** (0.0998)	**0.0644** (0.1150)	**0.0529** (0.1159)
Age	**-0.0046** (0.0057)	**0.0023** (0.0075)	**-0.0121** * (0.0062)	**-0.0027** (0.0080)
African-American	**-0.1166** (0.1074)	**-0.1163** (0.1075)	**-0.1124** (0.1089)	**-0.1084** (0.1093)
Other Race	**-0.0337** (0.1822)	**-0.0240** (0.1826)	**0.0130** (0.1836)	**0.0194** (0.1840)
High-School Diploma	**0.1730** * (0.1006)	**0.1772** * (0.1010)	**0.1422** (0.1019)	**0.1442** (0.1023)
OKC	----	----	----	----
Number of Children	**0.3860** *** (0.0637)	**0.3916** *** (0.0652)	**0.3957** *** (0.0649)	**0.4047** *** (0.0663)
Young Kids	----	**0.0194** (0.1408)		**0.0940** (0.1447)
Older Kids	----	**-0.2511** (0.1603)		**-0.2419** (0.1646)
Young & Older Kids	----	**0.4042** (0.3474)		**0.1919** (0.3567)
Current Spell	----	----	**0.0177** *** (0.0043)	**0.0176** *** (0.0042)
Current Spell Squared	----	----	**-0.00006** *** (0.00003)	**-0.00006** *** (0.00002)
Spell*Housing	----	----	**-0.0046** (0.0032)	**-0.0044** (0.0032)
Constant	**-1.2842** *** (0.2322)	**-1.4704** *** (0.3157)	**-1.2634** *** (0.2417)	**-1.5668** *** (0.3262)

Number of Observations	**784**
Percent Receiving Housing	**51.91%**
Percent With Earnings > $0	**26.66%**

Dependent Variable is "Employed"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-7 *Probit Results - OKC - All Families*

	1	2	3	4
Housing	**0.0553**	**0.0540**	**0.0356**	**0.0346**
	(0.0622)	(0.0623)	(0.0735)	(0.0735)
Age	**0.0055**	**0.0068**	**0.0017**	**0.0029**
	(0.0037)	(0.0050)	(0.0038)	(0.0052)
African-American	**-0.0666**	**-0.0636**	**-0.0766**	**-0.0736**
	(0.0660)	(0.0664)	(0.0662)	(0.0666)
Other Race	**-0.1061**	**-0.1053**	**-0.1101**	**-0.1095**
	(0.1126)	(0.1127)	(0.1132)	(0.1133)
High-School Diploma	**0.1064** *	**0.1052** *	**0.1022** *	**0.1010** *
	(0.0599)	(0.0600)	(0.0601)	(0.0602)
OKC	---	---	---	---
Number of Children	**0.2153** ***	**0.2165** ***	**0.2067** ***	**0.2076** ***
	(0.0372)	(0.0378)	(0.0374)	(0.0380)
Young Kids	---	**0.0053**	---	**0.0032**
		(0.0794)		(0.0797)
Older Kids	---	**-0.0357**	---	**-0.0402**
		(0.0971)		(0.0975)
Young & Older Kids	---	**-0.0041**	---	**0.0175**
		(0.2171)		(0.2186)
Current Spell	---	---	**0.0066** **	**0.0065** **
			(0.0030)	(0.0030)
Current Spell Squared	---	---	**-0.00001**	**-0.00001**
			(0.00002)	(0.00002)
Spell*Housing	---	---	**0.00004**	**0.00003**
			(0.0024)	(0.0024)
Constant	**-1.3398** ***	**-1.3753** ***	**-1.2812** ***	**-1.3141** ***
	(0.1362)	(0.1867)	(0.1391)	(0.1882)
Number of Observations	**2331**			
Percent Receiving Housing	**35.35%**			
Percent With Earnings > $0	**22.61%**			

Dependent Variable is "Employed"
Numbers in Parentheses are Standard Errors
***, **, * *Indicate significance at the 1%, 5%, and 10% levels.*

Table 4-8 ***Probit Results - Both Cities - Families with One Child***

	1		2		3		4	
Housing	**-0.0304**		**-0.0323**		**-0.0474**		**-0.0527**	
	(0.0895)		(0.0897)		(0.1051)		(0.1053)	
Age	**0.0003**		**0.0030**		**-0.0061**		**-0.0025**	
	(0.0045)		(0.0064)		(0.0048)		(0.0066)	
African-American	**-0.0290**		**-0.0237**		**-0.0227**		**-0.0161**	
	(0.0909)		(0.0913)		(0.0918)		(0.0922)	
Other Race	**0.0654**		**0.0676**		**0.0485**		**0.0488**	
	(0.1605)		(0.1605)		(0.1628)		(0.1629)	
High-School Diploma	**0.2430**	***	**0.2401**	***	**0.2310**	***	**0.2289**	***
	(0.0860)		(0.0861)		(0.0868)		(0.0869)	
OKC	**0.0681**		**0.0711**		**0.0798**		**0.0837**	
	(0.1007)		(0.1009)		(0.1024)		(0.1026)	
Number of Children	---		---		---		---	
Young Kids	---		**0.0128**		---		**0.0551**	
			(0.1107)				(0.1126)	
Older Kids	---		**-0.0940**		---		**-0.0774**	
			(0.1419)				(0.1441)	
Young & Older Kids	---		---		---		---	
Current Spell	---		---		**0.0123**	***	**0.0122**	***
					(0.0041)		(0.0042)	
Current Spell Squared	---		---		**-0.00004**		**-0.00004**	
					(0.00003)		(0.00003)	
Spell*Housing	---		---		**-0.0012**		**-0.0011**	
					(0.0032)		(0.0032)	
Constant	**-1.1060**	***	**-1.1773**	***	**-1.0571**	***	**-1.1843**	***
	(0.1752)		(0.2509)		(0.1794)		(0.2546)	
Number of Observations	**1270**							
Percent Receiving Housing	**34.57%**							
Percent With Earnings > $0	**17.80%**							

Dependent Variable is "Employed"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-9 ***Probit Results - Both Cities - Families with Two Children***

	1	*2*	*3*	*4*
Housing	**0.0882**	**0.0774**	**0.0241**	**0.0140**
	(0.0860)	(0.0864)	(0.1012)	(0.1015)
Age	**0.0075**	**0.0135** *	**0.0040**	**0.0101**
	(0.0053)	(0.0073)	(0.0056)	(0.0075)
African-American	**-0.2229** ***	**-0.2089** **	**-0.2342** ***	**-0.2190** ***
	(0.0912)	(0.0918)	(0.0916)	(0.0922)
Other Race	**-0.2600**	**-0.2628**	**-0.2517**	**-0.2535**
	(0.1632)	(0.1637)	(0.1637)	(0.1642)
High-School Diploma	**0.1129**	**0.1104**	**0.1010**	**0.0991**
	(0.0856)	(0.0858)	(0.0861)	(0.0862)
OKC	**-0.1204**	**-0.1278**	**-0.1227**	**-0.1302**
	(0.0952)	(0.0959)	(0.0959)	(0.0966)
Number of Children	----	----	----	----
Young Kids	----	**0.0109**	----	**0.0083**
		(0.1157)		(0.1162)
Older Kids	----	**-0.1700**	----	**-0.1891**
		(0.1347)		(0.1364)
Young & Older Kids	----	**-0.0966**	----	**-0.0667**
		(0.3235)		0.3247
Current Spell	----		**0.0073** *	**0.0073** *
			(0.0040)	(0.0040)
Current Spell Squared	----		**-0.00004**	**-0.00004**
			(0.00003)	(0.00003)
Spell*Housing	----		**0.0027**	**0.0026**
			(0.0033)	(0.0033)
Constant	**-0.8112** ***	**-0.9497** ***	**-0.7576** ***	**-0.9001** ***
	(0.1949)	(0.2746)	(0.1996)	(0.2784)
Number of Observations	**1125**			
Percent Receiving Housing	**43.02%**			
Percent With Earnings > $0	**23.38%**			

Dependent Variable is "Employed"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-10 ***Probit Results - Both Cities - Families with Three Children***

	1	*2*	*3*	*4*
Housing	**0.1016**	**0.1070**	**0.1775**	**0.1810**
	(0.1012)	(0.1014)	(0.1188)	(0.1190)
Age	**0.0015**	**0.0002**	**-0.0029**	**-0.0050**
	(0.0073)	(0.0100)	(0.0076)	(0.0103)
African-American	**0.0506**	**0.0395**	**0.0292**	**0.0206**
	(0.1139)	(0.1146)	(0.1150)	(0.1156)
Other Race	**-0.0500**	**-0.0567**	**-0.0181**	**-0.0235**
	(0.1761)	(0.1761)	(0.1771)	(0.1771)
High-School Diploma	**-0.0033**	**-0.0029**	**0.0038**	**0.0043**
	(0.0986)	(0.0988)	(0.0993)	(0.0995)
OKC	**-0.2189** **	**-0.2199** **	**-0.2526** **	**-0.2530**
	(0.1080)	(0.1081)	(0.1093)	(0.1093)
Number of Children	----	----	----	----
Young Kids	----	**0.0452**	----	**0.0291**
		(0.1423)		(0.1431)
Older Kids	----	**0.0407**	----	**0.0517**
		(0.1706)		(0.1721)
Young & Older Kids	----	**0.1310**	----	**0.1053**
		(0.2646)		(0.2675)
Current Spell	----	----	**0.0138** ***	**0.0138** ***
			(0.0042)	(0.0042)
Current Spell Squared	----	----	**-0.00004** ***	**-0.00004** **
			(0.00002)	(0.00002)
Spell*Housing	----	----	**0.0060** *	**-0.0059** *
			(0.0035)	(0.0035)
Constant	**-0.3605**	**-0.3636**	**-0.3727**	**-0.3451**
	(0.2600)	(0.3517)	(0.2670)	(0.3585)
Number of Observations	**720**			
Percent Receiving Housing	**42.78%**			
Percent With Earnings > $0	**34.31%**			

Dependent Variable is "Employed"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-11 *Tobit Results - Both Cities - All Families*

	1		2		3		4	
Housing	**43.707**		**42.567**		**47.518**		**45.628**	
	(47.973)		(48.059)		(55.551)		(55.613)	
Age	**0.3184**		**2.1715**		**-3.5061**		**-1.4181**	
	(2.833)		(3.8678)		(2.9571)		(3.9355)	
African-American	**-84.324**	*	**-81.047**		**-87.988**	*	**-84.348**	*
	(51.091)		(51.309)		(50.978)		(51.189)	
Other Race	**-27.030**		**-25.319**		**-19.111**		**-17.596**	
	(86.691)		(86.940)		(86.724)		(86.705)	
High-School Diploma	**113.59**	**	**112.67**	**	**104.67**	**	**103.64**	**
	(47.156)		(47.155)		(47.042)		(47.038)	
OKC	**-137.74**	***	**-139.13**	***	**-141.40**	***	**-142.40**	***
	(52.516)		(52.561)		(52.468)		(52.508)	
Number of Children	**242.89**	***	**244.69**	***	**236.00**	***	**237.80**	***
	(29.806)		(30.292)		(29.708)		(30.196)	
Young Kids	----		**-17.183**		----		**-10.427**	
			(63.110)				(63.020)	
Older Kids	----		**-94.430**		----		**-94.262**	
			(75.894)				(75.881)	
Young & Older Kids	----		**114.43**		----		**104.04**	
			(165.80)				(165.59)	
Current Spell	----		----		**8.8312**	***	**8.7558**	***
					(2.0669)		(2.0627)	
Current Spell Squared	----		----		**-0.0318**	***	**-0.0311**	**
					(0.0123)		(0.0123)	
Spell*Housing	----		----		**-1.6117**		**-1.5758**	
					(1.6502)		(1.6498)	
Constant	**-1061.1**	***	**-1091.1**	***	**-1020.0**	***	**-1060.4**	***
	(124.35)		(160.53)		(125.35)		(160.92)	

Number of Observations	**3115**
Percent Receiving Housing	**39.52%**
Percent With Earnings > $0	**23.63%**

Dependent Variable is "Earned Income"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-12 *Tobit Results - Tulsa - All Families*

	1	2	3	4
Housing	**5.2045**	**9.3069**	**53.679**	**42.557**
	(97.277)	(97.780)	(111.09)	(111.51)
Age	**-6.5169**	**-0.8382**	**-12.686** **	**-5.0365**
	(5.6851)	(7.6092)	(6.0397)	(7.7118)
African-American	**-120.42**	**-123.32**	**-114.32**	**-112.61**
	(105.78)	(105.68)	(105.05)	(105.03)
Other Race	**43.370**	**50.957**	**90.942**	**95.994**
	(178.12)	(177.64)	(176.26)	(175.88)
High-School Diploma	**179.58** *	**184.70** *	**145.96**	**150.22**
	(99.374)	(99.202)	(98.570)	(98.463)
OKC	----	----	----	----
Number of Children	**378.14** ***	**386.17** ***	**379.12** ***	**389.47** ***
	(64.891)	(66.076)	(64.535)	(65.783)
Young Kids	----	**-48.458**		**28.165**
		(137.44)		(138.53)
Older Kids	----	**-289.95** *		**-262.25** *
		(158.04)		(158.47)
Young & Older Kids	----	**413.84**		**208.09**
		(332.93)		(334.16)
Current Spell	----		**15.359** ***	**15.070** ***
			(3.9248)	(3.9283)
Current Spell Squared	----		**-0.0523** **	**-0.0501** **
			(0.0218)	(0.0211)
Spell*Housing	----		**-4.8431**	**-4.4637**
			(3.0093)	(3.0106)
Constant	**-1202.4** ***	**-1301.7** ***	**-1172.1** ***	**-1378.6** ***
	(245.37)	(322.92)	(248.43)	(326.82)

Number of Observations	**784**
Percent Receiving Housing	**51.91%**
Percent With Earnings > $0	**26.66%**

Dependent Variable is "Earned Income"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-13 *Tobit Results - OKC - All Families*

	1		2		3		4	
Housing	**55.115**		**54.126**		**37.893**		**37.463**	
	(54.872)		(54.947)		(64.352)		(64.382)	
Age	**3.0494**		**3.7602**		**-0.0485**		**0.5126**	
	(3.2422)		(4.4573)		(3.3613)		(4.5482)	
African-American	**-81.730**		**-79.367**		**-88.235**		**-86.259**	
	(58.189)		(58.584)		(58.125)		(58.529)	
Other Race	**-52.080**		**-51.034**		**-54.265**		**-53.332**	
	(98.681)		(98.765)		(98.621)		(98.697)	
High-School Diploma	**87.653**	*	**86.903**		**83.267**		**82.676**	
	(52.956)		(53.008)		(52.905)		(52.949)	
OKC	----		----		----		----	
Number of Children	**196.60**	***	**198.09**	***	**188.98**	***	**190.11**	***
	(33.193)		(33.716)		(33.157)		(33.688)	
Young Kids	----		**-4.6015**		----		**-8.2040**	
			(69.999)				(69.923)	
Older Kids	----		**-29.124**		----		**-30.601**	
			(85.719)				(85.761)	
Young & Older Kids	----		**-3.8280**		----		**17.246**	
			(190.39)				(190.59)	
Current Spell	----		----		**5.6096**	**	**5.5872**	**
					(2.5989)		(2.6059)	
Current Spell Squared	----		----		**-0.0167**		**-0.0164**	
					(0.0169)		(0.0169)	
Spell*Housing	----		----		**0.0555**		**0.0358**	
					(2.0450)		(2.0458)	
Constant	**-1141.4**	***	**-1156.8**	***	**-1092.5**	***	**-1100.8**	***
	(130.00)		(172.28)		(131.48)		(173.00)	
Number of Observations	**2331**							
Percent Receiving Housing	**35.35%**							
Percent With Earnings > $0	**22.61%**							

Dependent Variable is "Earned Income"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-14 *Tobit Results - Both Cities - Families with One Child*

	1		2		3		4	
Housing	**-15.875**		**-14.850**		**3.6741**		**1.1608**	
	(92.973)		(92.994)		(107.55)		(107.65)	
Age	**-2.0371**		**-0.5729**		**-7.6107**		**-5.2720**	
	4.6888		(6.6755)		(4.9512)		(6.7835)	
African-American	**-60.233**		**-55.987**		**-53.778**		**-48.428**	
	(94.490)		(94.718)		(94.187)		(94.507)	
Other Race	**155.82**		**160.76**		**146.99**		**150.08**	
	(164.03)		(163.82)		(163.88)		(163.77)	
High-School Diploma	**243.89**	***	**238.86**	***	**228.80**	**	**224.94**	**
	(90.238)		(90.209)		(89.817)		(89.867)	
OKC	**11.655**		**13.457**		**22.487**		**25.158**	
	(104.12)		(104.13)		(104.40)		(104.48)	
Number of Children	----		----		----		----	
Young Kids	----		**-51.082**		----		**-11.273**	
			(114.09)				(114.48)	
Older Kids	----		**-137.64**		----		**-117.25**	
			(148.30)				(148.68)	
Young & Older Kids	----		----		----		----	
Current Spell	----		----		**12.267**	***	**11.997**	***
					(4.2622)		(4.2782)	
Current Spell Squared	----		----		**-0.0376**		**-0.0360**	
					(0.0293)		(0.0294)	
Spell*Housing	----		----		**-3.0686**		**-2.9107**	
					(3.1963)		(3.1987)	
Constant	**-1054.1**	***	**-1045.9**	***	**-1019.3**	***	**-1061.5**	***
	(197.65)		(271.37)		(198.61)		(271.99)	

Number of Observations	**1270**
Percent Receiving Housing	**34.57%**
Percent With Earnings > $0	**17.80%**

Dependent Variable is "Earned Income"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-15 ***Tobit Results - Both Cities - Families with Two Children***

	1	*2*	*3*	*4*
Housing	**59.166**	**49.393**	**-0.8794**	**-8.7678**
	(78.728)	(78.979)	(92.214)	(92.299)
Age	**4.8899**	**10.106**	**1.6827**	**6.8622**
	(4.8298)	(6.6007)	(5.0700)	(6.7227)
African-American	**-217.02** ***	**-204.22** **	**-224.55** ***	**-210.95** **
	(83.639)	(84.045)	(83.541)	(83.936)
Other Race	**-172.75**	**-174.54**	**-163.22**	**-164.21**
	(148.29)	(148.43)	(147.90)	(148.03)
High-School Diploma	**83.725**	**82.049**	**72.870**	**71.792**
	(78.513)	(78.506)	(78.444)	(78.398)
OKC	**-163.21** *	**-168.50** *	**-163.00** *	**-167.87** *
	(86.606)	(87.052)	(86.651)	(87.041)
Number of Children	----	----	----	----
Young Kids	----	**23.821**	----	**21.417**
		(105.93)		(105.76)
Older Kids	----	**-140.68**	----	**-150.74**
		(122.86)		(123.56)
Young & Older Kids	----	**-21.726**	----	**5.8232**
		(293.23)		(292.94)
Current Spell	----	----	**6.0880** *	**6.0618** *
			(3.5986)	(3.5974)
Current Spell Squared	----	----	**-0.0367**	**-0.0344**
			(0.0258)	(0.0258)
Spell*Housing	----	----	**2.5078**	**2.3661**
			(2.9180)	(2.9241)
Constant	**-630.71** ***	**-764.19** ***	**-577.04** ***	**-708.66** ***
	(184.22)	(255.80)	(187.19)	(257.52)
Number of Observations	**1125**			
Percent Receiving Housing	**43.02%**			
Percent With Earnings > $0	**23.38%**			

Dependent Variable is "Earned Income"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-16 *Tobit Results - Both Cities - Families with Three Children*

	1		2		3		4	
Housing	**80.303**		**82.605**		**128.17**		**129.06**	
	(79.517)		(79.780)		(92.812)		(92.960)	
Age	**-0.3003**		**-1.3279**		**-3.0726**		**-4.5121**	
	(5.7791)		(7.8704)		(5.9707)		(8.0347)	
African-American	**32.635**		**27.475**		**22.402**		**19.109**	
	(89.716)		(90.373)		(89.697)		(90.290)	
Other Race	**-38.057**		**-40.575**		**-13.654**		**-15.330**	
	(139.52)		(139.58)		(139.24)		(139.32)	
High-School Diploma	**26.542**		**26.712**		**28.707**		**28.974**	
	(77.663)		(77.782)		(77.531)		(77.639)	
OKC	**-231.02**	***	**-231.26**	***	**-249.62**	***	**-249.71**	***
	(84.401)		(84.434)		(84.512)		(84.533)	
Number of Children	---		---		---		---	
Young Kids	---		**18.975**		---		**9.6628**	
			(112.21)				(111.93)	
Older Kids	---		**30.203**		---		**37.530**	
			(134.23)				(133.98)	
Young & Older Kids	---		**45.048**		---		**20.678**	
			(207.85)				(207.81)	
Current Spell	---		---		**9.2653**	***	**9.2528**	***
					(3.3515)		(3.3637)	
Current Spell Squared	---		---		**-0.0322**	**	**-0.0322**	**
					(0.0156)		(0.0157)	
Spell*Housing	---		---		**-3.6960**		**-3.6818**	
					(2.6504)		(2.6524)	
Constant	**-182.82**		**-172.96**		**-196.35**		**-169.72**	
	(207.94)		(279.56)		(211.91)		(282.20)	
Number of Observations	**720**							
Percent Receiving Housing	**42.78%**							
Percent With Earnings > $0	**34.31%**							

Dependent Variable is "Earned Income"
Numbers in Parentheses are Standard Errors
****, **, * indicate significance at the 1%, 5%, and 10% levels.*

Table 4-17 *Housing Coefficients in all Probit and Tobit Models*

	1	*2*	*3*	*4*	*N*
Probit – Both Cities – All Families	**0.0525**	**0.0509**	**0.0492**	**0.0465**	***3,115***
	(0.0524)	(0.0525)	(0.0611)	(0.0612)	
Probit – Tulsa – All Families	**0.0342**	**0.0356**	**0.0644**	**0.0529**	***784***
	(0.0988)	(0.0998)	(0.1150)	(0.1159)	
Probit – OKC – All Families	**0.0553**	**0.0540**	**0.0356**	**0.0346**	***2,331***
	(0.0622)	(0.0623)	(0.0735)	(0.0735)	
Probit – Both Cities – Families with 1 Child	**-0.0304**	**-0.0323**	**-0.0474**	**-0.0527**	***1,270***
	(0.0895)	(0.0897)	(0.1051)	(0.1053)	
Probit – Both Cities – Families with 2 Children	**0.0882**	**0.0774**	**0.0241**	**0.0140**	***1,125***
	(0.0860)	(0.0864)	(0.1012)	(0.1015)	
Probit – Both Cities – Families with 3 Children	**0.1016**	**0.1070**	**0.1775**	**0.1810**	***720***
	(0.1012)	(0.1014)	(0.1188)	(0.1190)	
Tobit – Both Cities – All Families	**43.707**	**42.567**	**47.518**	**45.628**	***3,115***
	(47.973)	(48.059)	(55.551)	(55.613)	
Tobit – Tulsa – All Families	**5.2045**	**9.3069**	**53.679**	**42.557**	***784***
	(97.277)	(97.780)	(111.09)	(111.51)	
Tobit – OKC – All Families	**55.115**	**54.126**	**37.893**	**37.463**	***2,331***
	(54.872)	(54.947)	(64.352)	(64.382)	
Tobit – Both Cities – Families with 1 Child	**-15.875**	**-14.850**	**3.6741**	**1.1608**	***1,270***
	(92.973)	(92.994)	(107.55)	(107.65)	
Tobit – Both Cities – Families with 2 Children	**59.166**	**49.393**	**-0.8794**	**-8.7678**	***1,125***
	(78.728)	(78.979)	(92.214)	(92.299)	
Tobit – Both Cities – Families with 3 Children	**80.303**	**82.605**	**128.17**	**129.06**	***720***
	(79.517)	(79.780)	(92.812)	(92.960)	

Dependent Variable is "Employed" for Probit Regressions
Dependent Variable is "Earned Income" for Tobit Regressions
Numbers in Parentheses are Standard Errors
***, **, * *indicate significance at the 1%, 5%, and 10% levels.*

families with different numbers of children. Note that Tables 4-5 and 4-11 include all 3,115 observations from the sample. Because these two tables utilize the largest sample, and the reported results are consistent with the results from the parsed samples, the

following discussion focuses on these two tables.

Among the demographic variables in the probit regressions, only the diploma and number of children variables are consistently significant. The "number of children" coefficients are likely detecting the impact of the different program rules faced by families with different numbers of children. Families with more children are able to have higher earnings and remain on TANF. The diploma coefficients indicate that TANF recipients who hold a high school diploma or GED are more likely to find employment, confirming expectations. The African-American coefficient is significant in the sample for families with two children, while the OKC variable is significant only in the sample for families with three children.

In the Tobit results, all four of these variables are consistently significant with the expected signs. Again, the "number of children" coefficient is the largest in magnitude and significance, most likely due to different income eligibility limits for different sized families. The other coefficients generally conform to expectations. For the entire sample, TANF recipients who hold a GED can expect approximately an extra $25 in monthly earnings. The results also suggest that African-American recipients earn approximately $20 less each month than white recipients. Likewise, recipients who reside in Oklahoma City earn approximately $33 less than Tulsa recipients do each month.

The author included variables controlling for the presence of young and older children because previous research on childcare expenses indicated that these variables influence labor market outcomes, especially for female household heads. This study finds that these variables have a consistently insignificant effect for this sample in both the probit and tobit regressions. This result is not too surprising because all TANF recipients

(and therefore all individuals in the sample) have access to Oklahoma's childcare subsidy program. Consequently, the presence of young or older children should have little influence on the childcare expenses faced by the single mothers in the sample, and therefore little influence on the labor market outcomes.

In both the probit and tobit regressions, the current spell length and the quadratic term are always significant. Interestingly, the marginal impact of a longer TANF spell is positive, although the effect is small. For the entire sample, the marginal impact of an additional month on TANF evaluated at the means approximately equals $2 in additional monthly earnings. This finding indicates that longer-term TANF recipients are more likely to be employed and have higher earnings. One possible explanation for this positive effect is that for longer-term recipients, the work requirement is more stringent. Longer-term recipients are less likely to be able to continue working in unpaid activities like job search or training programs. The more stringent requirements could also lead longer-term recipients to reduce their reservation wages, which increases the probability the recipient is employed.

While these results are interesting, the housing variable is the relevant variable for this study. To ease comparisons, Table 4-17 includes the housing coefficients for all probit and tobit regressions. In none of the scenarios is the housing coefficient significant. Interestingly the sign is not even negative, it is weakly positive. For the entire sample, housing recipients can expect approximately $11 in additional monthly earnings compared to non-housing recipients. Since housing recipients face higher MTRs than non-housing recipients, holding other factors constant, these findings suggest that the higher MTRs do not lead to a reduction in earnings or labor force participation for TANF

recipients.

These findings are not surprising as they are consistent with previous empirical research. Prior empirical work focused on the impact of financial incentives under the AFDC program where recipients did not face the stringent TANF work requirements. These studies generally detected only small labor supply impacts from financial incentives. The only study designed to determine the effects of jointly using work requirements and financial incentives, the MFIP study, failed to calculate the impact of financial incentives in the presence of work requirements. Even so, the MFIP study found that financial incentives had no impact on earnings. While in the MFIP study financial incentives did increase the probability of working, the presence of stringent work requirements could certainly mitigate that effect. Those individuals who would respond to financial incentives, a lower t, may respond to work requirements as well. As mentioned in Chapter One, the MFIP study suggests that financial incentives in the presence of work requirements may have a *negative* effect on earnings. Thus, the finding that financial incentives do not increase earnings (and weakly decreases earnings) or the probability of working in the presence of stringent work requirements is not a surprise.

The efficiency of TANF financial incentives depends critically upon their effectiveness at increasing earnings. If financial incentives are effective at increasing earnings of recipients, then they could actually decrease program costs by helping reduce the size of the benefit. If, as the evidence indicates, financial incentives do not increase recipient earnings, then they must increase costs. The increased costs result from allowing recipients to remain eligible for benefits at higher income levels.[4]

If the goal of the TANF financial incentives is to foster increased earnings by

[4] In the MFIP study, financial incentives led to increased program costs.

rewarding work, then the findings of this study suggest they will not be successful. From the findings in this paper (and the MFIP study), financial incentives do not increase earnings, yet they do result in higher costs. On the other hand, work requirements theoretically increase earnings and lower program costs. Consequently, financial incentives used with work requirements may not be an efficient means of increasing earnings of the recipient population. The work requirements can accomplish this task at lower cost.

If the goal of the TANF financial incentives is to increase the labor force participation of recipients, then the findings of this paper suggest that the incentives again will not be successful. Financial incentives in the presence of a stringent work requirement do not appear to increase the probability of working, but they do increase program costs. Consequently, financial incentives in the presence of work requirements may not be an efficient mechanism at increasing the probability of working for recipients.

Even if financial incentives do not effectively increase earnings or the probability of working, the incentives could still be an effective tool to fight family poverty. The increased program costs materialize as increased transfers to the recipients. Consequently, total income of recipients must increase, helping to alleviate family poverty. If the goal of the TANF financial incentives is to reduce family poverty, then the incentives could be an efficient tool despite failing to increase earnings. As a result, policymakers must consider this role for financial incentives before deciding to scrap them.

It is possible however, that policymakers could use the resources that financial incentives consume to fund other mechanisms of fighting family poverty. The findings of

this paper do raise the specter that policymakers may be able to use these resources in ways that are more efficient. Since forty-eight states and the District of Columbia currently use financial incentives with their TANF programs, these findings should encourage a dramatic review of the efficiency of transfer policy in the United States.

V. Conclusion

With the passage of PRWORA and the imposition of stringent TANF work requirements, transfer policy changed dramatically during the 1990's. As with previous reforms, researchers must examine the new policies to determine their impacts on recipients. This study seeks to continue this line of research by examining one result of the recent reforms, the joint use of TANF work requirements and financial incentives to increase work effort.

With a sample of TANF recipients from Oklahoma, this chapter indirectly estimated the impact of financial incentives in the presence of work requirements. Those TANF recipients who concurrently received federal housing assistance faced higher implicit tax rates than those TANF recipients who could not participate in the housing assistance program. Due to the manner in which Housing Authority officials rationed the housing subsidies in Oklahoma City and Tulsa, this study was able to exploit this variation in implicit tax rates. This study found that the TANF recipients with lower implicit tax rates were not more likely to have higher earnings or a higher probability of working. Consequently, the results suggest that financial incentives in the presence of work requirements (like the TANF financial incentives) may not increase the earnings of recipients, or the probability of working. Consequently, TANF financial incentives may

not be an efficient mechanism for increasing recipient earnings or the probability of working. This finding is important because currently forty-eight states plus the District of Columbia use TANF financial incentives to reward work (Rowe 2000). These findings raise the possibility that these states may be able to use their public assistance resources more efficiently to fight family poverty.

As for future research in this area, it would be helpful for policymakers if researchers could replicate these results for other locations. While there is no *a priori* reason that results should differ elsewhere, further confirmation would undoubtedly help assuage the concerns of policymakers. In addition, it is important to develop a more direct estimation of the effects of financial incentives in the presence of work requirements. This paper estimated the impact of a higher G and a higher t on earnings and was able to infer that the tax rate had no effect. It would be beneficial for policymakers to know the direct effect of TANF financial incentives on labor supply. Despite the need for more information on the efficiency of TANF financial incentives, one thing is certain, policymakers will continue to reform the transfer system, and researchers will need to continue to analyze the reforms to ensure that society lives up to the challenge of caring for our underprivileged citizens.

Chapter 5

Reform Proposals

It is well documented that by the 1990's many policymakers became disenchanted with the ability of welfare to encourage work and family formation. The passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 addressed these concerns and made dramatic changes in the way government helps families in poverty. The purpose of PRWORA as stated in the legislation was to:

> "1) provide assistance to needy families so that children may be cared for in their own homes, or in the homes of relatives;
> 2) end the dependence of needy parents on government benefits by promoting job preparation, work, and marriage;
> 3) prevent and reduce the incidence of out-of wedlock pregnancies and establish annual numerical goals for preventing and reducing the incidence of these pregnancies; and
> 4) encourage the formation and maintenance of two-parent families."[1]

Despite the dramatic changes in welfare policy during the 1990's, policymakers must remain vigilant in their search for additional reforms that more efficiently achieve these goals. This report presents two proposals that could improve the effectiveness of Oklahoma's public assistance system by encouraging marriage and full-time work. The proposed reforms are:

1. Raise the TANF benefit reduction rate from its current 50%.
2. For long-term, single-parent recipients who enter into a new marriage, do not include the spouse's income in the benefit calculation for TANF and childcare subsidies for up to three years.

The remainder of this chapter discusses these proposals in more detail. Section I discusses the four goals of any work incentive reform. Section II analyzes how well

[1] H.R. 3734 Title I, Part A, Sec. 401

financial incentives meet the four objectives. Section III examines the effectiveness of the proposed work incentive reform. Section IV investigates the proposed marriage reform. Section V presents some concluding remarks.

I. Goals of Work Incentive Reform

Oklahoma's caseloads have fallen more than 70% since January 1993, and 60% since October 1996.[2] Even though part of this dramatic decline can be attributed to an expanding economy, TANF deserves some of the credit as well. Oklahoma's TANF policy impacts caseloads mainly in two ways, through work requirements and financial incentives (a statutory tax rate of 50%). Separately, both of these mechanisms should stimulate increased work effort among current recipients. However, their effects on program costs could be quite different. The important question though, is whether these two mechanisms are fulfilling the goals of any successful work incentive program: 1) reducing poverty, 2) effectively increasing labor force participation, 3) increasing earnings, all while 4) minimizing program costs. While these goals will be discussed separately, it is important to note that all four goals are interrelated. Clearly, earnings are influenced by labor force participation, and in turn help reduce poverty and minimize program costs. In this section the author argues that Oklahoma should increase its TANF statutory tax rate to 100% from its current 50% level in order to fulfill these objectives.

The main objective for any public assistance program is to reduce family poverty. A transfer program that provides income to poor families, may not lift them above the poverty guidelines, but does bring the families closer to the threshold. Hoynes (1997a) points out the strong correlation between female headship and family poverty. Moffitt

[2] Oklahoma Department of Human Services Monthly Statistical Bulletins

(1992) even suggests that policymakers focus on the causes of female headship in their battles against poverty. Berlin (2000) notes that in the MFIP study, families with more assistance, and lower levels of poverty, have better outcomes. Children from families with more assistance (less poverty) are in better health, are happier, and perform better in school. Each of these factors produce benefits well into the next generation.

A second goal of a successful public assistance program is to maximize the labor force participation rates among recipients. The rationale behind this goal is based on labor force attachment theory. Long-term employment success depends not just upon the skills required to perform job tasks, but also on the soft skills that are required in order to keep a job. These soft skills include the ability to work with others, follow orders, and work diligently. All of which can be learned with experience. Therefore, policies designed to help recipients increase their experience could lead to greater long-term employment stability and success.

Holzer and LaLonde (2000) find empirical evidence to support these claims. Based on a study of young, unskilled workers, these researchers find that employment instability tends to decrease as workers gain more experience. This is important because they also find that employment instability can create long-term consequences in the form of slower earnings growth. Notice that this also indicates that full-time work can lead to more employment stability and faster earnings growth than part-time work, because full-time work results in more experience for the workers. Gladden and Taber (2000) support this claim by finding that low-skilled workers see wage growth of about four to six percent per year of full-time employment. Thus, policies designed to increase labor force participation (especially through full-time work), thereby increasing experience, can

create long-term benefits in the form of faster earnings growth for recipients.

A third objective of any public assistance program is to increase recipient earnings. Individuals with higher earnings, holding other factors constant, have a smaller portion of income coming from transfer programs, and will, even if technically in poverty, move closer to the poverty threshold. Consequently, these individuals will be less dependent on assistance. As discussed in Chapter One, however, many transfer programs work to decrease the labor supply and earnings of recipients. In addition, as policymakers attempt to reduce these work disincentives by decreasing the tax rate, they make more families eligible for benefits, which leads to decreases in labor supply (and earnings) among the new recipients.

The fourth objective, which often conflicts with the first three, is to minimize program costs. Every penny the government spends on a transfer program comes from a tax on the donor population. Because of these taxes, donor families find it a little more difficult to pay for their own food, clothing, shelter, and health care. Consequently, policymakers owe it to the donors to efficiently use their resources in the fight against poverty.

At times these are competing objectives. Policies designed to minimize program costs may also work to decrease recipient earnings. Programs designed to increase labor force participation may also work to worsen family poverty. At other times the objectives complement one another. Some policies designed to increase earnings may also reduce poverty. Some programs designed to increase labor force participation may also minimize program costs.

Two popular policies, work requirements and financial incentives, each have

different impacts on program costs. Work requirements force recipients into work-related activities, thereby increasing incomes. As earnings increase, benefit levels fall, lowering program costs. However, the impact of financial incentives on program costs is more ambiguous. Theoretically, financial incentives also encourage higher levels of work and greater earnings from some recipients, putting downward pressure on program costs. However, these financial incentives also allow recipients to receive benefits at higher levels of earnings (inducing lower labor supply), putting upward pressure on costs. In order to evaluate the cost effects of financial incentives, we need to estimate their impacts on work levels and earnings. This study now turns to a comparison of Oklahoma's current TANF work incentives and the proposed reform, highlighting both the strengths and weaknesses of the proposal, and discussing how each plan fulfills (and fails to fulfill) the four program objectives.

II. The Effectiveness of Financial Incentives

Oklahoma is one of 48 states employing some version of financial incentives in conjunction with TANF work requirements[3]. Proponents of financial incentives often point to the MFIP and SSP experiments for evidence supporting the anti-poverty effects of financial work incentives. This section analyzes the results of these two programs to determine how successfully they met the four objectives outlined in the previous section, and discusses their relevance for Oklahoma's TANF system. Next, this section will incorporate these findings, and the findings from Chapter Four, to analyze how effectively Oklahoma's financial incentives meet the objectives.

[3] See Rowe (2000).

SSP and MFIP

As mentioned in Chapter One, Canada's Self Sufficiency Project (SSP) was a randomized experiment with a WS structure, providing substantial cash benefits to participants working more than thirty hours per week. The anti-poverty impacts were astounding, as participants saw a 22.1% increase in total income (earnings plus benefits) compared to the control group after 18 months. When one considers that the control group remained eligible for Canada's traditional Income Assistance program, then the anti-poverty effects are even more impressive. SSP produced a 22.1% premium on total income compared to the traditional welfare programs. SSP successfully achieved some of the other objectives as well. SSP participants noted a 33.1% increase in labor force participation compared to the control group[4], and a whopping 51.5% increase in earnings. SSP did not produce universally good news, however. Program costs increased by $200 per quarter, per recipient, an increase of 12.5% compared to the control group. In the end, 42.6% of the reported increase in total income was due to the additional SSP benefits, while 57.4% was due to additional earnings (Berlin 2000).

The SSP experiment did successfully fulfill three of the four objectives, and indicates that one can achieve dramatic anti-poverty effects with large expenditures. Because the SSP did not incorporate any work requirements into their program, the relevance of these findings to Oklahoma and other states is not clear. Oklahoma imposes a relatively strict work requirement on welfare recipients, as mandated by PRWORA. To the extent that these work requirements overlap with financial incentives in influencing behavior, the financial incentives may not be as effective in Oklahoma. To determine the relevance for Oklahoma, one must estimate the effects of jointly using financial

[4] In increase from 32.3% for the control group to 43.0% for the treatment group.

incentives with work requirements.

The MFIP project incorporated the joint use of financial incentives and work requirements. As mentioned in Chapter One, the MFIP study design allowed researchers to isolate the impacts of financial incentives used alone, and the effect of work requirements conditional on the presence of financial incentives. MFIP also noted some large anti-poverty effects, as total income increased by 17.4% versus the control group after 18 months. As to the other objectives, MFIP recipients saw a 48.2% increase in labor force participation rates (from 36.1% to 53.5%) and a 34.6% increase in earnings. Like the SSP, MFIP resulted in higher program costs. The MFIP program increased costs by $138 per recipient per quarter, an 8.9% increase over the control group (Berlin 2000).

The isolated impacts of financial incentives and work requirements reveal some interesting results. Both work requirements and financial incentives work to increase labor force participation, with the work requirements comprising approximately 60% of the joint effect. Interestingly, only work requirements increased earnings of recipients, as financial incentives were found to have no effect. It is not surprising that financial incentives can simultaneously increase labor force participation and not affect earnings. Standard theory predicts that while some workers will increase labor supply with financial incentives, others will decrease their labor supply, which would explain this result. Also, the increase in program costs was due completely to the financial incentives, as the work requirements acted to decrease costs, as expected. Consequently, the increase in total income was produced by the financial incentives. For the work requirements, the increase in earnings offsets the loss of transfer income for recipients, resulting in no net effect of total income (Berlin 2000).

Oklahoma

The joint use of financial incentives and work requirements in MFIP provides some evidence on the incentives of Oklahoma's TANF program, which also uses financial incentives and work requirements.[5] Since the financial incentives result in higher levels of work and benefits for recipients, MDRC researchers advocate continued implementation of financial incentives. However, the design of the MFIP study may overstate the effectiveness of financial incentives, and understate the effectiveness of work requirements at increasing levels of work in the age of TANF. Recall the study design allowed MDRC researchers to measure the impact of financial incentives *alone*, and the marginal impact of work requirements in the presence of financial incentives. Since PRWORA mandates that states implement work requirements, but gives leeway to determine the financial incentives, the proper research question is: *What is the marginal impact of financial incentives in the presence of work requirements?*

There is a very subtle, yet important distinction between this question and the MFIP approach. If financial incentives and work requirements both target the same low-labor supply population (which seems plausible) then the measured impacts of the work requirements in the MFIP study would only detect the individuals who were not responsive to the financial incentives but were responsive to work requirements. Based on MFIP, if one wanted to estimate the effect of employing work requirements alone, one might expect higher impacts on labor force participation, and higher impacts on earnings than those reported in MFIP. Likewise, one might expect financial incentives to have less of an impact on labor force participation, and a *negative* effect on earnings.

[5] It also provides some information on the other forty-seven states employing financial incentives and work requirements with their TANF programs.

Chapter Four included an indirect test of the impact of financial incentives in the presence of TANF work requirements. The author exploited the higher tax rates faced by TANF recipients who also received housing subsidies in order to determine how TANF recipients respond to higher tax rates. The analysis assumes that the higher tax rates resulting from housing subsidies are equivalent to higher TANF tax rates. Some might question this assumption because TANF benefits are cash payments while housing subsidies are in-kind benefits. Since in-kind benefits are likely valued differently from cash benefits, the resulting MTRs may have different impacts. Michael Murray (1994) computed "cash equivalent" MTRs for in-kind programs—including housing subsidies—and found that welfare recipients who concurrently receive housing subsidies face higher cash equivalent MTRs than welfare recipients who do not receive housing subsidies. Consequently, the findings from Chapter Four, which are based on the financial incentives generated by the receipt of housing subsidies, can be used to infer the effect of changing TANF financial incentives.

The findings generally are consistent with the expected results presented earlier. Mainly, a lower tax rate (financial incentive) conditional on the presence of work requirements does not lead to an increase in labor force participation or earnings. In fact, the results from Chapter Four indicate that financial incentives in the presence of work requirements have a weakly negative (although not significant) effect on earnings, similar to the intuitive prediction based on the MFIP studies.

Consequently, the evidence indicates that TANF financial incentives only moderately achieve any of the four objectives outlined in Section I. According to this study, and an intuitive prediction based on the MFIP study, TANF financial incentives

have very little influence on labor force participation rates. Also according to this study, and MFIP, financial incentives do not lead to increased earnings. If TANF financial incentives are designed to increase labor force participation or earnings, then these studies suggest that TANF financial incentives may not be successful. Because financial incentives do not increase earnings, and because they allow recipients with higher earnings to continue receiving benefits, program costs will unambiguously rise.

The only one of the four objectives that Oklahoma's TANF financial incentives meet is the reduction of poverty, which is accomplished by increasing the total income of recipients. The additional program costs created by the financial incentives are passed on to the recipients in the form of increased benefits, which do produce an anti-poverty effect. If TANF financial incentives are primarily designed to reduce family poverty, then they could be efficiently fulfilling this objective.

III. Proposed Reform

Because TANF financial incentives do not appear to increase labor force participation, increase earnings, or decrease costs, the author proposes to eliminate or reduce these incentives. This would raise the TANF statutory tax rate from its current 50% level. The resulting TANF program would rely more strongly on work requirements to meet these objectives. This section discusses the impact of this proposed reform for Oklahoma TANF recipients. While this will result in lower TANF benefits for some recipients, the author argues that the numerous benefits may outweigh this cost, because the resulting cost savings can be redirected to other programs. The benefits from the proposed reform are:

1. A higher TANF tax rate lessens TANF work disincentives.

Figure 5-1 presents the MTR calculations under the current 50% TANF statutory tax rate and a 100% rate for the representative family discussed in Chapter Three. Recall that the representative family consists of a single mother and two young children, who both require childcare. The first diagram (Figure 5-1A) reproduces Figure 3-3. The most obvious effect of raising the benefit reduction rate to 100% is the reversal of the effective marginal tax rates for full and part-time work. Not surprisingly, the 100% benefit reduction rate corresponds to a higher effective tax rate, 75% vs. 44%, as the recipient moves into part-time work.

While the higher MTR typically corresponds to a work disincentive there are two reasons to believe that the higher MTR in this case will not result in decreased labor supply, and may result in higher aggregate labor supply. First, Moffitt (1986, 1992) used simulations based on estimated wage elasticities to estimate the labor supply response to various tax rates for different groups. His estimations indicate that for married women, a 50% MTR creates a larger labor supply decline than a 100% MTR. His findings suggest that in some instances a 100% MTR may be more efficient than lower MTRs.

Second, the empirical results from Chapter Four and the intuitive predictions based on the MFIP study indicate that financial incentives under TANF have either no effect or a negative effect on labor supply. In this case, a MTR equal to 100% on TANF will minimize work disincentives associated with the program. This seemingly counterintuitive result can be explained by noting that financial incentives typically produce positive labor supply effects for low-labor supply recipients, and negative labor supply effects for new entrants to the program. The presence of work requirements

FIGURE 5-1
Effective Marginal Tax Rates With Different TANF Tax Rates

FIGURE 5-1A

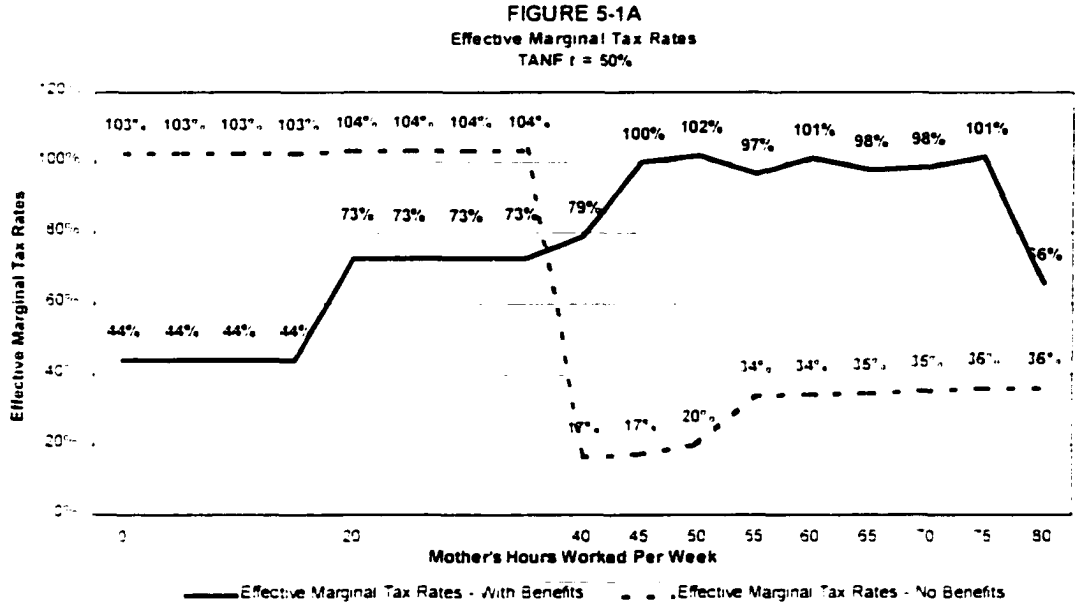
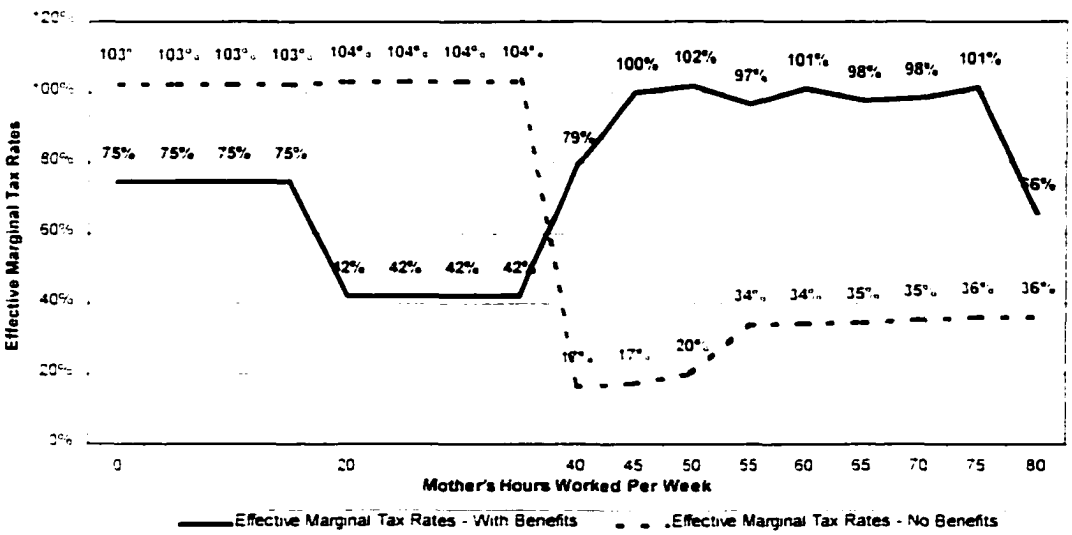


FIGURE 5-1B



mitigates the positive effect, leaving a net negative effect on hours worked.

2. A higher TANF tax rate results in a more efficient use of financial incentives.

With a higher TANF tax rate, the mother would lose eligibility for TANF, and no longer would face the TANF tax rate at lower income levels. Therefore, she would face a lower effective marginal tax rate as she moves to full-time work, 42% (with a 100% TANF tax rate) vs. 73%. Also because the representative recipient would no longer be eligible for TANF, she would face these enhanced financial incentives in the absence of work requirements. Recall that in the absence of work requirements financial incentives are more effective at encouraging increased work effort. A higher TANF tax rate policy raises the effective tax rate in the range where it is has no impact on earnings. Yet the policy lowers effective marginal tax rates in the range where financial incentives can increase earnings. Therefore this proposed policy would result in a more efficient use of financial incentives.

3. A higher TANF tax rate produces a greater incentive to enter full-time work.

Another benefit of a higher TANF tax rate policy is that the policy provides a greater incentive to move to full-time work, thereby providing the individuals with more work experience. Recent research, Gladden and Taber (2000) and Holzer and LaLonde (2000), indicates that workers who have more experience tend to have faster earnings

growth rates. Also these recipients tend to have greater future job stability. By increasing the incentive to enter full-time work, a higher TANF tax rate may more effectively help TANF recipients move towards self-sufficiency.

4. A higher TANF tax rate will allow recipients to stop the "TANF clock" quicker.

One of the major provisions of TANF is the five-year lifetime limit on benefits.[7] While the impact of these time limits has been discussed by Moffitt and Pavetti (2000) and Acs et al. (1998), the effects of these limits are not well known, mainly because the limit has not yet been reached. Taking into account the historical churning of recipients on and off the welfare rolls, Moffitt estimates that at least 41% of the current recipients will be affected by time limits over a 10-year period. Acs et al. point out that the goals of time limits (i.e. prevent long-term receipt of benefits) at times conflict with financial incentives, which keep recipients on the rolls longer. With the proposed higher TANF tax rate, recipients will exit the TANF rolls at lower levels of income, thereby stopping the TANF clock.

5. A higher TANF tax rate will decrease program costs.

Because financial incentives have either no impact or a negative impact on the earnings of recipients, they unambiguously result in higher program costs. Work requirements, on the other hand, reduce program costs. By eliminating these financial incentives, and relying on work requirements, TANF program costs will decrease.

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[7] Individual states may continue providing benefits beyond the five-year limit, but may not use federal funds to do so.

As with any policy change, there are some negative consequences that need to be considered. By combining work with welfare, the 50% TANF tax rate policy works to increase the resources available to the recipient. Table 5-1 compares the total resources available to the representative family under the 50% and 100% TANF tax rate policies at various labor supply levels. Notice that the 100% rate only has an impact on the representative recipient when she works part-time. This is not surprising since it is only at this level that the recipient combines work with TANF under the 50% policy.

When this representative recipient works part-time, she has $138 less each month in resources under the proposed 100% reduction policy. This $138 loss comes from a $129 reduction in TANF, and $86 reduction in Medicaid value. The loss in Medicaid resources materializes because the mother will eventually lose Medicaid coverage for herself under the 100% tax rate. However, these resources are lost only after the mother's transitional Medicaid coverage expires. The loss in resources from the TANF and Medicaid programs are offset somewhat by gains from the Food Stamp program totaling $39, and gains in Housing subsidies of $39. Interestingly, raising the TANF tax rate to 100% shifts some of the costs from the TANF program to the Food Stamp program, resulting in lower state TANF costs, and higher federal Food Stamp costs.

Table 5-1 ***Comparison of Current and Proposed TANF Tax Rates***

	50% TANF Tax Rate			100% TANF Tax Rate		
	NW	MW-PT	MW-FT	NW	MW-PT	MW-FT
TANF	292	129	0	292	0	0
Food stamps	282	223	165	282	262	165
EITC	0	179	318	0	179	318
Housing	404	319	234	404	358	234
Medicaid	207	207	121	207	121	121
WIC	56	56	56	56	56	56
Income After Taxes and Daycare Expenses	0	378	720	0	378	720
Total Resources	**1241**	**1492**	**1613**	**1241**	**1354**	**1613**

The additional $138 in resources available to recipients under the current 50% TANF tax rate does benefit these families, by helping them buy food, clothing, shelter, and health care...in effect reduce poverty. Policymakers should consider these benefits when evaluating the policy. However, the lower TANF tax rate does not fulfill the other three objectives of increasing labor force participation, increasing earnings, and limiting program costs. The only advantage the current policy has over the proposed policy is the additional $138 in transfers each month to part-time workers. By reducing the financial incentives, the state can transfer that $138 to another program. This raises the possibility that Oklahoma could use its assistance resources in some manner that more effectively encourages desirable behavior. By raising the TANF tax rate, Oklahoma can take assistance resources, which are not effectively supporting the goals of PRWORA, and can free them to support other more effective programs. One such program is the subject of the remainder of this chapter.

IV. Marriage Incentive Reforms

Researchers have long recognized that one of the leading causes of family poverty is the prevalence of female-headed households. Therefore any attempt to alleviate poverty, should encourage the formation two-parent families. For this reason, three of the four stated goals of PRWORA centered on family formation. PRWORA sought to achieve these goals by limiting the ability of young, unwed mothers to receive TANF benefits, and giving states greater flexibility to reduce marriage disincentives. Oklahoma should use this increased flexibility to further reduce marriage disincentives for long-term recipients.

It is important to note that this study presents no evidence that supports the claim that transfer recipients are responsive to the marriage incentives detailed in Chapter Three. Most previous studies typically calculate the marriage penalty by comparing total resources while married with total resources under reported cohabitation. As Edin (1991), Blank (1997), and Moffitt, Reville and Winkler (1998) caution, unreported cohabitation could be a widespread phenomenon. This study is the first to explicitly calculate the payoff for unreported cohabitation. In the future, the author hopes to empirically analyze the behavioral response to this payoff.

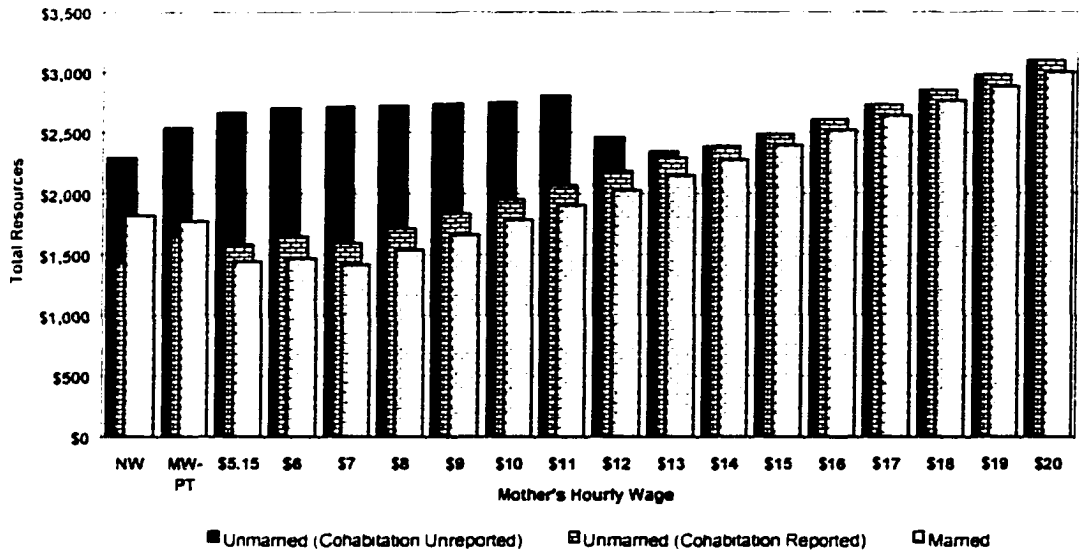
Figure 5-2A compares the total resources for the representative family and a male, under three family structure scenarios: married, reported cohabitation, and unreported cohabitation. The figure reproduces Figure 3-7. Tables 5-2, 5-3, and 5-4 present the tax and transfer calculations for Figure 5-2A. These tables are identical to the first portion of Tables 3-3, 3-4, and 3-5 presented earlier.

Currently, because these marriage penalties are so large, they create large barriers to marriage. In fact, if a single mother and her boyfriend want to get married, their total resources are always higher (sometimes nearly doubled) if they choose unreported cohabitation instead. This marriage penalty results almost entirely from the inclusion of a spouse's income in the benefit calculations for the various tax and transfer programs. Oklahoma policymakers cannot directly modify the benefit calculation formulas for the federal programs. However two programs, TANF and childcare subsidies, also contribute to this marriage penalty and are under the direction of state policymakers. Therefore, in order to encourage marriage among the recipient population, long-term, single-parent participants in these two programs, who enter into a new marriage, perhaps should not

FIGURE 5-2
Single-Cohabit-Married Comparison Under Current and Proposed Policies

Current Policies

Figure 5-2A
Single-Cohabit-Married Comparison



Proposed Marriage Policies

Figure 5-2B
Single-Cohabit-Married Comparison

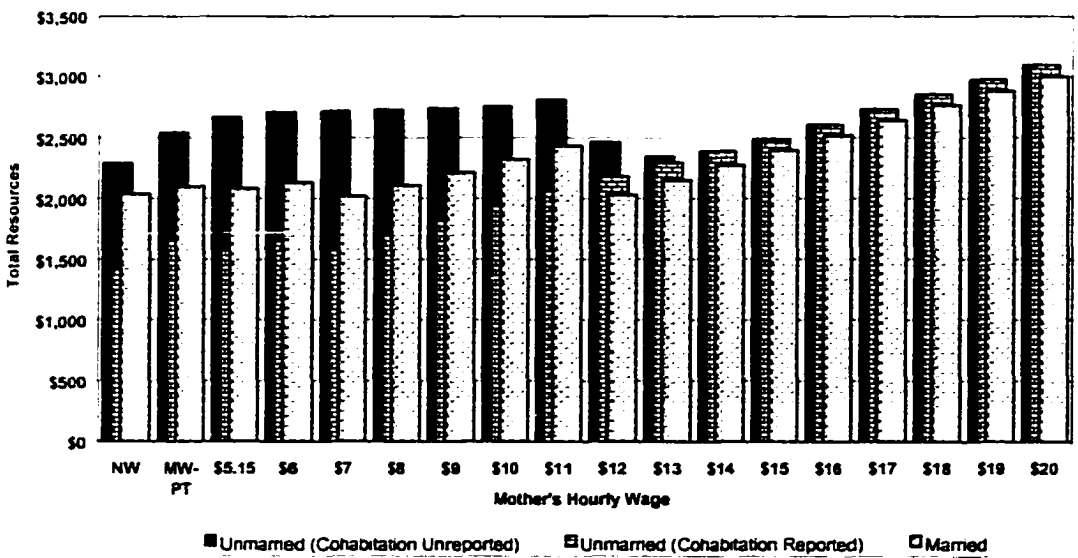


Table 5-2 *Benefit Calculations for a Representative Family - Married*

	Mother's Hourly Wage								
	NW	**$5.15-PT**	**$ 5.15**	**$ 6.00**	**$ 7.00**	**$ 8.00**	**$ 9.00**	**$ 10.00**	**$ 11.00**
Income	1387	1833	2279	2427	2600	2773	2947	3120	3293
Federal Income Taxes	0	47	115	137	163	188	215	240	267
Less: Childcare Tax Credit	0	47	84	80	80	80	80	80	80
Less: Child Tax Credit	0	0	31	57	83	83	83	83	83
Net Federal Income Taxes	0	0	0	0	0	25	51	77	103
State Income Taxes	16	38	65	75	87	98	110	122	133
Less: Childcare Tax Credit	0	9	17	16	16	16	16	16	16
Net State Income Taxes	16	28	48	59	71	82	94	106	117
Childcare Costs	0	390	779	779	779	779	779	779	779
Childcare Copay	0	200	779	779	779	779	779	779	779
Childcare Subsidy	0	190	0	0	0	0	0	0	0
Work Expenses	67	101	134	134	134	134	134	134	134
FICA Taxes	106	140	174	186	199	212	225	239	252
Income After Taxes, Childcare, and Work Expenses	1198	1364	1143	1269	1417	1540	1663	1785	1907
TANF	0	0	0	0	0	0	0	0	0
Food Stamps	126	79	25	0	0	0	0	0	0
Medicaid	121	121	121	121	0	0	0	0	0
Housing Subsidies	76	2	42	0	0	0	0	0	0
WIC	56	56	56	56	0	0	0	0	0
EITC	245	151	56	26	0	0	0	0	0
Total Resources	1821	1773	1443	1471	1417	1540	1663	1785	1907
Effective Marginal Tax Rates	111%	174%	81%	131%	29%	30%	29%	30%	30%

Table 5-3 *Benefit Calculations for a Representative Family - Cohabitation Reported*

	Mother's Hourly Wage								
	NW	**$5.15-PT**	**$ 5.15**	**$ 6.00**	**$ 7.00**	**$ 8.00**	**$ 9.00**	**$ 10.00**	**$ 11.00**
Income	1387	1833	2279	2427	2600	2773	2947	3120	3293
Federal Income Taxes	120	120	120	120	120	145	171	198	223
Less: Childcare Tax Credit	0	0	0	0	0	26	52	78	92
Less: Child Tax Credit	0	0	0	0	0	0	0	0	11
Net Federal Income Taxes	120	120	120	120	120	120	120	120	120
State Income Taxes	44	45	50	52	57	64	72	81	92
Less: Childcare Tax Credit	0	0	0	0	0	5	10	16	18
Net State Income Taxes	44	45	50	52	57	58	62	66	73
Childcare Costs	0	390	779	779	779	779	779	779	779
Childcare Copay	0	200	779	779	779	779	779	779	779
Childcare Subsidy	0	190	0	0	0	0	0	0	0
Work Expenses	67	101	134	134	134	134	134	134	134
FICA Taxes	106	140	174	186	199	212	225	239	252
Income After Taxes, Childcare, and Work Expenses	1050	1228	1022	1156	1311	1470	1627	1782	1935
TANF	0	0	0	0	0	0	0	0	0
Food Stamps	126	79	25	0	0	0	0	0	0
Medicaid	121	121	121	121	0	0	0	0	0
Housing Subsidies	76	2	42	0	0	0	0	0	0
WIC	56	56	56	56	0	0	0	0	0
EITC	0	179	318	318	281	245	208	171	135
Total Resources	1429	1665	1584	1650	1592	1715	1835	1954	2070
Effective Marginal Tax Rates	47%	118%	55%	134%	29%	31%	31%	33%	35%

Table 5-4 *Benefit Calculations for a Representative Family - Cohabitation Unreported*

	Mother's Hourly Wage								
	NW	**$5.15-PT**	**$ 5.15**	**$ 6.00**	**$ 7.00**	**$ 8.00**	**$ 9.00**	**$ 10.00**	**$ 11.00**
Income	1387	1833	2279	2427	2600	2773	2947	3120	3293
Federal Income Taxes	120	120	120	120	120	145	171	198	223
Less: Childcare Tax Credit	0	0	0	0	0	26	44	46	48
Less: Child Tax Credit	0	0	0	0	0	0	8	32	55
Net Federal Income Taxes	120	120	120	120	120	120	120	120	120
State Income Taxes	44	45	50	52	57	64	72	81	92
Less: Childcare Tax Credit	0	0	0	0	0	5	9	9	10
Net State Income Taxes	44	45	50	52	57	58	63	72	82
Childcare Costs	0	390	779	779	779	779	779	779	779
Childcare Copay	0	0	32	68	107	150	176	192	209
Childcare Subsidy	0	390	747	711	672	629	603	587	570
Work Expenses	67	101	134	134	134	134	134	134	134
FICA Taxes	106	140	174	186	199	212	225	239	252
Income After Taxes, Childcare, and Work Expenses	1050	1428	1770	1867	1984	2099	2229	2364	2497
TANF	292	129	0	0	0	0	0	0	0
Food Stamps	282	223	165	140	110	81	48	11	0
Medicaid	207	207	121	121	121	121	121	121	121
Housing Subsidies	404	319	234	200	160	121	77	30	0
WIC	56	56	56	56	56	56	56	56	56
EITC	0	179	318	318	281	245	208	171	135
Total Resources	2291	2542	2663	2702	2711	2723	2738	2752	2808
Effective Marginal Tax Rates	44%	73%	73%	95%	93%	92%	92%	67%	301%

Table 5-5 ***Benefit Calculations for a Representative Family - Proposed Marriage Incentive***

	Mother's Hourly Wage								
	NW	**$5.15-PT**	**$ 5.15**	**$ 6.00**	**$ 7.00**	**$ 8.00**	**$ 9.00**	**$ 10.00**	**$ 11.00**
Income	1387	1833	2279	2427	2600	2773	2947	3120	3293
Federal Income Taxes	0	47	115	137	163	188	215	240	267
Less: Childcare Tax Credit	0	0	7	14	21	30	35	38	42
Less: Child Tax Credit	0	47	83	83	83	83	83	83	83
Net Federal Income Taxes	0	0	25	40	58	75	96	119	141
State Income Taxes	16	38	65	75	87	98	110	122	133
Less: Childcare Tax Credit	0	0	1	3	4	6	7	8	8
Net State Income Taxes	16	38	64	72	82	92	103	114	125
Childcare Costs	0	390	779	779	779	779	779	779	779
Childcare Copay	0	0	32	68	107	150	176	192	209
Childcare Subsidy	0	390	747	711	672	629	603	587	570
Work Expenses	67	101	134	134	134	134	134	134	134
FICA Taxes	106	140	174	186	199	212	225	239	252
Income After Taxes, Childcare, and Work Expenses	1198	1554	1851	1927	2020	2110	2212	2323	2432
TANF	292	129	0	0	0	0	0	0	0
Food Stamps	39	0	0	0	0	0	0	0	0
Medicaid	207	207	121	121	0	0	0	0	0
Housing Subsidies	0	0	0	0	0	0	0	0	0
WIC	56	56	56	56	0	0	0	0	0
EITC	245	151	56	26	0	0	0	0	0
Total Resources	2036	2097	2083	2129	2020	2110	2212	2323	2432
Effective Marginal Tax Rates	86%	103%	69%	163%	48%	41%	36%	37%	332%

have the spouse's income included in the benefit calculation for up to three years.

It is important to note that this proposal should not be implemented without further research on the behavioral response to marriage disincentives in transfer programs. If transfer recipients are responsive to the marriage disincentives they face, then a proposal to reduce the marriage disincentives could have large antipoverty effects. On the other hand if transfer recipients do not respond to the transfer marriage disincentives, then this proposal may not be more successful than the current system at fighting poverty.

Figure 5-2B, presents the total resources for the same individuals under the proposed reform. Table 5-5 presents the tax and transfer calculations for the couple under the proposal if they marry. The only difference between Figure 5-2A and Figure 5-2B is the treatment of marriage. In Figure 5-2B, recipients are able to continue receiving TANF and childcare benefits when they get married. The most noticeable difference between the diagrams is a dramatic increase in resources for a married couple under the proposal. In all cases, unreported cohabitation still provides at least as much in total resources as any other alternative, although, the marriage penalties are dramatically reduced. When the mother is not working, the marriage penalty shrinks to $255 monthly from $470 when marriage is compared to unreported cohabitation. This increase in resources is mostly due to the family's eligibility for TANF and Medicaid under the proposal, which provides an additional $292 and $86 each month. Note that Food Stamps and Housing subsidies work to mitigate some of the gains. Under the proposal, Food Stamp benefits decrease by $87 and Housing subsidies decrease by $76.

By letting recipients continue to receive benefits after they enter a marriage, this

proposal greatly reduces the marriage penalty, but the changes in the TANF and childcare programs each have different effects. Letting TANF recipients continue to receive benefits after marriage reduces the marriage penalty found when the mother does not work. The application of the proposal towards the childcare subsidies results in the reduction of the total marriage penalty when the mother enters work.

When the mother works full-time at minimum wage, the marriage penalty remains substantial, $580, but is dramatically lower than the $1,220 in the current scenario. Most of this increase in resources is due to the couple's receipt of a childcare subsidy under the proposal. With the proposed rule change, the married couple would be forced to pay only a $32 childcare copay, compared to the full cost of care, $779, without the rule change. Again, the Food Stamp and Housing subsidy programs mitigate this effect somewhat, because the new lower childcare costs reduce these benefits. Food Stamp benefits would decrease by $25, and Housing subsidies would decrease by $46.

Even though this proposal does greatly reduce the total marriage penalty, there is still a payoff to unreported cohabitation. This is caused by the treatment of marriage in the tax code, food stamp, and housing subsidy calculations. Since these programs are beyond the scope of state policymakers, state policymakers cannot correct the marriage penalties inherent in the programs. Only if the marriage penalties inherent in these federal programs are corrected, can the total marriage penalty be eliminated. Even with the persistence of the total marriage penalty, this proposal does greatly improve the payoff for marriage. In the transfer region, marriage provides more total resources than reported cohabitation. Because of this increased payoff, this proposal helps reduce the marriage penalty, thereby fulfilling one of the original goals of PRWORA.

For the families potentially affected by this proposal, these higher resource levels represent significant increases in the size of the TANF and child care transfers. As a result, some individuals may choose to postpone marriage so they can receive the larger benefits. Thus in order to limit any of these entry effects, and to keep costs manageable, this proposal should be targeted to benefit the long-term recipients. Long-term recipients, those recipients who have received assistance for at least twelve consecutive months, have had more difficulty moving to self-sufficiency, than short-term recipients. Also, they have faced these marriage disincentives for longer periods of time than the short-term recipients, and therefore are more likely to have been influenced by these incentives. For these reasons, the long-term recipients have the most to gain from this proposal.

Since this proposal will be effective only if recipients understand its impact on the marriage penalties, it is imperative that caseworkers carefully explain this proposal to all long-term recipients. This proposal represents a new approach to using public assistance to encourage marriage. To the best of the author's knowledge, no similar program is in existence. Consequently, long-term recipients will not be familiar with the new marriage incentives inherent in the proposal. Because of this, caseworkers must make every effort to accurately inform long-term recipients of the new rules. The role of the caseworkers is just as important as the incentives to ensuring the success of this proposal.

The innovative aspect of the proposal does present the state with some additional challenges. However, this proposal also presents some additional opportunities as well. Because no similar program exists, Oklahoma would enter uncharted territory. The next round of welfare reform will focus on marriage incentives, and with this proposal, Oklahoma will be on the frontlines of the national debate. This innovative proposal at this

unique time also presents an opportunity for Oklahoma to undertake an exciting research agenda. If structured carefully, the implementation of this proposal would provide the framework for a detailed empirical study. The results of this study would be of interest to every welfare policymaker in the nation.

V. Conclusion

This paper outlined two proposals to reform Oklahoma's public assistance programs to fulfill the original goals of PRWORA. The author argues that these proposals, if implemented together, offer a more efficient utilization of Oklahoma's assistance resources. First, the author argued for an increase in the TANF tax rate from its current 50%. Since a detailed empirical analysis found that financial incentives do not raise the earnings of TANF recipients, a higher TANF tax rate would not negatively impact earnings, and would lower program costs. These cost savings could then be used to help finance other assistance programs that more effectively promote desirable behavior.

One such program is the subject of the second proposal in this paper. The author argued that long-term, single participants in the TANF and childcare subsidy programs not be penalized for choosing to enter a marriage. This marriage penalty can be reduced by not including the new spouse's income in the benefit calculations for up to three years. This proposal would, for the first time, make marriage pay, by allowing recipients to continue receiving benefits after they get married. This policy, if enacted, would be the first serious attempt in the nation to help alleviate family poverty by removing marriage disincentives.

Both of these proposals offer innovative approaches to address poverty. These innovative approaches will catapult Oklahoma to the forefront of the national debate over the next round of welfare reform. However, Oklahoma should not consider these policies simply because they are innovative. Oklahoma should consider these policies because they give the state a better way to help those families who need the most help.

Chapter 6

Conclusion

I began this study by stating that the purpose of welfare is to help feed the hungry, to help heal the sick, to help shelter the homeless...to help give hope to the hopeless. Every day transfer programs provide food, clothing, shelter, and health care to those who need it most. Despite the charges of some critics, the important question is not whether society should do these things...but rather, can we do these things *better?* Are our policies doing all they can to bring as much hope to the hopeless?

This study took on the daunting challenge of addressing this question. Naturally, I did not set out to answer all the questions about welfare policy, and in this task, I succeeded. This study, however, did highlight some important problems, and provided some innovative solutions. Because each state has its own peculiarities, I focused on my home state, Oklahoma.

Oklahoma's tax and transfer system creates a framework which, at times, provides very little payoff for work. By focusing on the case of a representative family consisting of a single mother with two children aged 1 and 3, the author finds that the mother must earn $16 per hour in order to have income equal to the family's total resources when the mother works full-time at minimum wage. The author also calculates the effective tax rates the mother faces as she increases labor supply, and as she increases her hourly wage. Generally, the study finds effective tax rates exceeding those reported elsewhere, typically above 90% and at times approaching 300% when a recipient loses eligibility for a childcare subsidy.

The study also confirms previous findings about the impact of individual

programs. Transfers with a NIT structure like TANF, Food Stamps, and Housing Subsidies, unambiguously generate higher effective tax rates. Programs similar to a WS, like the EITC and Childcare Subsidies, decrease the tax rates as the recipient increases labor supply, but raise tax rates as the programs phase-out. Also, the Medicaid and WIC programs generate large "notches" of high effective tax rates when recipients lose eligibility.

This study calculates the family structure incentives present in welfare policy. Contrary to previous work, the author assumes that a couple has three potential family structures: marriage, cohabitation reported to transfer agencies, and unreported cohabitation – cohabitation concealed from transfer agencies. The study finds that there are large payoffs to concealing cohabitation. In some instances, the couple could nearly double their resources with unreported cohabitation compared to marriage.

The empirical analysis of Chapter Four tested the effectiveness of financial incentives, conditional on the presence of work requirements, at increasing labor force participation and earnings by using a testable hypothesis from the findings of Chapter Three. From a sample of female heads of households in Oklahoma's two most populous cities, the study finds that financial incentives, conditional on the presence of work requirements, may not be effective at increasing labor force participation or earnings.

It is not sufficient to just describe the shortcomings of the public assistance framework; this study also provided some innovative solutions. Using the findings from the previous chapters, the author proposes:

1. Raising the TANF tax rate from its current 50%.
2. Allowing long-term recipients who marry to continue receiving the same benefits for

a period of three years.

The first proposal is in response to the empirical finding that TANF financial incentives do not increase labor force participation or earnings of recipients. The second proposal is an attempt to reduce the marriage penalty that long-term recipients face.

There are four criteria to judge the effectiveness of a particular welfare policy:

1. Does it reduce poverty?
2. Does it increase labor force participation?
3. Does it increase earnings?
4. Does it minimize program costs?

The proposed system, with a higher TANF tax rate and enhanced marriage incentives, should achieve all four. Compared to financial incentives, reliance on work requirements will increase labor force participation, and increase earnings of recipients, while decreasing program costs. The cost savings can then be transferred to a new program that will reduce the marriage penalties inherent in the tax and transfer system. This proposed new program seeks to fight family poverty by stemming the growth of female-headed households.

Clearly this study does not provide all the answers. In fact, it raises some new questions. These questions form the basis for future research topics.

1. Exploit policy changes in Oklahoma to empirically analyze the marriage penalties inherent in the tax and transfer system.

In October 1999, the state of Oklahoma changed the manner in which income from a cohabiting male is counted in determining TANF and childcare benefits. Previously, the

income of a cohabiting male was considered only if the male was also the biological father of the children. After October 1999, the income of all cohabiting males will be included. This policy change presents a unique opportunity to analyze the impact of the tax and transfer on marriage behavior. If the tax and transfer marriage incentives do influence marriage behavior then these following hypotheses are valid:

1. The combined marriage/cohabitation rate among women with children receiving childcare subsidies will decline after October 1999, holding other factors constant.
2. Married women with children receiving childcare subsidies will decrease their labor supply after October 1999, holding other factors constant.

2. Determine whether TANF financial incentives actually decrease labor supply and earnings.

The empirical finding from this study that financial incentives have no impact on earnings (or even a weak negative impact) needs to be confirmed with more studies. Even though the intuitive predictions based on the MFIP results do support this claim, researchers need to isolate the effect that work requirements has on financial incentives. If it is true that TANF financial incentives do reduce the earnings of recipients, there should be a spirited review on the use of these incentives in forty-eight states and the District of Columbia.

3. Examine the impact on wage growth of the high effective tax rates recipients face as they increase their hourly wage.

Once transfer recipients begin working full-time, this study found that multiple

programs gradually begin to phase-out. As a result, participants in multiple programs begin to face effective MTRs commonly exceeding 90%. There has been little research done on the effect of these high MTRs on wage progressions of low-income families. If recipients respond to these high MTRs by slowing their quest for higher wages, then the transfer system is effectively locking recipients into low-wage employment.

4. **Analyze the impact of Oklahoma's Childcare Subsidy program on labor supply, to determine whether the program should be modified.**

This study illustrated that childcare expenses have a dramatic effect on the work incentives faced by single mothers. While several studies in the 1990's have studied the impact of childcare expenses on labor supply, only one study has examined the impact of a state childcare assistance program. As Long et al. (1998) discuss, every state now has in place programs to help low-income families afford childcare. Therefore, there is a tremendous need for a better understanding of how these programs work, so states can continue to refine and develop new solutions.

These future research topics are simply an extension of this work. This study set out to answer a few questions, pose a few more, to further the policy debate, yet retreat to build a solid foundation, to see the world for what it is, and for what it could be, to understand with the mind of an economist, and with the heart of the heartbroken. All this to do just one thing...to try to give a little more hope to the hopeless.

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