

**The Effect of Welfare Reform on the
Marital Bargaining Power of Women**

Mia Bird
miabird@berkeley.edu
September 23, 2011

PAA Submission

Abstract

Marital bargaining theory predicts changes in the policy environment will indirectly affect the distribution of power within marriage. This study estimates the effect of 1996 welfare reform policies on the marital bargaining power of women with young children. Because bargaining power cannot be directly observed, I use changes in family demand behavior to indicate shifts in marital bargaining power. The Consumer Expenditure Survey provides family expenditure data and member characteristics for the years 1995-2000. I first differentiate gendered patterns of consumption to create an indicator of relative bargaining power. I call this indicator the measure of “male-bias.” I then use policy variation over the time period of welfare reform to estimate differential changes in the male-bias for married lower-income women with young children. I find evidence of large and significant reductions in women’s bargaining power at the national level. I then use variation in the intensity of policy implementation across states to precisely identify the effect of welfare reform. I use 12 dimensions of welfare policy to qualitatively characterize states as “intensive” and “non-intensive” reformers. Based on these characterizations, I use a triple-difference estimator to capture the differential change in bargaining power for women with young children in intensive reform states over the period. I estimate a 20 percentage point increase in the male bias for poor women and an 8 percentage point increase in the male bias for low-income women. These findings suggest welfare reform caused a substantial decline in the marital bargaining power of those women most likely to view welfare as a potential alternative to marriage.

Table of Contents

I. Introduction	1
II. Theory of Bargaining within Marriage	
Marriage.....	3
Intra-family Distribution of Resources.....	3
Policy Implications of Bargaining Theory.....	5
III. Empirical Tests of Marital Bargaining	
Wage Income.....	6
Non-wage Income.....	7
Changes in Divorce Laws.....	8
Changes in Transfer Policy.....	9
IV. Demographic and Welfare Policy History	
Creation of the Welfare Program.....	11
Expansion of the Welfare Program.....	12
Introduction of Work Requirements and Child Support Enforcement... ..	15
The 1996 Welfare Overhaul.....	18
V. Methodology and Findings	
Research Design.....	20
Data.....	21
Construction of “Husband-driven” and “Wife-driven” Consumption Categories.....	24
Tests of Husband-driven and Wife-driven Consumption Categories....	27
Change in Marital Bargaining Power over the Period of Welfare Reform.....	32
Characterization of States as “Intensive” and “Non-intensive” Reformers.....	38
Changes in Marital Bargaining Power in Intensive and Non-intensive Reform States.....	47
Change in Marital Bargaining Power for Lower-income Women with Young Children across Intensive and Non-intensive Reform States.....	51
Change in Marital Bargaining Power for Lower-income Women with Young Children Living in Intensive Reform States over the Period of Welfare Reform.....	53
Summary of Findings.....	55
VI. Policy Implications	
Implications for Evaluating Welfare Reform.....	56
Implications for Making Future Policy.....	57
References	58

List of Figures

Figure 1.	Utilities Possibilities Frontier for Marriage, including Threat Points and an Equilibrium Outcome.....	4
Figure 2.	Welfare Caseloads: 1960-2010.....	13
Figure 3a.	Percent of Women Aged 15-29 Unmarried at First Birth by Race: 1930-1959.....	14
Figure 3b.	Percent of Women Aged 15-29 Unmarried at First Birth by Race: 1960-1994.....	14
Figure 4.	Percent of Children Living with Single Mothers by Marital Status of Mothers: 1960-1995.....	15

List of Tables

Table 1a.	Sample Characteristics by Current Marital Status and Gender.....	21
Table 1b.	Expenditure Shares by Current Marital Status and Gender...	22
Table 2a.	“Husband-driven” Consumption Categories.....	25
Table 2b.	“Wife-driven” Consumption Categories.....	26
Table 3a.	Test of Relationship between Constructed Consumption Shares and Gender.....	28
Table 3b.	Test of Constructed Shares on Subsamples of Single Adults	30
Table 3c.	Test for Change over Time in Constructed Consumption Shares and Gender.....	31
Table 4a.	Differential Change in Male Bias for Married Mothers with Young Children Living Under the Given Percentage of the Poverty Line during the Welfare Reform Period (1995-2000).....	34
Table 4b.	Differential Change in Male Bias for Married Mothers with Young Children Living Under the Given Percentage of the Poverty Line during the Prior Period (1990-1996).....	37
Table 5a.	Work Requirement Policies.....	41
Table 5b.	Childbearing Policies.....	43
Table 5c.	Income and Asset Limits.....	44
Table 5d.	Sanction and Diversion Policies.....	45
Table 5e.	Lifetime Limits.....	46
Table 6a.	Welfare Reform Intensive States: Differential Change in Male Bias for Married Mothers with Young Children under the given Percent of the Poverty Level (1995-2000).....	48
Table 6b.	Welfare Reform Non-intensive States: Differential Change in Male Bias for Married Mothers with Young Children under the given Percent of the Poverty Level (1995-2000)...	50

Table 7.	Intensive v. Non-intensive States: Differential Change over Time in Male Bias for Married Mothers with Young Children under the given Percent of the Poverty Level (1995-2000).....	52
Table 8.	Differential Change in Male Bias for Married Mothers with Young Children Living under the given Percent of the Poverty Line by Intensity of State Welfare Reform (1995-2000).....	54

I. Introduction and Overview

The desire to correct perverse incentives built into the social safety net drove much of the political will to reform the welfare system in the mid 1990's. The story told by many liberal economists was one in which welfare offered benefits to needy families in the short-run, but made them worse off in the long-run by creating incentives for recipients to have more children and to remain unemployed and unmarried. Welfare reforms focused on reducing those incentives through the implementation of work requirements, time limits, family caps, and marriage promotion programs. Taken together, these reforms represent a shift from a social safety net for needy families to a temporary and limited public assistance program.

Efforts to evaluate the impact of welfare reform have focused on the outcomes of a relatively small pool of current and former recipients and their families. However, the nature and existence of a social safety net also affects a much larger pool of families who may never need or receive public assistance. Given the persistent gender division of labor, a strong social safety net provides married women with children with an exit alternative to their marriages. Theory suggests these women will have more marital bargaining power under a strong safety net system than under a weak one. Furthermore, empirical work has demonstrated that both women and children benefit from increases in intra-family resource allocations when women experience increases in bargaining power. The indirect effect of welfare reform on this non-recipient group of women and children should also be included in our analyses of the impacts of welfare reform and our overall understanding of the role of the social safety net in improving outcomes for families.

The purpose of this study is to estimate the effect of welfare reform on the marital bargaining power of women, particularly lower-income married mothers with young children. These women are most likely to perceive welfare as a possible exit alternative to marriage and, therefore, they are the most vulnerable to reductions in their marital bargaining power under a weakening safety net. While marital bargaining power is my outcome of interest, it operates within the black box of family decision-making and cannot be directly observed. Instead, I use changes in family consumption patterns to signal changes in the distribution of power between husbands and wives. While family demand is an indirect measure, it is used widely in the literature and data on consumption patterns are accessible through the Consumer Expenditure Survey.

My first methodological challenge is to differentiate observed consumption patterns that appear "husband-driven" from those that appear "wife-driven," allowing us to infer the direction of changes in bargaining power from changes in family demand. My second challenge is to identify and estimate the effect of welfare reform on the relative bargaining power of husbands and wives. I use variation in policy over time to identify the differential effect of welfare reform on married women with young children at the national level. I then use variation in state-level policy implementation to precisely identify the differential effect of welfare reform on the marital bargaining power of those women living in intensive reform states. The study findings reflect the importance of including effects on non-recipient families in our analysis of policy impacts.

The paper proceeds as follows. Section II presents the theory of marital bargaining power and discusses its implications for a policy change like welfare reform. Section III discusses and evaluates the relevant literature. Section IV provides the demographic and welfare policy context of welfare reform. Section V explains the research design and data, and presents findings. Finally, Section VI explores the policy implications of these findings.

II. Theory of Bargaining within Marriage

Economic theories of the family have developed over time to predict and explain how policy changes impact demographic outcomes—such as rates of marriage, marital and non-marital childbearing, and divorce—and economic outcomes—such as household labor supplies and intra-family resource allocations. The theory presented in this section suggests welfare reform would induce a decline in bargaining power for married women who view welfare as a potential exit alternative to their marriages. A decline in bargaining power would likely result in a reduction in women’s consumption of household resources, including both goods and leisure time.

Marriage

Economic theory of the family appropriately begins with models of how and why people decide to form families. Gary Becker introduced the first economic model of the decision to marry (1974). He theorized that the process by which we choose whom and when to marry is similar to the way we make other consumption choices—we behave as if we are maximizing our individual utility functions subject to our budget constraints. Becker presented the concept of the marriage market, formerly conceptualized as a marriage pool, within which individuals search and compete for marital partners. He theorized that overall market conditions, such as the supply and demand of potential husbands and wives or the relative position of men and women outside of marriage, affect marital outcomes at the individual level.

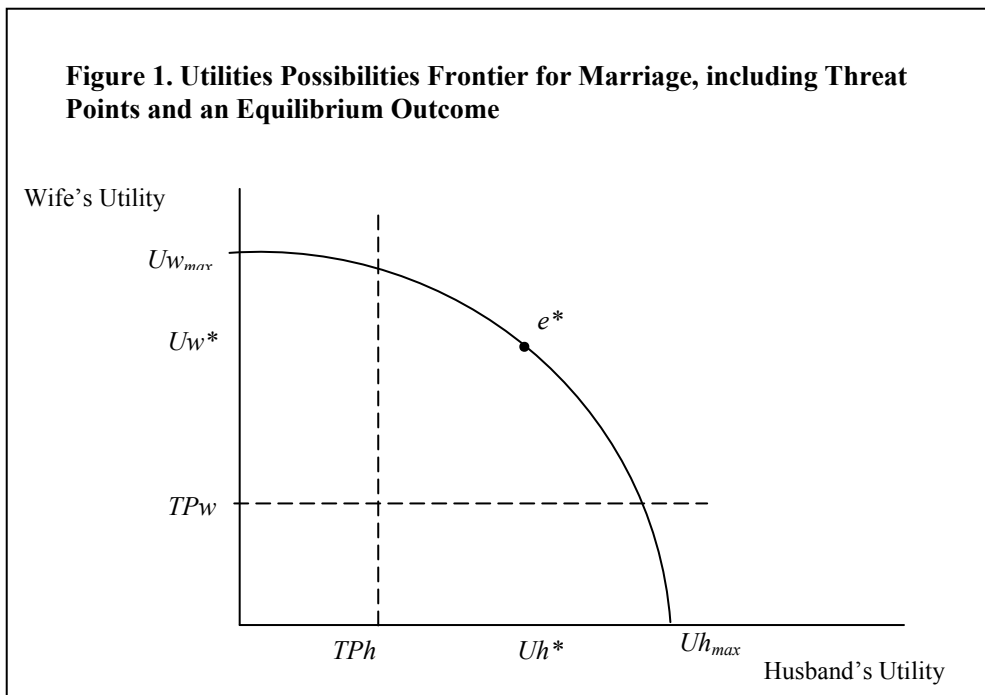
Becker also developed the theory of gains to marriage, which explains why and how marriage can be advantageous relative to the single state. Marital gains include potential economic, social, and psychological benefits that allow marital partners to increase their individual utility levels through marriage. The total gains to marriage typically depend on the quality of the marital match and the social and legal norms that confer special rights and responsibilities to married couples, support the gender division of labor within marriage, and discourage cohabitation or other shared living arrangements as alternatives to marriage.

Intra-family Distribution of Resources

The first economic models of the family assume that behavior within the home is fundamentally different from behavior in the market. While bargaining to maximize individual utility is commonly accepted in the market, early theorists assumed partners dropped their market-oriented selves at the threshold of the home. The first models assumed family members shared the same preferences or had completely interdependent utilities (Samuelson 1956; Becker 1974, 1981). These models are categorized as common preference models because they assume that once married, partners jointly maximize a single utility function relative to the family budget constraint, which allows for easy incorporation of the family into existing models of individual behavior. This assumption also suggests that family demand will not change in response to changes in the relative incomes of partners or their relative positions outside marriage.

If we weaken the assumption that partners either share the same preferences or behave altruistically toward one another, we allow for individual utility functions to persist in the context of the family. A second set of models, game-theoretic bargaining models, assume husbands and wives behave as individuals with distinct preferences and bargain with each other to maximize their individual utilities within marriage (Manser and Brown 1980; McElroy and Horney 1981). These models do not preclude utility interdependence, but assume partners will bargain with each other to the extent that interdependence is incomplete. Under this assumption, shifts in the relative ownership of income would likely induce observable changes in family demand.

Bargaining models have evolved to incorporate relative utilities in divorce as ultimate threat-points—boundaries to the marital negotiation process—from which each partner negotiates for a larger share of the marital gains. If the marital allocation is such that either partner receives less in marriage than he or she expects to receive in divorce and marital negotiation fails to produce a reallocation, then theory predicts that partner will initiate divorce. Figure 1 below shows the utility possibilities frontier of a possible couple. The divorce threat points (TPw, TPh) are shown for each partner as boundaries to the bargaining process and the utility levels experienced as the outcome of the bargaining process are shown as (U_w^* , U_h^*). This couple may settle on an efficient position at any point along the frontier. A potential egalitarian equilibrium outcome (e^*) of the bargaining process is shown. The wife will experience more marital utility if the true allocation point is to the left of e^* , and the husband will experience more marital utility if the true allocation point is to the right of e^* .



Those partners with high threat points (high-value exit alternatives to marriage) are likely to have greater marital bargaining power than those with relatively low threat points (low-value exit alternatives to marriage). In those couples that do not share preferences for an egalitarian distribution, higher bargaining power translates into a larger share of the marital gains, which may include greater resource allocation and more leisure time. While this sharing rule may be established at the time of marriage, relative threat points will likely change over time as circumstances within and outside the marriage change, resulting in reallocations within the family.

Policy Implications of Bargaining Theory

As partners make long-run decisions relating to their marriage, such as building relationships with relatives, completing educations, buying homes, having children, or participating in the labor market, their relative expected utilities in divorce may change. For example, if a wife increasingly withdraws from market work over the course of her marriage, her economic survival will increasingly depend on the marital relationship. As a result, we might expect her bargaining power to decrease relative to that of her husband. Similarly, if partners choose to have children and the wife takes on the primary caregiving role, her economic alternatives to marriage become less desirable as she would likely need to provide for herself and care for their children if the couple were to divorce. On the other hand, the expected utility of divorce may fall for the husband relative to his wife after having children because he may expect to have less access to their children.

Broad changes occurring outside the marriage, including changing divorce laws, social expectations, economic opportunities, and safety net supports, may also affect expected utility in divorce. Changes that reduce the costs of divorce for both partners will raise their threat-points and may lead to an increase in the overall divorce rate. However, changes that have an equivalent impact on the well-being of both partners in divorce should not induce a change in the distribution of power. Conversely, changes that affect relative utilities in divorce may not affect divorce rates, but will induce a change in the distribution of marital bargaining power. For example, a policy that weakens the social safety net that primarily supports single mothers and their children will likely induce a shift in the distribution of marital bargaining power from wives to husbands.

Welfare reform effectively weakened the social safety net for poor women and their children. Theoretically, reductions in the strength of this marital alternative would reduce the expected utility of divorce for wives who perceive welfare as a possible exit alternative to their marriages. As a result, the relative threat points of those wives would decline and induce a shift in bargaining power to their husbands. To the extent that husbands are not completely altruistic, this change in bargaining power would lead to a decrease in the intra-family resource allocation to women and an increase in the allocation to men. The following section presents evidence from the literature in support of the theory of marital bargaining power. Empirical findings also suggest increases in the relative bargaining power of women are positively related to increases the consumption levels of both women and children in the family.

III. Empirical Tests of Marital Bargaining

Common preference models suggest that changes in the relative ownership of family income should have no effect on family demand or the allocation of leisure time, so long as these changes do not affect total family income, relative prices, or relative wages. In contrast, bargaining models suggest that changes in relative ownership of income will produce observable changes in family consumption patterns or time allocations. These different predictions provide an opportunity to empirically test how well each model explains behavior. Bargaining models also suggest the external environment affects marital bargaining power through its influence on the utility levels marital partners expect to experience in divorce. Therefore, if the bargaining model is correct, when policy changes benefit either husbands or wives, we should observe associated changes in the relative consumption of goods and leisure time.

Wage Income

Two key studies have found important differences in family consumption depending on the relative ownership of wage income. Browning and colleagues (1994) use Canadian Expenditure Survey data from 1978-1986 to estimate the effect of relative income ownership on the family consumption of men's clothing and women's clothing. The advantage of using these two consumption categories as outcomes is that they are easily associated with the preferences of husbands and wives. Browning et al. use a sample of single adults to account for the potential endogenous relationship between higher-paid occupations and higher expenditures on clothing, and find individual incomes matter for husbands and wives in a way that income does not for single adults.

Phipps and Burton (1998) set up their study as a test of the main restriction of common preference model, that family expenditure in any category is a function of the pooled income of the husband and wife given their demographic characteristics. They also use Canadian Expenditure Survey data (collected a decade later in 1992) to test the effects of differences in relative income on family demand. Rather than limiting their analysis to men's and women's clothing expenditures, however, they consider 14 categories of expenditure. They first estimate Engel curves for these categories to determine whether expenditure patterns are consistent with the assumption that consumption depends on the sum of the husband's and the wife's income. Phipps and Burton ultimately reject the pooling assumption for 7 of the 14 expenditure categories. They then generate iso-expenditure curves for those 7 categories, which show differences in the roles of the husband's and wife's incomes in driving consumption within each category. They find that when the husband's income is relatively higher, family demand is higher for men's clothing, transportation stock goods, and transportation flow goods; when the wife's income is higher, family demand is higher for women's clothing, children's clothing, childcare, and restaurant meals. In particular, childcare expenditures appear entirely driven by level of the wife's income, suggesting a separate spheres orientation even among the dual-earner couples they consider. These findings provide both support for the bargaining model and a basis for inferring gendered patterns in consumption.

The findings of Browning et al. and Phipps and Burton suggest bargaining models of family behavior have stronger explanatory power than common preferences models. However, observed differences in earned income are likely endogenous to past and present household choices. These authors deal with this issue, in part, by limiting their samples of married couples to partners who both have positive work hours (Browning et al.) or who both work full-time, year-round (Phipps and Burton). However, these limitations reduce the generalizability of the findings to some extent.

Non-wage Income

Non-wage income is arguably exogenous and, therefore, may provide a better test than wage income of the effect of the relative ownership of income on family demand. Schultz (1990) uses 1981 Socioeconomic Survey data from Thailand to test the gendered effect of increases in non-wage income on labor supply and fertility. He finds an increase in a woman's own non-wage income reduces her labor supply by six times that of the same increase in her husband's non-wage income. He also finds increases in women's non-wage income lead to increases in fertility. This finding is somewhat surprising because the costs of childbearing are disproportionately born by women, while the benefits are thought to be shared by men and women. Schultz challenges this notion in the social, cultural, and historical context in which the data was gathered. He highlights the key difference between using observed indicators of changes in bargaining power to simply reject the pooled income hypothesis, and the more complex task of drawing normative or policy conclusions based on the directions of those shifts.

Thomas (1990) also tests the gendered effect of increases in non-wage income. He uses data collected on Brazilian family income and expenditures for the years 1974-1975 to estimate the effect of non-wage income ownership on consumption and fertility. He finds non-wage income in the hands of mothers has a much larger effect on family health expenditures and health status than the same amount of non-wage income in the hands of fathers. Specifically, he estimates the effect of non-wage income on child survival likelihoods is 20 times greater when the income is received by mothers compared to when the income is received by fathers. In the Brazilian context, Thomas finds increases in non-wage income lead to fertility reductions no matter which partner receives the income, but reductions in fertility were more strongly associated with increases in the non-wage income of women than with increases in the non-wage income of men.

Klawon and Tienfenthaler (2001) also measure the effect of non-wage income on fertility using Brazilian data (collected in 1989). Their results are consistent with those of Thomas (1990); they find an increase in women's non-wage income is associated with a larger reduction in fertility than an equivalent increase in men's non-wage income. This effect was especially strong for increases in the non-wage income of the least educated women, suggesting policies that increase women's bargaining power are likely to lead to fertility reductions, at least for Brazilian families.

These three studies provide further support for bargaining models, as well as evidence that the balance of power between husbands and wives may have implications for the health and well-being of children. However, given the pervasiveness of gender roles in families across contexts, these studies do not allow us to sort out the effect of the sex of the parent from the effect of the gendered role of the parent in allocating increased resources toward children.

Non-wage income is still somewhat problematic as an exogenous influence on bargaining power. Some forms of non-wage income are arguably tied to past or current allocation decisions, such as income from held assets, pensions, social security, and workers compensation. Other forms of non-wage income, like inheritances and gifts, suffer less from endogeneity problems, but one-time increases in income may also affect consumption behavior in different ways from long-term streams of non-wage income. These challenges have led researchers to look to changes in the policy environment for exogenous shifts in bargaining power.

Changes in Divorce Policy

The structural environment outside the family impacts the relative utility levels of husbands and wives in divorce. If the bargaining model holds, changes in divorce policy that (on average) either benefit husbands or benefit wives will induce shifts in marital bargaining power.

Gray (1998) uses the Census, CPS, and PSID to test the effect of changes in divorce laws during the 1970's on female labor supply. He characterizes some policy changes as beneficial to wives relative to husbands and others as beneficial to husbands relative to wives. Using this state variation in divorce policy, he finds evidence that changes favoring women led to an increase in women's market labor hours and a decrease in their home production hours, netting to a small overall increase in leisure time. This study again highlights the difficulties of inferring women's preferences—in this case for market labor v. home production—and the important role the social and historical context may play in shaping the realization of those preferences. It also highlights the importance of capturing the often invisible work in the home in utilizing labor hours as an indicator of the effects of income or policy changes on marital bargaining power.

Chiappori et al. (2002) also utilize variation across states in divorce laws to examine the effect of the environment outside marriage on intra-marital resource allocation. They create an index of four laws they characterize as favorable to women. The higher the index, the more favorable a state's policies are towards women. Using PSID data from 1988, they find living in a state with one additional favorable divorce law was associated with a reduction in wives' labor supply and an increase in husbands' labor supply, suggesting favorable laws increase wives' bargaining power and allow them to increase their leisure time relative to their husbands. An alternative but consistent interpretation is that more favorable divorce policies reduce the losses women experience from withdrawing from the labor force to, for example, care for children.

Rangel (2006) also uses changes in divorce policy as a natural experiment. He uses Brazilian data from 1992-1995, a period in which the marital alimony policy was extended to cover unmarried women in cohabitating relationships. Rangel estimates the differential effect of this change on the labor supply of cohabitating women relative to married women over the period. He finds cohabitating women increased their leisure time overall by reducing both their market and non-market work hours. He also finds the expansion of alimony rights led to an increase in the probability that daughters would continue with their schooling, suggesting an increase in expenditure on children's education.

These studies are consistent with studies of wage and non-wage income effects in their support of marital bargaining over common preference models. They also confirm the role of the external environment in inducing changes in the intra-family allocation of goods and leisure time and provide further evidence that the balance of bargaining power between husbands and wives has implications for the wellbeing of children.

Changes in Transfer Policy

Changes in the allocation of cash transfers to families are perhaps more feasible as a policy tool to influence bargaining power than are changes in divorce laws. To the extent that they are unanticipated, changes in the ownership of non-wage income induced through policy changes in transfer payments are likely to be exogenous and serve as the best tests of the effect of income ownership on marital bargaining power. These studies may also allow us to infer differences in gender preferences for consumption.

Lundberg, Pollak, and Wales (1997) take advantage of a shift in the parental ownership of a child subsidy in the United Kingdom in the 1970's. This policy replaced a child-based tax deduction in the form of a higher paycheck for fathers with a child-based subsidy mailed directly to mothers. Using data from the U.K. Family Expenditure Survey (1973-1983) to measure changes in family demand, the authors find evidence in support of marital bargaining models. Specifically, they find an increase in expenditures on women's and children's goods relative to men's goods, suggesting the shift in income ownership induced a shift in bargaining power and that mothers' chose to utilize this increase in power to allocate additional resources to themselves and their children.

Similarly, Duflo (2003) utilizes changes in the introduction of a government policy to extend pension benefits to black South Africans (who had formerly been excluded due to racial discrimination) to test the gendered effects of income ownership on family demand. Using data collected through a 1993 World Bank survey, she finds that increases in grandmothers' non-wage income through receipt of these pensions led to health and nutritional improvements for their grandchildren. Duflo finds increases in grandfathers' income through the same pensions had no effect on grandchild outcomes, suggesting preferences of grandmothers and grandfathers differ with respect to expenditures on grandchild health and nutrition.

Finally, Bobonis (2009) estimates the effect of the ownership of cash transfers on family demand. Progressa, an innovative conditional cash transfer program, was implemented in the late 1990's in Mexico. The program gave poor mothers cash transfers under the conditions that their children attend school and receive healthcare. Extensive evaluation data was collected, and Bobonis used this data (1997-1999) to estimate the effect of the arguably exogenous increase in the non-wage income of mothers on family demand. He finds this increase in women's ownership of family income resulted in increased spending on children's goods relative to an exogenous change in family income overall (due to the effect of variation in localized rainfall on family agricultural income).

The studies discussed here provide strong empirical evidence in support of bargaining models. The research also suggests that a range of policy decisions may have profound impacts on the resource allocation within families. The underlying theoretical framework of this paper relies on a bargaining model of the family and the empirical evidence that shifts in bargaining power induce changes in family demand. I apply this framework to an analysis of the impact of the 1996 overhaul of welfare, the primary cash transfer program that supports poor women and their children. The following section provides an introduction to the history of welfare policy, including the creation of the program, the role of anti-discrimination policies in expanding the program, the role of changing caseload composition in initiating a cycle of reforms to the program, and the key features of the 1996 welfare overhaul.

IV. Demographic and Welfare Policy History

The family has undergone significant change from the time that welfare was first enacted and through the subsequent periods of reform into present-day policy. We now live longer, have fewer children, bear children later and increasingly out-of-wedlock, marry later and less frequently, divorce more often, and increasingly enter into sexual relationships and family formations that are alternatives to the traditional married couple with children. Our gender roles in families have also changed. The average education levels and labor force participation rates of women have increased dramatically relative to men, while the participation of men in the care of the home and children has increased somewhat as well. These changes in family demographics and economics have influenced the creation and evolution of welfare policies over time.

Creation of the Welfare Program

The Aid to Dependent Children (ADC) program passed as one of the least controversial components of the 1935 Social Security Act. ADC was created to provide income support for families with absent breadwinners. The legislation provided federal funds on a matching basis to support new and existing state and local level mothers' pension programs. The initial funding came with little regulation or oversight from the federal government, leaving the targeting of these funds up to state and local discretion. As had been the practice prior to federal legislation, states and localities continued to restrict support to families with "deserving" mothers (typically white, widowed homemakers) who provided "suitable" homes (typically religious homes where men were never present) for their children (Gordon 1994). Thus, families needed to pass both means-test and a morality-test to qualify for welfare support.

With the passage of the 1939 Social Security Act Amendments, many poor widows became eligible for survivor's support and, as a result, they no longer received support for their children through the ADC program. As these families left welfare, the caseload composition shifted increasingly toward mothers who had been abandoned by their husbands or who had never married. By 1942 only half the welfare caseload was made-up of widowed women and their children. As caseload composition changed, government became increasingly concerned with distinguishing between families who had lost fathers and husbands and those who had been abandoned by them. In 1950, states were instructed to notify law enforcement in cases in which support was granted to children who had been abandoned by their fathers. This legislation passed over 60 years ago was the first step toward a child support enforcement system.

Welfare caseloads remained low through the 1940's and 1950's because, in the absence of federal standards, states and localities were able to discriminate in the provision of benefits (Chase-Lansdale and Vinovskis 1995). They increasingly applied means-tests based on both current family income and ability to earn future income, limiting caseloads by defining some poor women as "employable" mothers whose ability to work outside the home disqualified their children from welfare support (Goodwin 1995). These distinctions between employable mothers and non-employable mothers

were sometimes based in differences in prior work histories and highly correlated with race. Efforts to deem some mothers employable, particularly those who had worked in the fields or domestic service, were also linked to concerns (especially in the south) about maintaining the low-skilled (low-paid) labor pool. The behavior of a few southern states was particularly egregious. For example, during this period in Arkansas otherwise eligible mothers were denied benefits at harvest time because they were deemed temporarily employable through the “farm policy” (Handler 1972). States and localities justified denying benefits based on employability in about half of the cases that were rescinded between 1953 and 1960 (Bell 1965).

During this period caseloads were also suppressed by denying or rescinding welfare benefits to families that failed to pass the morality test. By 1950, 19 states had formed eligibility rules that excluded children based on their mother’s marital status at the time of their birth (Holcomb 1993). In Louisiana welfare was rescinded for tens of thousands of children in the early 1960’s—90 percent of whom were black—due to a failure of their mothers to provide “suitable” homes (Mink 1995). Under similar eligibility rules as those used in Louisiana, Alabama disqualified more than 15,000 children from welfare support—again, 90 percent of whom were black—based on a “substitute father” rule that prohibited a family from receiving welfare if the mother was intimate with any able-bodied man.

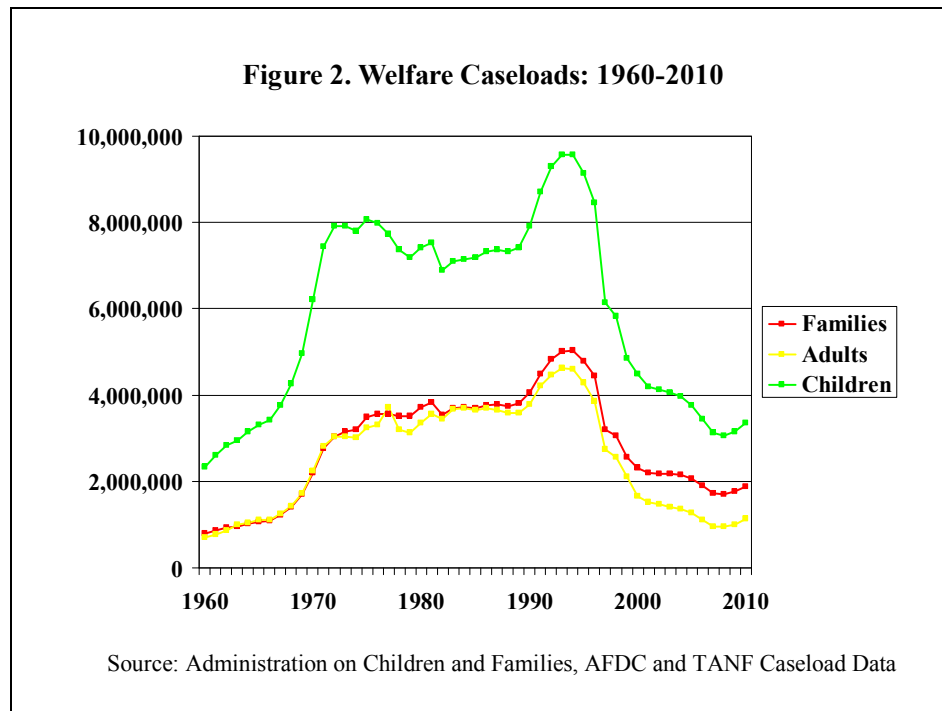
Expansion of the Welfare Program

One of the few federal regulations over the state administration of welfare in the 1935 Social Security Act was the requirement that no state rescind benefits to families without just cause. As a result, in 1961 Arthur Fleming, the head of the Department of Health, Education, and Welfare at the time, issued an administrative order that states could no longer rescind or deny welfare benefits to children whose homes were deemed “unsuitable.” Instead, states must either provide the necessary supports to make the home suitable, or remove children from the home and place them in a suitable home with additional supports. The order was passed as legislation by Congress a year later and resulted in an increase in welfare caseloads, and the issue made its way to the Supreme Court in 1968. The Court struck down the “substitute father” rule in Alabama based on an argument that the original intent of the welfare program, as expressed in the Social Security Act, was to aid families in which the natural father was not present. The Court further reiterated that welfare could not be denied to children “on the basis of their mothers’ alleged immorality or to discourage illegitimate births” (*King v. Smith* 1968).

Following *King v. Smith*, the Court took on the case of Vivian Thompson, a pregnant mother in Connecticut who was denied welfare benefits because she had recently moved from another state (*Shapiro v. Thompson*). In its 1969 decision, the Court established a fundamental right to travel and ruled the state must grant Thompson welfare benefits. In the last and perhaps most important in this series of welfare rights victories, the Court ruled that welfare benefits could not be terminated without due process (*Goldberg v. Kelly* 1970). Specifically, that welfare benefits could not be rescinded without an evidentiary hearing before an impartial decision-making body.

Increase in Welfare Caseloads

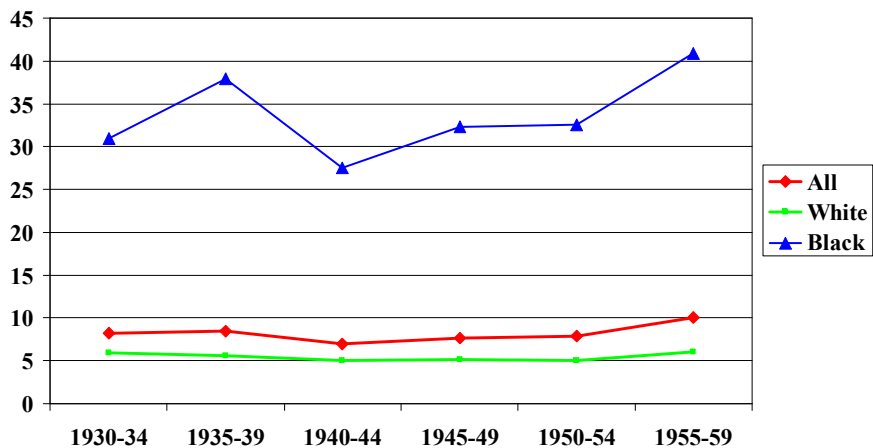
The number of children and families who were able to access welfare benefits grew as states and localities were prohibited from using many of the discriminatory strategies that had allowed them to keep caseloads low in the past. In addition, the federal government further increased caseloads by extending welfare benefits to cover single parents (AFDC) and two-parent families in which the breadwinner was unemployed (AFDC-UP) in the early 1960's. Caseloads also grew as the number of eligible families increased with the rate of non-marital childbearing. Figure 2 shows the dramatic increase in welfare caseloads during the 1960's and 70's. Between 1960 and 1975, the number of children receiving welfare nearly quadrupled and the family caseload more than tripled.



Increase in Non-marital Childbearing

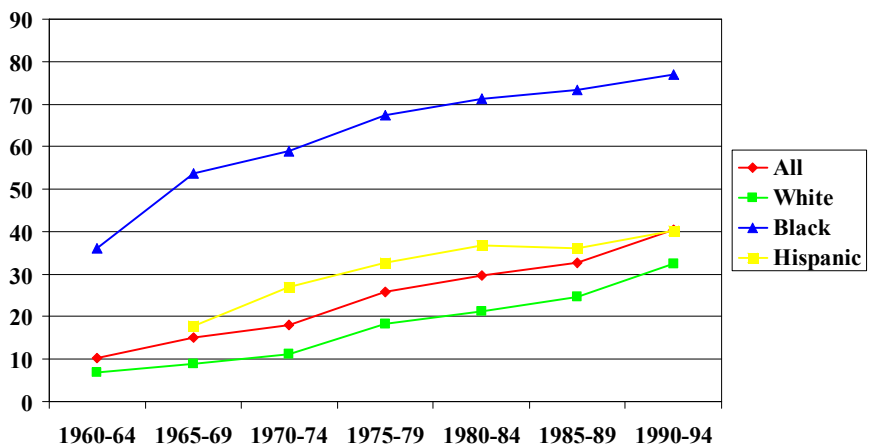
At the time ADC was enacted, the vast majority of women married before having children. In 1935 less than 10 percent of all women aged 15-29 were unmarried at the time of their first birth (see Figure 3a). However, rates of non-marital childbearing varied significantly by race. While only one in twenty white women had their first child out-of-wedlock, one in three black women were unmarried at the time of their first birth (Bachu 1999). These large racial differences in the relationship between marriage and childbearing allowed for states ostensibly applying a morality test for welfare support to effectively exclude eligible black mothers at much higher rates than eligible white mothers. This racial difference in the proportion of births outside marriage persisted through the 1940's and 1950's, but there was little change in non-marital childbearing overall.

Figure 3a. Percent of Women Aged 15-29 Unmarried at First Birth by Race: 1930-1959



Source: Bachu, A., Trends in Non-marital Childbearing, US Census Bureau, 1999

Figure 3b. Percent of Women Aged 15-29 Unmarried at First Birth by Race: 1960-1994



Source: Bachu, A., Trends in Non-marital Childbearing, US Census Bureau, 1999

The proportion of women aged 15-29 who were unmarried at the time of their first birth was about the same in 1959 as it had been in 1935. However, in the decades that followed the proportion of women who had their first birth while unmarried would increase dramatically—from one in ten younger women in 1960 to four in ten younger women in 1990—for all racial groups (see Figure 3b). By 1995, more than three-fourths of black women aged 15-29 had a non-marital first birth, compared to one-third of white women and two-fifths of Hispanic women.

These three factors—legislation and court cases ending discrimination, extension of welfare benefits to cover single-parents and married couples with an unemployed breadwinner, and the increase in the proportions of women giving birth outside marriage—expanded eligibility and access, causing welfare caseloads to shoot up dramatically in the 1960's and 1970's. Caseloads would remain at or near this level through the following two decades, leading to a series of legislative efforts to reform welfare and, ultimately, to the welfare overhaul of the mid-1990's and the subsequent rapid decline in caseloads back down to 1960's levels (see Figure 2).

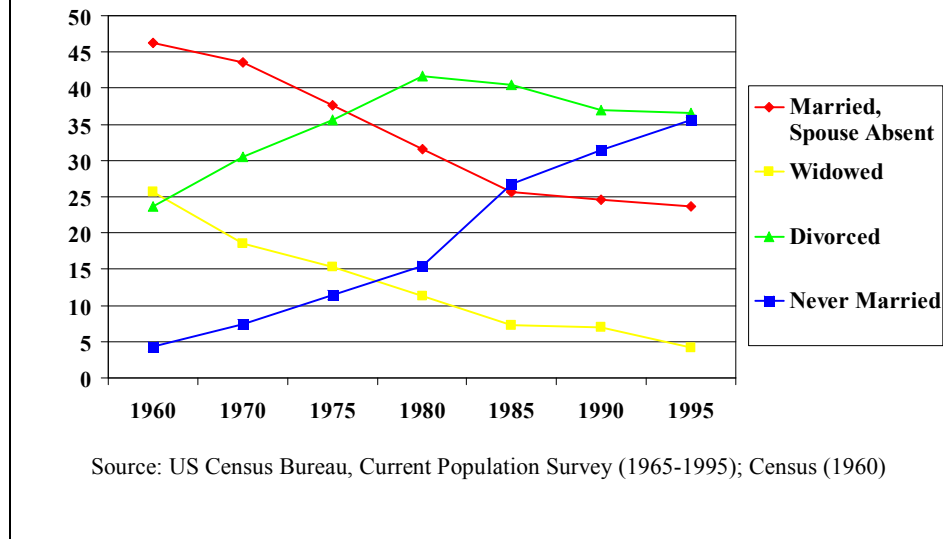
Introduction of Work Requirements and Child Support Enforcement

As caseloads grew and caseload composition changed, concerns about welfare costs came to the political forefront. In the 1940's and 1950's, states had been able to directly discriminate against mothers who they perceived as employable or unsuitable, a perception highly correlated with race, by denying them benefits. This discrimination served two purposes—it kept welfare costs low and it maintained the support of the political majority. As caseloads grew in the 1960's and 1970's, welfare costs and political calls for reform increased. Given the simultaneous nature of these two changes, it is difficult to separate out the role of cost concerns from the role of racial prejudice in motivating subsequent legislation.

Over this period, the number of families headed by single mothers grew due to increases in rates of both divorce and non-marital childbearing. Between 1960 and 1980, the proportion of children living with never married mothers tripled (from less than 5 percent to more than 15 percent), and the proportion living with divorced mothers nearly doubled (from less than 25 percent to more than 40 percent). By 1980, the majority of children in families headed by single-mothers either lived with mothers who had never married or mothers who had divorced (see Figure 4). Over the decades that followed, non-marriage approached divorce as a cause of single-motherhood.

These demographic changes fundamentally altered perceptions of the role of the welfare program in society. While welfare was initially framed as support for families who experienced hardship through no fault of their own, increased rates of divorce and non-marital childbearing suggested newly-eligible families had arrived at their circumstances through a series of choices rather than simply bad luck. The role of welfare in rewarding the immoral behavior of mothers and/or the deviant behavior of absent fathers gained an important political salience.

Figure 4. Percent of Children Living with Single Mothers by Marital Status of Mothers: 1960-1995



At the same time, the original premise of welfare—the assumption that the appropriate place for mothers was in the home—gradually weakened. Women’s labor force participation had increased by 50 percent over a twenty year period, from a rate of 29 percent of women in 1950 to 43 percent of women in 1970. This trend continued through the 1970’s, and by 1980 over half of all women were working. While in 1965 less than one-third of college age women stated they expected to be in the labor force at age 35, by 1980 over 80 percent of college age women expected to be working during their childbearing years (Goldin and Katz 2004). As middle-class mothers increasingly pursued work outside of the home, political support declined for providing benefits to poor single mothers so that they could remain in the home as caregivers.

Work Requirements for Mothers

In response to changes in the roles of women and mothers, as well as increases in caseloads and changes in caseload composition, Congress established the Work Incentive and Training (WIN) Program through the 1967 Social Security Amendments. WIN required states to establish voluntary (made mandatory in 1971) employment and training programs for welfare recipients whose youngest child was six years or older. There were a range of intentions behind the WIN program. While some supported WIN with the hope that these programs would improve economic outcomes for participants, others supported the program with the hope that the additional requirements would deter families from participation. In either case, the original intention of the program—to support families with absent breadwinners—had fundamentally changed. The message sent by the legislation was that it was now not only appropriate for a single mother to take on the role of breadwinner, but it was required that she either do so or find man who would.

In spite of this message, the legislation did little to change life for most recipients. Funding was limited and states lagged in implementing programs and the associated requirements (Rein 1982). Caseloads and welfare costs continued to grow throughout the 1970's. In 1981, Congress took further action to support the development and utilization of WIN programs. The Omnibus Budget Reconciliation Act encouraged and supported state education and training demonstrations. The legislation allowed states to require workfare—unpaid work in exchange for welfare benefits—of recipients for the first time and allowed states to use welfare funds to subsidize employment in the public sector. Under this legislation, Congress intended to use the states as research laboratories for the design of a successful national education, training, and work-incentive program.

Program evaluations showed modest effects of employment and training programs under several of state demonstration programs (Nightingale and Holcomb 1997). Based (in part) on these findings, Congress required states to adopt the Job Opportunities and Basic Skills (JOBS) program through the 1988 Family Support Act. This legislation allowed states to extend work requirements to recipients with children age three and older. The legislation also provided additional federal matching grants to states to provide assistance for the childcare expenses of working recipients and allowed states to continue childcare support and Medicaid for one year after families left welfare. States were required to implement JOBS programs by 1991; by 1994, less than 15 percent of welfare recipients were enrolled in a JOBS program (Nightingale 1997). Although never fully funded or fully implemented, this program was soon replaced by the work requirements and state flexibility built into the 1996 welfare overhaul.

Child Support Required of Fathers

Congress established the Office of Child Support Enforcement (OCSE) in 1975 through Title IV-D of the Social Security Act. The establishment of a federal and public enforcement system was an explicit response to increases in the proportion of children living in single-parent families and the associated welfare costs of providing support to a portion of those children. The new legislation required states to set up child support enforcement offices that met minimum standards, including the establishment of a parent locator system, and attached this requirement to the receipt of federal grants. These mandates expanded through the 1988 Family Support Act, which further required that states begin withholding the wages of delinquent non-residential fathers whose children received welfare support.

Efforts to recoup the public costs of welfare benefits from non-residential fathers would expand through the welfare overhaul of 1996. As a condition of assistance, welfare recipient mothers would be required (by threat of benefit sanctions) to report the paternity and location of non-residential fathers and to sign over their rights to receive child support to the state, allowing states to retain the full amount of child support to compensate for welfare costs. PRWORA would also eliminate the federal requirement that states disregard the first \$50 in child support income received by recipient families.

The 1996 Welfare Overhaul

Welfare caseloads grew rapidly in the early 1990's. Between 1990 and 1994, caseloads increased by 1 million families (see Figure 1). Although efforts to implement comprehensive education and training for recipients through the JOBS program were only in the early stages of realization, concerns about welfare costs and perverse work, marriage, and childbearing incentives fueled calls for further reforms. In the 1994 congressional election Republicans ran on a "Contract with American" platform that included intensive reforms to the welfare program; they won majorities in both houses of Congress for the first time since the 1950's. President Clinton had run for office two years earlier with a promise to "end welfare as we know it." As the 1996 election cycle approached, pressure mounted for Congress to pass and for the President to sign substantial welfare reform legislation. After vetoing two earlier bills sent to him by Congress, Clinton signed the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) into law in August of 1996. The legislation took effect in July of the following year.

PRWORA ended welfare as an entitlement, replacing the AFDC program with Temporary Assistance for Needy Families (TANF). Under TANF, the federal government requires states to impose work requirements on recipients within two years of receiving benefits and restricts federal funding to a total of five years in the lifetime of any adult recipient. However, states have the flexibility to impose earlier work requirements and earlier lifetime limits on assistance, as well as the flexibility to allow for work exemptions for certain groups of recipients, such as pregnant women or new mothers. States have the authority to impose "family caps," which deny benefits to children born while a family is already receiving welfare. If recipients fail to meet work (or any other) requirements of assistance, states also have the authority to sanction them by reducing their benefits or denying them benefits altogether. Finally, many states operate formal diversion programs that offer eligible recipients alternative temporary assistance in exchanged for giving up their welfare eligibility.

Welfare reform legislation also significantly enhanced supports for families transitioning off of welfare. The program authorized additional funding for childcare assistance, although funding levels remained far below demand for the period under consideration. The legislation also delinked Medicaid from welfare and increased the income eligibility thresholds for public coverage. Supports for low-income non-recipient families also improved through increases in the minimum wage, expansions in the Earned Income Tax Credit (EITC), and increases in child support enforcement.

These policy changes, in combination with a strong economy, led to dramatic welfare caseload reductions. Between 1995 and 2000, caseloads were cut in half. Sanctions, diversion policies, and family caps directly affected caseloads by reducing eligibility and access. Work requirements and lifetime limits indirectly affected caseloads by reducing the value of welfare to current and would-be recipients. By 2000, the number of families receiving assistance was close to 1960 levels, representing a near-complete roll-back in the expansions of the previous four decades.

The 1996 welfare overhaul was the final step in process of reforms meant to fundamentally alter the nature of the program as a social safety net for families headed by single mothers. While work supports for the poor or near-poor increased substantially, this increase in transfers to the working poor was matched with a reduction in transfers to the non-working poor. Scholz, Moffitt, and Cowan find transfers to single-parent families were 45 percent lower in 2004 than they had been in 1993 (2009). Welfare was created to allow single mothers to care for their children in the home. The program now required single-mother recipients to find jobs and place their young children in some form of childcare. Alternatively, recipients are encouraged to find spouses to support them as caregivers. While many of the policies included in welfare reform were introduced in earlier legislation, the 1996 law created the mandates and incentives for states to fully implement these policies.

Welfare reform clearly impacted recipient families, but it may have also affected non-recipient women and children. To the extent that these policy changes induced a shift in marital bargaining power from wives to husbands, women and children in lower-income families may have experienced a reduction in their access to resources. The following section outlines the research design and data used to capture the effect of welfare reform on the bargaining power of lower-income women with young children.

V. Methodology and Findings

The purpose of this study is to estimate the effect of welfare reform on the marital bargaining power of lower-income women with young children. While marital bargaining power is my outcome of interest, it operates within the black box of family decision-making and cannot be directly observed. Instead, I use changes in family consumption patterns to signal changes in the distribution of bargaining power between husbands and wives. Given this framework, the first methodological challenge is to differentiate patterns of expenditure that appear “husband-driven” from those that appear “wife-driven,” allowing for inferences about the direction of any observed change in power. The second challenge is to identify and estimate the effect of welfare reform on the relative bargaining power of husbands and wives.

Research Design

The consumption preferences of married couple families are executed jointly in their family expenditures and cannot be independently observed. Therefore, I utilize the expenditure patterns of families headed by one adult to infer gender differences in the consumption preferences of husbands and wives. After controlling for a set of observed characteristics, I find large and significant gender differences in the expenditure behavior of families headed by single adults. Based on these differences, I sum expenditure categories associated with male consumption and designate increases in family expenditures within those categories as “husband-driven.” I also sum expenditure categories associated with female consumption and designate increases in family expenditures within those categories as “wife-driven.” Clearly, married men and women may be selected in ways that affect their consumption preferences relative to their single counterparts. To address this possibility of selection bias, I restrict the sample to single adults who are currently or were previously married and test these constructed categories. I also further restrict the sample to include only those single adults who are widows or widowers. The gender differences remain large and significant.

I then estimate the effect of welfare reform on marital bargaining power using the time period over which welfare reform was implemented at the national level. I identify lower-income married women with young children as the group most vulnerable to changes in welfare policy. I estimate the change in bargaining power for these women relative to other married women over the period of reform and find large and significant differential reductions in their bargaining power. I then conduct the following falsification test. I use the same model to estimate the differential change in bargaining power for this subgroup of women over the period prior to welfare reform (1990-1996). During this period, I find differential *increases* in the bargaining power of this subgroup of women. These findings demonstrate a trend of increasing bargaining power pre-reform and decreasing power post-reform, suggesting welfare reform at the national level changed the direction of the trend. However, it is possible that a change in some other important factor drove the differential change in bargaining power we see over the reform period.

To more precisely identify the effect of welfare reform on marital bargaining power, I use variation in policy implementation across states. I use 12 dimensions of welfare policy implementation to qualitatively characterize states as “intensive” reformers and “non-intensive” reformers. Based on these characterizations, I restrict the sample to intensive reform states and estimate the differential change in marital bargaining power for lower-income women with young children over the reform period. I find very large and significant effects for those living in intensive reform states. I then restrict the sample of married couples to those living in non-intensive reform states. I estimate the differential change in bargaining power for the subgroup of women and find no evidence of an effect of welfare reform. I then return to the original sample and restrict the observations to only include lower-income women with young children. I estimate the differential effect of living in an intensive reform state over the period, and I find very large, significant changes in the bargaining power for women in intensive reform states relative to those in non-intensive reform states.

Finally, I return to the full sample of married couples and estimate the differential change in bargaining power for lower-income women with young children in intensive-reform states over the period of welfare reform. I find very large, significant effects of welfare reform. Based on these findings, I conclude that the weakening of the social safety net through welfare reform reduced the marital bargaining power of those women most likely to consider welfare as a possible exit alternative to marriage.

Data

The Consumer Expenditure Survey (CEX) collects annual expenditure data (on a quarterly basis) and member characteristics for cross-sectional samples of families. I pool CEX data from 1995 through 2000 to capture the time period in which welfare reform was enacted and implemented. I exclude households headed by students and those households with heads over the age of 50. This age exclusion is intended to create a sample of households with a reasonable likelihood of having young children present. I then isolate families headed by single men (4,521), single women (5,722), and married couples (12,630). Table 1a summarizes descriptive characteristics of these families by gender and family type.

We see interesting differences in mean characteristics in the sample by gender and by family type. Single adult men and women are younger than their married counterparts. They are also more likely to be black and less likely to be white or Hispanic. Given the increasing average age of marriage and racial divergence in marriage rates we observed earlier in this paper, these findings are not surprising. We see that married men tend to be less educated than their single counterparts, a factor that is likely related to the education-marriage delay. The relationship between education and family type is less clear for women. Given the stabilizing effects men’s educational attainment has on marriage (and the potentially destabilizing effects women’s education has) these differences in characteristics appear consistent with the literature (Becker et al. 1977).

Table 1a. Sample Characteristics by Current Marital Status and Gender

	Men		Women	
	Married*	Single	Married*	Single
Age	37.2	33.1	35.4	33.4
Race and Ethnicity				
White	88.0%	84.3%	87.8%	71.7%
Black	7.2%	10.1%	6.7%	23.8%
Asian	3.9%	4.1%	4.4%	2.9%
Hispanic	11.2%	6.9%	11.6%	9.4%
Education				
Less than High School	11.3%	8.0%	10.9%	13.3%
High School or GED	30.7%	23.7%	30.2%	26.2%
Some College	27.1%	38.4%	30.4%	34.9%
Bachelors Degree	20.0%	21.3%	20.0%	17.4%
Graduate Degree	10.6%	8.5%	8.2%	7.9%
Marital Status**				
Married	100.0%	2.6%	100.0%	2.6%
Widowed	0.0%	1.3%	0.0%	3.8%
Divorced	0.0%	24.9%	0.0%	29.2%
Separated	0.0%	6.3%	0.0%	10.8%
Never Married	0.0%	64.8%	0.0%	53.3%
Children				
Any Children	77.4%	8.0%	77.4%	48.3%
Young Children	32.5%	1.1%	32.5%	16.6%
Older Children	44.8%	6.9%	44.8%	31.7%
Family Size	3.6	1.1	3.6	1.96
% Poverty Line	3.8	3.4	3.8	2.2
Homeownership				
Renter	28.3%	70.1%	28.3%	70.5%
Owner	59.7%	19.9%	59.7%	19.8%
Transportation				
One Vehicle	20.1%	51.8%	20.1%	57.6%
Multiple Vehicles	74.6%	25.1%	74.6%	12.1%
Urbanicity				
Large City	49.9%	48.7%	49.9%	50.9%
Small City	26.0%	27.1%	26.0%	26.8%
Region				
Northeast	16.4%	15.1%	16.4%	17.0%
South	32.4%	29.9%	32.4%	32.5%
Midwest	22.9%	22.6%	22.9%	22.4%
West	25.6%	30.5%	25.6%	26.8%

* The means of household level variables will be the same for married men and married women.

** Note that some single adults are currently married but not living with their marital partners.

Married couples are more likely to have children than single adult family heads, but single women are much more likely than single men to have children in their homes. Given the ratio of the number of potential earners in a family to the number of family members and the lower average earnings of women relative to men, we would expect to see that the average family headed by a single woman is poorer than the average family headed by a single man. The average married couple has the highest income relative to their family size. They are also much more likely to own homes than their single counterparts. Finally, we see small differences in urbanicity and across regions by gender and family type.

Given these differences in characteristics and the assumption that married couples must bargain with each other to form their consumption bundles, it is not surprising that the consumption patterns of married couples are somewhat different from those of single men and single women in nearly every category of expenditure. Table 1b summarizes the average expenditure share of each household type by expenditure category. Before controlling for differences in the characteristics of these households, we see that single men, on average, spend higher shares of their incomes on restaurant meals, alcohol and tobacco, and men’s clothing relative to other households. In contrast, single women dedicate higher shares of their spending to housing and household services, personal care, and women’s clothing. Interestingly, the expenditures of married households often look like some combination of the expenditure preferences of single men and single women.

Table 1b. Expenditure Shares by Current Marital Status and Gender

	Married Couples	Single Women	Single Men
<i>Home Meals</i>	12.5%	14.9%	11.6%
<i>Restaurant Meals</i>	3.7%	3.6%	5.8%
<i>Alcohol & Tobacco</i>	1.7%	2.1%	4.0%
<i>Housing & Household Services</i>	33.3%	39.5%	34.2%
<i>Vehicles & Transportation</i>	18.5%	13.6%	15.7%
<i>Insurance & Pensions</i>	12.5%	7.8%	10.6%
<i>Education</i>	1.7%	2.4%	3.1%
<i>Health Care</i>	4.2%	3.1%	2.5%
<i>Personal Care</i>	0.9%	1.1%	0.7%
<i>Entertainment</i>	5.1%	4.5%	5.7%
<i>Men’s Clothing</i>	0.9%	0.2%	1.8%
<i>Women’s Clothing</i>	1.0%	2.4%	0.1%
<i>Children’s Clothing</i>	1.2%	1.3%	0.2%
<i>Miscellaneous Expenditures</i>	2.6%	2.9%	3.5%

To the extent that expenditure preferences of men and women differ, we would expect to see some mixture of these preferences in married couple households. In theory, this mixture would depend on the relative bargaining power of the husband and the wife in each couple. While we are unable to directly observe the distribution of bargaining power within these families, we may be able to infer changes in relative bargaining power from changes in consumption patterns. From an equity—and, perhaps, efficiency—perspective, this observation becomes meaningful to the extent we are also able to determine the direction of such changes in power.

Construction of “Husband-driven” and “Wife-driven” Consumption Categories

I utilize the sample of families headed by single adults (11,362 families) to determine how the consumption behaviors of single men differ from those of single women. Equation (1) shows the regression model used to estimate the relationship between gender and each of the following twelve expenditure categories: home meals, restaurant meals, alcohol and tobacco, housing and household services, vehicles and transportation, education, health care, personal care, entertainment, men’s clothing, women’s clothing, and children’s clothing.

$$(1) \text{ExpShare}_j = \beta_0 + \delta_0 \text{male} + \beta_k X_{ik} + \mu$$

I regress each category of expenditure listed in Table 1b on gender, as well as variables representing age, race and ethnicity, education level, income as a percent of the poverty line, work status, presence and age of children, homeownership, vehicle ownership, urbanicity, and region. By including these demographic and economic variables, I control for the observable differences in the characteristics of single men and single women that may have an independent impact on their expenditure patterns.

Table 2a presents regression results for those expenditure categories positively associated with men. Table 2b presents regression results for those expenditure categories negatively associated with men and, therefore, positively associated with women. I find that men devote significantly higher proportions of their total expenditures to restaurant meals, alcohol and tobacco, men’s clothing, vehicles and transportation, and entertainment. In contrast, men devote significantly smaller shares of their total expenditures to housing and household services, health care, personal care, women’s clothing, and children’s clothing. I find no significant relationship between educational expenditures and gender. I find a small (about one-half of a percentage point) positive relationship between male household heads and expenditures on home meals. However, I exclude this expenditure category because gender differences in basic food consumption may be based in average differences in required caloric intake. I also find a small (about one half of a percentage point) gender difference in the reporting of miscellaneous expenditures, but exclude this category from analysis because it has little interpretive value.

The findings are consistent with the expenditure categories assigned to married men and women by Phipps and Burton (1998). They are also consistent with the positive association in the literature between women’s control over resources and spending on women’s and children’s clothing (Lundberg, Pollack, and Wales 1997; Bobonis 2009) and health care (Thomas 1990; Duflo 2003). While differences in spending on men’s and women’s clothing are clearly related to the gender of the family head and may not reflect differences in underlying demand, other differences in demand across single adults may indicate differences in the underlying preferences of men and women or differences in social roles or circumstances highly correlated with gender and unobserved here.

Table 2a. "Husband-driven" Consumption Categories

	<i>Restaurant Meals</i>	<i>Alcohol & Tobacco</i>	<i>Vehicles & Transportation</i>	<i>Entertainment</i>	<i>Insurance & Pensions</i>	<i>Men's Clothing</i>
Intercept	4.87** (0.40)	2.55** (0.38)	9.63** (1.28)	7.45** (0.47)	-3.92** (0.57)	0.92** (0.17)
Male	1.63** (0.10)	1.50** (0.09)	0.90** (0.31)	0.89** (0.11)	0.42** (0.14)	1.54** (0.04)
Age	-0.05** (0.01)	0.01 (0.01)	-0.08** (0.02)	-0.06** (0.01)	0.12** (0.01)	-0.02** (0.00)
Black	-0.97** (0.12)	-1.43** (0.12)	-0.50 (0.40)	-0.99** (0.14)	0.26 (0.18)	0.16** (0.05)
Asian	0.54** (0.24)	-0.81** (0.22)	-0.61 (0.75)	-0.99** (0.27)	0.01 (0.33)	-0.05 (0.10)
Hispanic	-0.15 (0.16)	-1.56** (0.15)	0.56 (0.52)	-0.78** (0.19)	0.11 (0.23)	0.19** (0.07)
Less than HS	-0.60** (0.22)	2.61** (0.20)	-0.49 (0.69)	-0.80** (0.25)	-0.73** (0.31)	-0.21** (0.09)
High School	-0.29 (0.18)	1.78** (0.17)	1.14** (0.58)	-0.38* (0.21)	-0.41 (0.26)	-0.21** (0.08)
Some College	-0.00 (0.17)	1.21** (0.16)	1.30** (0.55)	0.10 (0.20)	-1.04** (0.25)	-0.13* (0.07)
Bachelors Degree	0.11 (0.18)	0.49** (0.17)	0.86 (0.57)	0.11 (0.21)	-0.07 (0.25)	-0.13* (0.08)
Never Married	0.20* (0.11)	-0.02 (0.10)	-1.13** (0.35)	0.26** (0.13)	0.80** (0.15)	0.02 (0.05)
Children	-0.15 (0.19)	-0.62** (0.18)	0.09 (0.62)	0.41* (0.23)	-0.70** (0.28)	0.01 (0.08)
Young Children	-0.98** (0.18)	-0.27 (0.16)	-1.41** (0.56)	-0.78** (0.20)	0.29 (0.25)	-0.37** (0.07)
Family Size	-0.06 (0.08)	-0.23** (0.07)	-0.18 (0.25)	0.12 (0.09)	-0.24** (0.11)	0.02 (0.03)
% Poverty Line	0.04** (0.02)	-0.10** (0.02)	0.01 (0.06)	0.05** (0.02)	1.25** (0.03)	0.01* (0.01)
Worker	0.98** (0.16)	-0.27* (0.15)	2.48** (0.51)	0.10 (0.19)	5.77** (0.23)	-0.02 (0.07)
Renter	-0.23 (0.15)	0.26* (0.14)	-1.60** (0.48)	-0.38** (0.17)	-0.56** (0.21)	-0.01 (0.06)
Mortgage	-0.40** (0.17)	-0.44** (0.16)	-2.18** (0.54)	0.22 (0.20)	0.11 (0.24)	-0.12* (0.07)
Vehicle	-0.25** (0.10)	-0.56** (0.10)	9.03** (0.33)	-0.13 (0.12)	0.81** (0.15)	0.03 (0.04)
Large City	0.31** (0.11)	-0.17 (0.11)	-0.40 (0.36)	-0.64** (0.13)	0.41** (0.16)	0.02 (0.05)
Small City	0.12 (0.12)	-0.23** (0.11)	-0.47 (0.39)	-0.40** (0.14)	0.33* (0.17)	-0.01 (0.05)
Northeast	0.01 (0.14)	0.40** (0.13)	-0.17 (0.43)	-0.18 (0.16)	-0.11 (0.19)	0.20** (0.06)
South	0.45** (0.11)	0.30** (0.11)	0.70 (0.36)	-0.38** (0.13)	0.36** (0.16)	-0.06 (0.05)
Midwest	0.22* (0.12)	0.62** (0.11)	0.29 (0.39)	-0.09 (0.14)	0.38** (0.17)	0.03 (0.05)
R ²	0.10	0.12	0.10	0.04	0.42	0.17
N	10,243	10,243	10,243	10,243	10,243	10,243

* significant at p < .10; ** significant at p < .05

Table 2b. "Wife-driven" Consumption Categories

	<i>Housing & Household</i>	<i>Health Care</i>	<i>Personal Care</i>	<i>Women's Clothing</i>	<i>Children's Clothing</i>
Intercept	39.55** (1.29)	2.47** (0.40)	1.11** (0.12)	3.84** (0.23)	0.30* (0.16)
Male	-3.96** (0.31)	-0.75** (0.10)	-0.35** (0.03)	-2.95** (0.05)	-0.15** (0.04)
Age	0.14** (0.02)	0.08** (0.01)	-0.01** (0.00)	-0.03** (0.00)	-0.01** (0.00)
Black	2.29** (0.40)	-0.67** (0.12)	0.78** (0.04)	-0.03 (0.07)	0.58** (0.05)
Asian	2.88** (0.76)	-0.62** (0.23)	-0.00 (0.07)	-0.13 (0.13)	0.12 (0.09)
Hispanic	1.78** (0.52)	-0.35** (0.16)	0.05 (0.05)	0.05 (0.09)	0.08 (0.06)
Less than HS	-0.37 (0.70)	-0.92** (0.22)	-0.20** (0.06)	-0.24** (0.12)	0.46** (0.09)
High School	-0.94 (0.59)	-0.49** (0.18)	-0.08 (0.05)	-0.09 (0.10)	0.23** (0.07)
Some College	-1.76** (0.56)	-0.23 (0.17)	-0.02 (0.05)	0.21 (0.10)	0.05 (0.07)
Bachelors Degree	-0.11 (0.57)	0.24 (0.18)	0.01 (0.05)	0.14 (0.10)	0.01 (0.07)
Never Married	0.38 (0.35)	-0.30** (0.11)	0.10** (0.03)	0.05 (0.06)	0.07* (0.04)
Children	-0.09 (0.62)	0.92** (0.19)	0.09 (0.06)	-0.61** (0.11)	0.85** (0.08)
Young Children	3.95** (0.56)	-0.48** (0.17)	-0.24** (0.05)	-0.45** (0.10)	0.88** (0.07)
Family Size	-1.15** (0.25)	-0.47** (0.08)	0.04 (0.02)	-0.26** (0.04)	0.45** (0.03)
% Poverty Line	-0.54** (0.06)	-0.05** (0.02)	-0.00 (0.01)	0.03** (0.01)	0.02** (0.01)
Worker	-4.42** (0.52)	-0.25 (0.16)	-0.01 (0.05)	0.47** (0.09)	-0.32** (0.06)
Renter	3.98** (0.48)	-0.74** (0.15)	0.03 (0.04)	-0.11 (0.08)	-0.06 (0.06)
Mortgage	7.39** (0.55)	-0.68** (0.17)	-0.00 (0.05)	-0.09 (0.10)	-0.11 (0.07)
Vehicle	-4.24** (0.34)	0.06 (0.10)	-0.14** (0.03)	-0.04 (0.06)	-0.09** (0.04)
Large City	2.89** (0.36)	-0.30** (0.11)	0.06* (0.03)	0.05 (0.06)	0.03 (0.04)
Small City	0.98** (0.39)	0.05 (0.12)	0.02 (0.04)	0.09 (0.07)	0.06 (0.05)
Northeast	-0.40 (0.43)	-0.00 (0.13)	-0.00 (0.04)	0.15** (0.08)	0.12** (0.05)
South	-1.53** (0.36)	0.46** (0.11)	0.07** (0.03)	-0.12* (0.06)	0.03 (0.04)
Midwest	-2.04** (0.39)	0.49** (0.12)	0.06* (0.04)	0.01 (0.07)	0.11** (0.05)
R ²	0.12	0.06	0.10	0.25	0.33
N	10,243	10,243	10,243	10,243	10,243

* significant at p < .10; ** significant at p < .05

I use the results presented in Tables 2a and 2b to allow me to construct “husband-driven” consumption (which sums family expenditures in those categories positively associated with male-headed households), and “wife-driven” consumption (which sums family expenditures in those categories negatively associated with male-headed households). These categories are preliminary. I then test the extent to which these summary categories are appropriately associated with gender. I also test the extent to which these gender associations persist in the subsamples of single adults that are the most like the sample of married couples. Finally, I test for change in these gender associations over the time period of interest.

Tests of Husband-driven and Wife-driven Consumption Categories

After constructing the categories of husband-driven and wife-driven consumption, I use the following regression models to test the relationship between the gender of the single adult family head and the share of family expenditure in these consumption categories:

$$(2) \textit{Husband-driven share} = \beta_0 + \delta_0 \textit{male} + \beta_k X_{ik} + \mu$$

$$(3) \textit{Wife-driven share} = \beta_0 + \delta_0 \textit{male} + \beta_k X_{ik} + \mu$$

In model (2), I regress the husband-driven share on gender and the full set of controls. I find a large and significant relationship—families headed by men devote an estimated 6.88 percentage points ($p=.00$) more of expenditures toward husband-driven goods. In model (3), I regress the wife-driven share of consumption on gender and the full set of controls. I find a large and significant relationship—families headed by women devote an estimated 8.17 percentage points ($p=.00$) more of expenditures toward wife-driven goods. Table 3a presents these findings along with the full set of control coefficients.

We see that age is negatively related to the consumption of husband-driven goods and positively related to the consumption of wife-driven goods. Families headed by adults who are black, Asian, or Hispanic devote smaller shares of their expenditures toward husband-driven goods and larger shares toward wife-driven goods relative to those with white family heads. While, on average, family heads with lower education levels spend more on husband-driven goods and less on wife-driven goods. We see that having young children and living in urban areas are characteristics positively associated with higher shares of wife-driven goods. Those who hold mortgages or pay rent also devote higher shares of their expenditures to wife-driven goods relative to those who own homes and have paid off their mortgages. This relationship is likely driven by the inclusion of housing expenditures in the construct. Similarly, those who own cars devote higher shares of their expenditures to husband-driven goods, a result likely driven by the inclusion of vehicle and transportation expenditures in the construct. These relationships between the control variables and the summary categories are generally consistent with the results presented for each consumption category in Tables 2a and 2b.

Table 3a. Test of Relationship between Constructed Consumption Shares and Gender

	<i>“Husband-driven” Share</i>	<i>“Wife-driven” Share</i>
Intercept	21.50** (1.35)	47.27** (1.31)
Male	6.88** (0.32)	-8.17** (0.31)
Age	-0.08** (0.02)	0.17** (0.02)
Black	-3.47** (0.42)	2.96** (0.40)
Asian	-1.91** (0.79)	2.23** (0.76)
Hispanic	-1.63** (0.55)	1.62** (0.53)
Less than HS	-0.21 (0.73)	-1.28* (0.70)
High School	1.64** (0.61)	-1.36** (0.59)
Some College	1.44** (0.58)	-1.75** (0.56)
Bachelors Degree	1.37** (0.60)	0.29 (0.58)
Never Married	0.14 (0.36)	0.30 (0.35)
Children	-0.96 (0.65)	1.15* (0.63)
Young Children	-3.52** (0.59)	3.67** (0.57)
Family Size	-0.57** (0.26)	-1.40** (0.25)
% Poverty Line	1.26** (0.06)	-0.54** (0.06)
Worker	9.04** (0.54)	-4.53** (0.52)
Renter	-2.52** (0.50)	3.11** (0.48)
Mortgage	-2.81** (0.57)	6.50** (0.55)
Vehicle	8.93** (0.35)	-4.44** (0.34)
Large City	-0.48 (0.38)	2.74** (0.37)
Small City	-0.67* (0.41)	1.20** (0.40)
Northeast	0.14 (0.45)	-0.13 (0.44)
South	1.37** (0.38)	-1.09** (0.37)
Midwest	1.45** (0.41)	-1.36** (0.40)
R ²	0.32	0.18
N	10,243	10,243

* significant at p < .10; ** significant at p < .05

I then test the husband-driven and the wife-driven constructs against possible bias due to selection into marriage. I limit my sample to families headed by single adults who are currently or were formerly married (4,260 families). I use models (2) and (3), and I find the gender differences in consumption persist. These differences are similar in magnitude to those in the full sample of single adults. Men spend an estimated 6.28 percentage points ($p=.00$) more on goods classified as husband-driven. In contrast, women spend an estimated 7.60 percentage points ($p=.00$) more on goods classified as wife-driven. Table 3a presents these results. However, the decision to disrupt a marriage may be endogenous to the degree to which consumption preferences are highly gendered in the marital partners. To the extent that the adults in this group negatively selected out of the marital family relationship based on their consumption preferences, these estimates will still suffer from selection bias.

To address this potential source of bias, I further limit by sample to families headed by widows or widowers (280 families). I run models (2) and (3) on this subsample and find results consistent in both direction and magnitude with the findings for the currently or previously married group. Specifically, men spend an estimated 7.09 percentage points ($p=.00$) more on husband-driven goods, and women spend an estimated 8.37 percentage points ($p=.00$) more on wife-driven goods (see Table 3b). This restricted sample is as close as we can get to married couples, as these adults married and experienced a (presumably) exogenous shock that left them in single-headed families. Given these findings, I conclude the constructs are valid and proceed.

My final test addresses the possibility of change over time in the relationship between gender and consumption patterns. I limit my sample to data from the pre-reform (1995/1995) and post-reform (1999/2000) periods, leaving a total of 7,278 families headed by single adults. I use the following regression models to test for differential changes in the expenditure shares devoted to husband-driven and wife-driven consumption, respectively:

$$(4) \text{ Husband-driven share} = \beta_0 + \delta_0 \text{male} + \beta_1 \text{post} + \delta_1 \text{male} * \text{post} + \beta_k X_{ik} + \mu$$

$$(5) \text{ Wife-driven share} = \beta_0 + \delta_0 \text{male} + \beta_1 \text{post} + \delta_1 \text{male} * \text{post} + \beta_k X_{ik} + \mu$$

In model (4) the coefficient of interest is δ_1 . This coefficient on the interaction term represents the gendered change in the share of expenditures devoted to husband-driven goods over time. If the relationship between the gender of the household head and the share of consumption devoted to husband-driven goods was changing over time—perhaps due to some gendered change in the characteristics of the single adult populations or change in gender norms that affect preferences—then we would expect the coefficient on the interaction term to be either negative (men are spending less on husband-driven goods in 1999/2000 than they were in 1995/1996) or positive (men are spending more on husband-driven goods in the later period) and significant. Model (5) estimates this effect for the wife-driven share of expenditure. Table 3c presents these results.

Table 3b. Test of Constructed Shares on Subsamples of Single Adults

	Previously or Currently Married		Widow/Widower	
	<i>“Husband-driven” Share</i>	<i>“Wife-driven” Share</i>	<i>“Husband-driven” Share</i>	<i>“Wife-driven” Share</i>
Intercept	23.24** (2.07)	49.69** (1.97)	22.16** (8.06)	60.71** (8.48)
Male	6.28** (0.51)	-7.60** (0.49)	7.09** (2.18)	-8.37** (2.30)
Age	-0.06* (0.03)	0.09** (0.03)	-0.07 (0.13)	-0.04 (0.13)
Black	-2.72** (0.62)	2.62** (0.59)	0.09 (2.19)	-0.95 (2.31)
Asian	-1.82 (1.36)	1.59 (1.30)	0.70 (6.11)	-4.77 (6.43)
Hispanic	-1.48* (0.79)	1.27* (0.75)	3.18 (3.28)	-4.70 (3.45)
Less than HS	0.04 (1.09)	-1.92* (1.03)	-0.49 (4.50)	-5.08 (4.73)
High School	1.95** (0.96)	-2.10** (0.91)	-1.56 (4.18)	-2.00 (4.39)
Some College	2.42** (0.93)	-1.78** (0.89)	0.73 (4.19)	-2.36 (4.41)
Bachelors Degree	1.29 (1.01)	-0.23 (0.96)	-0.02 (4.43)	-3.87 (4.67)
Children	-0.79 (0.80)	0.24 (0.76)	7.41** (3.14)	-5.89* (3.31)
Young Children	-2.87** (0.81)	3.15** (0.77)	-7.03** (3.47)	5.39 (3.65)
Family Size	-0.84** (0.32)	-0.78** (0.31)	-2.35* (1.30)	0.29 (1.36)
% Poverty Line	1.05** (0.08)	-0.58** (0.08)	1.25** (0.33)	-0.95** (0.35)
Worker	8.47** (0.73)	-4.42** (0.69)	10.33** (2.20)	-8.41** (2.32)
Renter	-4.21** (0.68)	4.88** (0.65)	-8.37** (2.31)	7.59** (2.43)
Mortgage	-2.96** (0.75)	7.38** (0.71)	-5.05** (2.35)	8.38** (2.47)
Vehicle	8.32** (0.57)	-4.56** (0.54)	7.95** (2.32)	-5.12** (2.44)
Large City	-1.66** (0.58)	3.24** (0.55)	-1.88 (2.21)	5.50** (2.32)
Small City	-0.48 (0.62)	1.26** (0.59)	0.52 (2.39)	3.22 (2.52)
Northeast	0.43 (0.73)	-1.47** (0.69)	1.95 (2.77)	-3.02 (2.91)
South	2.52** (0.57)	-3.21** (0.54)	3.52 (2.35)	-0.44 (2.47)
Midwest	2.23** (0.63)	-2.89** (0.60)	2.50 (2.48)	-1.60 (2.61)
R ²	0.31	0.18	0.40	0.27
N	4,260	4,260	280	280

* significant at p < .10; ** significant at p < .05

Table 3c. Test for Change over Time in Constructed Consumption Shares and Gender

	<i>“Husband-driven” Share</i>	<i>“Wife-driven” Share</i>
Intercept	21.27** (1.45)	47.64** (1.41)
Male	6.76** (0.51)	-7.71** (0.50)
Time	1.26** (0.47)	0.12 (0.45)
Male*Time	-0.29 (0.69)	-0.20 (0.67)
Age	-0.10** (0.02)	0.17** (0.02)
Black	-3.10** (0.50)	2.65** (0.48)
Asian	-2.02** (0.95)	1.72* (0.92)
Hispanic	-1.59** (0.67)	1.62** (0.64)
Less than HS	0.60 (0.87)	-2.08** (0.84)
High School	2.72** (0.73)	-2.12** (0.71)
Some College	2.01** (0.70)	-2.05** (0.68)
Bachelors Degree	2.00** (0.73)	0.07 (0.70)
Children	-1.18 (0.76)	1.58** (0.74)
Young Children	-3.04** (0.71)	3.50** (0.68)
Family Size	-0.51* (0.31)	-1.55** (0.30)
% Poverty Line	1.27** (0.07)	-0.53** (0.07)
Worker	9.35** (0.64)	-4.97** (0.62)
Renter	-3.03** (0.61)	3.59** (0.59)
Mortgage	-3.65** (0.69)	7.19** (0.67)
Vehicle	9.41** (0.42)	-4.78** (0.41)
Large City	-0.72 (0.46)	2.85** (0.45)
Small City	-0.81* (0.50)	1.19** (0.48)
Northeast	-0.11 (0.56)	-0.25 (0.54)
South	1.13** (0.46)	-1.20** (0.45)
Midwest	1.47** (0.50)	-1.72** (0.48)
R ²	0.32	0.17
N	7,278	7,278

* significant at $p < .10$; ** significant at $p < .05$

We see the estimate of the interaction effect is very small and insignificant in each model (see Table 3c). The estimated change in husband-driven consumption is -0.29 percentage points ($p=0.68$) and the estimated change in wife-driven consumption is -0.20 percentage points ($p=0.76$). Based on these findings, we can conclude there was no change in the relationship between gender and these constructs over time in the single adult sample. Therefore, any changes in the consumption patterns we observe in the married sample are unlikely to have been caused by underlying changes in the relationship between gender and consumption preferences over the period.

I then use these constructs to create a single measure to reflect changes in the relative bargaining power of husbands and wives over time. I define the “male bias” as the difference between the husband-driven expenditure share and the wife-driven expenditure share. A positive change over time in the “male bias” indicates a shift in household expenditures toward husband-driven goods, reflecting an increase in the relative bargaining power of husbands. A negative change over time in the “male bias” indicates a shift in household expenditures toward wife-driven goods, reflecting an increase in the relative bargaining power of wives. The “male bias” construct will be used throughout the analysis to indicate the direction and magnitude of changes in marital bargaining power.

Change in Marital Bargaining Power over the Period of Welfare Reform

In the next part of my analysis, I use the male bias construct to estimate the effect of welfare reform on marital bargaining power over the time period of reform. This approach assumes the policy changes acted as a treatment that reduced the expected value of welfare for those women most likely to consider welfare as a potential alternative to marriage. To the extent that there is a positive probability associated with receiving welfare in the case of divorce or separation, the expected utility of marital exit would decline for wives relative to their husbands following welfare reform. According to theory, such a decline in the expected utility of marital exit would reduce the threat points of wives relative to their husbands, inducing a shift in marital bargaining power toward husbands. This shift in bargaining power should be signaled by changes in family demand.

I limit my sample to families headed by married, non-student couples under the age of 50. I exclude those families that received welfare at any point during the period because the intention of this study is to focus only on the effect of welfare reform on the non-recipient population. I also limit the sample to data from the pre-reform period (1995/1996) and the post-reform period (1999/2000), creating two periods for analysis. Given the potential for serial correlation, it is important to take this two-period approach when using a difference-in-differences estimation strategy (see Bertrand, Duflo, and Mullianathan 2004 for discussion). These exclusions leave me with a final sample of 8,962 families.

The next step is the construction of the subgroup of interest. I define this group as women with at least one child under the age of six who live in families at or below the poverty line. I first estimate the differential effect of welfare reform on the marital bargaining power of this subgroup.

Using the model (6), I regress male bias on the subgroup indicator, the post-period indicator, the interaction between subgroup and post-period, and a full set of controls, including the age, race, and education levels of the husband and the wife; family income as a percent of the poverty level; the presence of young children; and the urbanicity of the family.

$$(6) \text{ Male Bias} = \beta_0 + \delta_0 \text{subgroup} + \beta_1 \text{post} + \delta_1 \text{subgroup} * \text{post} + \beta_k X_{ik} + \mu$$

The coefficient on the interaction term (δ_1) is our difference-in-differences estimator. If there was a differential increase in the male bias for the subgroup of women over the period of reform, we would expect δ_1 to be positive and significant.

Table 4a presents these results. The first column shows coefficient estimates for model (6) in which the subgroup included women with young children living in families at or below poverty level. We see the estimated effect of welfare reform is an increase of 10.58 percentage points in male bias for this subgroup. This estimate is significant ($p=.00$).

However, I am also interested in the effect of welfare reform for women living at somewhat higher income levels. The subsequent columns of Table 4a show estimates for subgroups of mothers with young children living at or below 200 percent of the poverty level, 300 percent of the poverty level, 400 percent of the poverty level, and 500 percent of the poverty level. To the extent that lower-income women are more likely than higher-income women to view welfare as a potential exit alternative, we would expect any effect of welfare reform to be strongest for those women living in poverty and for that effect to decline in size as family income increased. I find a significant increase of 4.51 percentage points ($p=.00$) in the male bias for low-income women. As the income range expands to include higher income women with young children, the effect size does decline, but it remains sizeable in magnitude ($\delta_1 \geq 2.34$ percentage points) and significant ($p \leq .05$) for all income subgroups up to 500 percent of the poverty level.

The coefficient estimates on the control variables for this sample are similar to estimates for the sample of single adults. We see negative relationships between male bias and family size and the presence of young children. Families in which the husband or wife is black, Asian, or Hispanic show lower levels of male bias in expenditures than those in which the husband or wife is white. We are able to observe the relationship between male bias and education level separately by gender for the married couple sample. We see that the relationship between male bias and the husband's education level is consistent with earlier findings—the male bias is higher in families in which husbands have lower levels of education. The relationship between male bias and the wife's education level appears to be nonlinear. This relationship is interesting, but not explored by this study.

Table 4a. Differential Change in Male Bias for Married Mothers with Young Children Living Under the Given Percentage of the Poverty Line during the Welfare Reform Period (1995-2000)

	100%	200%	300%	400%	500%
Intercept	1.82 (2.16)	2.00 (2.17)	1.73 (2.17)	1.37 (2.18)	1.01 (2.17)
Vulnerable Subgroup	-9.93** (1.63)	-5.10** (1.26)	-2.95** (1.16)	-1.06 (1.22)	1.48 (1.39)
Post Reform Period	0.23 (0.54)	0.27 (0.56)	0.22 (0.58)	0.10 (0.60)	0.15 (0.62)
Subgroup*Post	10.58** (2.59)	4.51** (1.69)	3.12** (1.38)	2.93** (1.25)	2.34** (1.19)
Percent of Poverty Line	1.52** (0.10)	1.54** (0.10)	1.57** (0.10)	1.62** (0.10)	1.67** (0.10)
Young Children	-5.93** (0.67)	-5.80** (0.72)	-5.97** (0.81)	-6.93** (0.97)	-8.77** (1.19)
Family Size	-0.46** (0.24)	-0.44* (0.24)	-0.43* (0.24)	-0.43* (0.24)	-0.42* (0.24)
Husband: Age	-0.08 (0.07)	-0.09 (0.07)	-0.09 (0.07)	-0.09 (0.07)	-0.08 (0.07)
Wife: Age	0.02 (0.07)	0.02 (0.07)	0.02 (0.07)	0.03 (0.07)	0.03 (0.07)
Husband: Black	-5.07* (2.73)	-5.03* (2.73)	-4.92* (2.73)	-4.95* (2.73)	-4.98* (2.73)
Wife: Black	-1.41 (2.83)	-1.41 (2.83)	-1.51 (2.83)	-1.51 (2.83)	-1.44 (2.83)
Husband: Asian	-2.46 (2.33)	-2.45 (2.33)	-2.38 (2.33)	-2.33 (2.33)	-2.38 (2.33)
Wife: Asian	-4.53** (2.19)	-4.49** (2.19)	-4.55** (2.19)	-4.57** (2.19)	-4.48** (2.19)
Husband: Hispanic	-3.61** (1.46)	-3.71** (1.46)	-3.72** (1.47)	-3.74** (1.47)	-3.78** (1.47)
Wife: Hispanic	-0.59 (1.42)	-0.39 (1.42)	-0.56 (1.42)	-0.53 (1.42)	-0.50 (1.42)
Husband: <HS	6.89** (1.37)	7.00** (1.37)	6.96** (1.37)	6.95** (1.37)	6.95** (1.37)
Husband: HS	6.24** (1.08)	6.31** (1.08)	6.34** (1.08)	6.34** (1.08)	6.31** (1.08)
Husband: SC	5.98** (1.04)	6.06** (1.05)	6.10** (1.05)	6.13** (1.05)	6.09** (1.05)
Husband: BA	2.90** (1.01)	2.87** (1.01)	2.93** (1.01)	3.01** (1.01)	3.06** (1.01)
Wife: <HS	-2.72* (1.46)	-2.64* (1.46)	-2.73* (1.46)	-2.83 (1.46)	-2.91** (1.46)
Wife: HS	0.78 (1.17)	0.92 (1.17)	0.97 (1.17)	0.88 (1.17)	0.77 (1.17)
Wife: SC	1.17 (1.12)	1.29 (1.12)	1.36 (1.12)	1.29 (1.12)	1.22 (1.12)
Wife: BA	-0.34 (1.10)	-0.32 (1.10)	-0.28 (1.10)	-0.27 (1.10)	-0.32 (1.10)
Large City	-6.41** (0.66)	-6.60** (0.66)	-6.58** (0.66)	-6.54** (0.66)	-6.54** (0.66)
Small City	-2.01** (0.73)	-2.12** (0.74)	-2.06** (0.74)	-2.05** (0.74)	-2.07** (0.74)
R ²	0.09	0.08	0.08	0.08	0.08
N	8,962	8,962	8,962	8,962	8,962

* significant at p < .10; ** significant at p < .05

The results presented in Table 4a provide evidence that something happen in the period of time that welfare reform was implemented to cause an increase in the male bias for lower-income women with young children relative to other married women. While the empirical evidence is consistent with theory and suggests welfare reform caused this increase in male bias, there could be another unobserved cause. I discuss the potential impact of simultaneous changes in economic conditions and relevant policies on our ability to evaluate the effect of welfare reform.

One possible story is that the overall growth in the economy drove an increase in the male bias. If we were to characterize some goods as luxuries—say restaurant meals and entertainment—such that consumption of these goods increases disproportionately as income increases, then we might observe a positive change in the male bias over time due to increases in family income. However, we would have to also assume the increase in average income levels only affected the demand behavior of lower-income families with young children. The difference-in-differences estimator allows us to account for time trends like this one because it is an estimate of the differential change in the male bias for the subgroup of interest relative to all others. We might also be concerned that increases in the relative prices of housing and healthcare caused increases in the share of expenditure families devoted to these consumption categories, even as families substituted away from more expensive goods. Since these two categories were included in the wife-driven construct, we would expect an increase in the relative prices of these goods to show up as an overall reduction in the male bias over the period. However, this effect should be differenced out in the analysis.

Changes in policy, however, are more likely confounders as programs often target specific groups. The Earned Income Tax Credit (EITC), which provides a wage subsidy to lower-income workers based on the number of children in their homes, was also expanded during roughly the same period as welfare reform. We may not expect effects of changes in this program to be differenced out to the same extent as changes in the economy because the program is targeted to low-income earners. For those lower-income married women with young children who anticipate caring for children and working if they divorce, an expansion in the EITC should increase their expected utility levels and, therefore, increase their marital bargaining power. Such an increase in the marital bargaining power of women should result in a reduction in the male bias on average.

Increases in child support enforcement may also increase the expected incomes of low-income mothers in divorce because they are likely to rely on the public enforcement system. However, child-support-induced increase in the marital bargaining power of lower-income mothers should also show up as a reduction in the male bias. Given these simultaneous, targeted policy changes, our estimates of the differential change in the male bias should be considered the net effect of the welfare-reform-induced positive impact and the EITC- and child-support-induced negative impacts, implying the estimates presented in Table 3a are lower-bound estimates of the true effect of welfare reform on intra-family resource allocation.

Falsification Test

A final concern is the possibility that we have observed a time trend in male bias that existed prior to welfare reform and, therefore, is unrelated to the policy change. To address this concern, I run a falsification test. I select a similar sample of married couples drawn from the period prior to welfare reform (1990-1996). I characterize observations from 1990/1991 as from the pre-treatment period and observations from 1995/1996 as from the post-treatment period, and exclude all other years of data leaving me with 9,871 families. Using model (6), I regress male bias on the subgroup indicator, the time period indicator, the interaction between subgroup and post-period, and the full set of controls.

I find no evidence of a differential increase in the male bias in the period prior to welfare reform. In fact, my findings suggest across the board declines in male-bias for families with young children in the prior period. These results demonstrate that the estimated increase in male bias after welfare reform is not the result of a continued time trend. Further, results suggest a break in the previous trend of declining male bias. Results for these regressions are presented in Table 4b.

Table 4b. Differential Change in Male Bias for Married Mothers with Young Children Living Under the Given Percentage of the Poverty Line during the Prior Period (1990-1996)

	100%	200%	300%	400%	500%
Intercept	-13.13** (1.94)	-13.11** (1.94)	-12.79** (1.94)	-12.58** (1.94)	-12.61** (1.93)
Vulnerable Subgroup	3.67** (1.49)	2.27* (1.33)	0.81 (1.30)	0.77 (1.46)	1.39 (1.91)
Post Period	11.29** (0.56)	11.54** (0.55)	11.62** (0.53)	11.72** (0.52)	11.73** (0.50)
Subgroup*Post	-0.57 (1.18)	-1.90 (1.25)	-2.81** (1.38)	-5.29** (1.70)	-11.51** (2.37)
Percent of Poverty Line	1.43** (0.10)	1.38** (0.10)	1.33** (0.10)	1.30** (0.10)	1.26** (0.10)
Young Children	-10.50** (1.24)	-8.61** (0.98)	-7.38** (0.81)	-7.06** (0.70)	-6.96** (0.65)
Family Size	-0.30 (0.22)	-0.30 (0.21)	-0.31 (0.21)	-0.32 (0.21)	-0.33 (0.21)
Husband: Age	-0.04 (0.06)	-0.04 (0.06)	-0.04 (0.06)	-0.04 (0.06)	-0.03 (0.06)
Wife: Age	0.05 (0.06)	0.05 (0.06)	0.05 (0.06)	0.04 (0.06)	0.04 (0.06)
Husband: Black	-3.90 (2.80)	-3.76 (2.80)	-3.86 (2.80)	-3.99 (2.80)	-3.97 (2.79)
Wife: Black	-1.64 (2.89)	-1.80 (2.89)	-1.68 (2.89)	-1.54 (2.88)	-1.59 (2.88)
Husband: Asian	-2.84 (2.36)	-2.85 (2.36)	-2.86 (2.36)	-2.92 (2.35)	-2.91 (2.35)
Wife: Asian	-4.49** (2.19)	-4.52** (2.19)	-4.54** (2.19)	-4.50** (2.19)	-4.51** (2.18)
Husband: Hispanic	-2.57* (1.49)	-2.55* (1.49)	-2.52* (1.49)	-2.51* (1.49)	-2.35 (1.49)
Wife: Hispanic	-4.55** (1.46)	-4.55** (1.46)	-4.51** (1.46)	-4.44** (1.46)	-4.65** (1.46)
Husband: <HS	6.87** (1.21)	6.84** (1.21)	6.85** (1.21)	6.87** (1.21)	6.80** (1.20)
Husband: HS	5.65** (0.94)	5.65** (0.94)	5.66** (0.94)	5.64** (0.94)	5.59** (0.94)
Husband: SC	4.78** (0.91)	4.80** (0.91)	4.77** (0.91)	4.74** (0.91)	4.67** (0.91)
Husband: BA	0.57 (0.90)	0.55 (0.90)	0.51 (0.90)	0.45 (0.90)	0.47 (0.90)
Wife: <HS	-0.29 (1.30)	-0.23 (1.31)	-0.14 (1.30)	-0.06 (1.30)	-0.09 (1.30)
Wife: HS	1.97* (1.04)	2.05** (1.04)	2.13** (1.04)	2.10** (1.04)	1.99** (1.04)
Wife: SC	1.24 (1.00)	1.34 (1.00)	1.40 (1.00)	1.37 (1.00)	1.26 (1.00)
Wife: BA	0.54 (1.02)	0.58 (1.02)	0.55 (1.02)	0.53 (1.01)	0.51 (1.01)
Large City	-4.59** (0.56)	-4.58** (0.56)	-4.59** (0.56)	-4.61** (0.56)	-4.48** (0.56)
Small City	0.21 (0.65)	0.24 (0.65)	0.22 (0.65)	0.18 (0.65)	0.24 (0.65)
R ²	0.11	0.11	0.11	0.11	0.11
N	9,871	9,871	9,871	9,871	9,871

* significant at p < .10; ** significant at p < .05

Characterization of States as “Intensive” and “Non-intensive” Reformers

In the next stage of my analysis, I use state variation in policy implementation to more precisely identify the effect of welfare reform on marital bargaining power. Theoretically, women in states that pursue more intensive welfare reform policies will perceive welfare as more restrictive than women in states that pursue less intensive policies. To the extent that variation in perceptions reflects the true variation in welfare reform severity, we would expect policy-induced shifts in bargaining power to be greater for women in states with more intensive reform policies.

Due to population size, four states (Montana, North Dakota, Rhode Island, and Wyoming) were excluded from the CEX sample frame. An additional seven states (Arkansas, Iowa, Maine, Mississippi, New Mexico, South Dakota, and West Virginia) were excluded from the analysis because they failed to have sufficient sample sizes to retain their identifiers in one or more of the years under study. The remaining 39 states and the District of Columbia were classified as “intensive” reformers and “non-intensive” reformers based on their state-level implementation of welfare reform policies. I draw on the Urban Institute’s Welfare Rules Database for state policy information within the following five policy areas: 1) work requirement policies; 2) childbearing policies; 3) income and asset eligibility limits; 4) sanction and diversion policies; and 5) lifetime limits. Each policy area has one or more policy dimensions, which are incorporated to produce a qualitative assessment of states as either “non-intensive” reformers, “intensive” reformers, or “very intensive” reformers within each policy area. States are ultimately characterized as “intensive” reformers for further analysis if they are assessed as “very intensive” reformers in one or more policy areas or as “intensive” reformers in two or more policy areas. I describe the qualitative assessments below.

Work Requirement Policies

The broader imposition and expansion of work requirements was a key component of welfare reform legislation. Work requirements addressed the work disincentives inherent in the social safety net program by requiring recipients to work or to participate in work-related activities. This policy area includes the following dimensions: the minimum number of required work hours, the point in time that the requirement kicks in after the start of benefit receipt, and the set of activities that count as work in satisfaction of the requirement. States that required more than 25 hours per week or states that required immediate work after receiving benefits were coded as intensive along these dimensions. A strongly contested issue in the welfare reform debate was whether states should allow activities other than work—post-secondary education, in particular—to fulfill the work requirement. States that did not include post-secondary education as an allowable work activity were coded as intensive along this dimension. Those states that had intensive policies in two dimensions were characterized as intensive within the policy area of work requirements.

Childbearing Policies

Efforts to reduce perverse childbearing incentives were also a central component of welfare reform. This policy area includes the following dimensions: whether states imposed family caps, and whether and to what extent states allow for an exemption from work requirements for pregnant women and for women with infants. States that imposed family caps were coded as intensive along that dimension. Those states that did not exempt pregnant women from work requirements at any point during their pregnancy and those states that exempted women for six or fewer months after birth were coded as intensive along those policy dimensions. States that had intensive policies along two policy dimensions were characterized as intensive states within this policy area.

Income and Asset Limits

Income and assets limits on the receipt of welfare benefits became increasingly important as work requirements increased. Fulfilling work requirements could potentially push families over low income thresholds, effectively ending their eligibility for welfare benefits. Similarly, work requirements may create a need for vehicles for nonurban recipients, while low asset limits could also disqualify vehicle owners from welfare benefits. This policy area includes income thresholds as a percent of state median income and limits on the value of assets. I limited my use of these dimensions in characterizing states as intensive reformers because welfare reform at the national level did not directly affect state income and asset limits. States with asset limits less than \$2,000 and states with income thresholds less than 20 percent of state median income were coded as intensive along these dimensions. States that had intensive policies along both policy dimensions were characterized as intensive states.

Sanction and Diversion Policies

Sanctions allow states to deny benefits to welfare recipients who fail to meet work (or any other) requirements. Diversion policies allow states to divert welfare applicants from the program by offering them temporary, non-welfare assistance in exchange for giving up their eligibility. Taken together, sanction and diversion policies allowed states to reduce their welfare caseloads by ending benefits for current recipients (sometimes permanently) and diverting new benefit recipients over time. This policy area includes the following dimensions: the amount of the benefit that is sanctioned, the duration of the sanction, and whether the state has diversion policies in place. States that sanctioned the entire benefit amount, states that imposed the sanction for more than six months, and states that had diversion policies in place were coded as intensive reform states within these dimensions. States that had intensive policies along two policy dimensions were characterized as intensive states; states that had intensive policies along all three dimensions were characterized as very intensive within this policy area.

Lifetime Limits

The imposition of a lifetime limit on welfare receipt was perhaps the most significant change brought by welfare reform. Federal funding was limited to five years of assistance, but the legislation allowed states to choose to impose shorter lifetime limits or fund longer-term assistance. States that chose to impose shorter lifetime limits, ranging from 21 months to 48 months, were coded as intensive reform states within this policy area.

Summary

After characterizing the intensiveness of state reforms within the five policy areas, I use the qualitative codes to produce a summary measure of the intensity of reform. I use the following decision rule: any state that imposed very intensive reforms within one or more policy areas or intensive reforms within two or more policy areas was characterized as an intensive reform state. I characterized 20 states as intensive reformers, including Arizona, California, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Indiana, Maryland, Massachusetts, Nebraska, Nevada, New Jersey, Oklahoma, Ohio, Tennessee, Utah, Virginia, and Wisconsin. I characterized District of Columbia and the remaining states (Alabama, Alaska, Colorado, District of Columbia, Illinois, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Missouri, New Hampshire, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Texas, Vermont, and Washington) as non-intensive reformers. Tables 5a-e summarize these dimensions and assessments.

Table 5a. Work Requirement Policies

State	Minimum Work Hours	Timing of Requirement	Allowable Activities	Intensity of Work Policies
Alabama	Case-by-Case Basis	Immediately	All	Non-intensive
Alaska	25 hrs/wk	Immediately	All	Non-intensive
Arizona	Case-by-Case Basis	Immediately	All except Employment	Non-intensive
California	30 hrs/wk	After Assessment	All except Postsecondary Ed	Intensive
Colorado	22 hrs/wk	n/a	All	Non-intensive
Connecticut	Case-by-Case Basis	Immediately	All except Postsecondary Ed	Intensive
Delaware	20 hrs/wk	n/a	Job-Related, E&T, and CWEP	Non-intensive
D.C.	25 hrs/wk	Immediately	All	Non-intensive
Florida	25 hrs/wk	Immediately	All	Non-intensive
Georgia	25 hrs/wk	24 Months	All	Non-intensive
Hawaii	18 hrs/wk	Immediately	All except Postsecondary Ed	Intensive
Idaho	25 hrs/wk	Immediately	All except Postsecondary Ed	Intensive
Illinois	25 hrs/wk	After Assessment	All	Non-intensive
Indiana	25 hrs/wk	Immediately	All except Postsecondary Ed	Intensive
Kansas	25 hrs/wk	Immediately	All except Postsecondary Ed	Intensive
Kentucky	20 hrs/wk	n/a	All	Non-intensive
Louisiana	25 hrs/wk	Immediately	Job-Related and Employment	Intensive
Maryland	Depends on Activity	24 Months	Job-Related and Employment	Non-intensive
Massachusetts	Depends on Activity	60 days	All	Non-intensive
Michigan	25 hrs/wk	Immediately	All	Non-intensive
Minnesota	25 hrs/wk	6 Months	All	Non-intensive

Table 5a. Work Requirement Policies (cont.)

State	Minimum Work Hours	Timing of Requirement	Allowable Activities	Intensity of Work Policies
Missouri	25 hrs/wk	24 months	All	Non-intensive
Nebraska	40 hrs/wk	Immediately	All except Community Service	Intensive
Nevada	25 hrs/wk	24 months	All	Non-intensive
New Hampshire	25 hrs/wk	Immediately	All	Non-intensive
New Jersey	35 hrs/wk	Immediately	All	Intensive
New York	25 hrs/wk	1 month	All except Postsecondary Ed	Non-intensive
North Carolina	35 hrs/wk	3 months	All	Non-Intensive
Ohio	20 hrs/wk	Immediately	All	Non-intensive
Oklahoma	25 hrs/wk	Immediately	All	Non-intensive
Oregon	n/a	Immediately	All except Unsubsidized Emp	Non-intensive
Pennsylvania	20 hrs/wk	Immediately	All	Non-intensive
South Carolina	20 hrs/wk	Immediately	All	Non-intensive
Tennessee	40 hrs/wk	Immediately	All	Intensive
Texas	n/a	After Work Orientation	Job-Related, E&T, and CWEP	Non-intensive
Utah	Case-by-Case Basis	Immediately	All except Subsidized Emp	Non-intensive
Vermont	Case-by-Case Basis	Immediately	All	Non-intensive
Virginia	n/a	Immediately	Employment	Intensive
Washington	25 hrs/wk	Immediately	Job-Related and Employment	Intensive
Wisconsin	40 hrs/wk	After Assessment	All	Non-intensive

Table 5b. Childbearing Policies

State	Pregnancy Exemption	Infant Exemption	Family Cap	Intensity of Childbearing Policies
Alabama	4 months	36 months	No	Non-intensive
Alaska	No Exemption	12 months	No	Non-intensive
Arizona	No Exemption	No Exemption	Yes	Very Intensive
California	No Exemption	12 months	Yes	Intensive
Colorado	No Exemption	12 months	No	Non-intensive
Connecticut	No Exemption	12 months	Yes	Intensive
Delaware	No Exemption	3 months	Yes	Very Intensive
D.C.	4 months	36 months	No	Non-intensive
Florida	6 months	3 months	Yes	Intensive
Georgia	No Exemption	12 months	Yes	Intensive
Hawaii	No Exemption	6 months	No	Intensive
Idaho	No Exemption	No Exemption	No	Intensive
Illinois	No Exemption	12 months	Yes	Intensive
Indiana	4 months	6 months	Yes	Intensive
Kansas	No Exemption	12 months	No	Non-intensive
Kentucky	No Exemption	12 months	No	Non-intensive
Louisiana	No Exemption	12 months	No	Non-intensive
Maryland	No Exemption	12 months	Yes	Intensive
Massachusetts	No Exemption	No Exemption	Yes	Very Intensive
Michigan	No Exemption	3 months	No	Intensive
Minnesota	No Exemption	12 months	No	Non-intensive
Missouri	7 months	12 months	No	Non-intensive
Nebraska	6 months	3 months	Yes	Intensive
Nevada	1 month	12 months	No	Non-intensive
New Hampshire	4 months	36 months	No	Non-intensive
New Jersey	7 months	3+ months	Yes	Non-intensive
New York	9 months	12 months	No	Non-intensive
North Carolina	No Exemption	60 months	Yes	Intensive
Ohio	3 months	12 months	No	Non-intensive
Oklahoma	No Exemption	3 months	Yes	Very Intensive
Oregon	9 months	3 months	No	Non-intensive
Pennsylvania	4 months	12 months	No	Non-intensive
South Carolina	7 months	12 months	Yes	Non-intensive
Tennessee	No Exemption	4 months	Yes	Very Intensive
Texas	3 months	48 months	No	Non-intensive
Utah	No Exemption	No Exemption	No	Intensive
Vermont	4 months	36 months	No	Non-intensive
Virginia	4 months	18 months	Yes	Non-intensive
Washington	No Exemption	12 months	No	Non-intensive
Wisconsin	No Exemption	3 months	No	Intensive

Table 5c. Income and Asset Eligibility Limits

State	Maximum Income	Asset Limit	Intensity
Alabama	7%	\$2,500	Non-intensive
Alaska	27%	\$1,000	Non-intensive
Arizona	19%	\$2,000	Non-intensive
California	25%	\$2,000	Non-intensive
Colorado	13%	\$2,000	Non-intensive
Connecticut	22%	\$3,000	Non-intensive
Delaware	12%	\$1,000	Intensive
D.C.	25%	\$1,000	Non-intensive
Florida	14%	\$2,000	Non-intensive
Georgia	16%	\$1,000	Intensive
Hawaii	48%	\$5,000	Non-intensive
Idaho	20%	\$2,000	Non-intensive
Illinois	13%	\$2,500	Non-intensive
Indiana	12%	\$1,500	Intensive
Kansas	17%	\$2,000	Non-intensive
Kentucky	20%	\$2,000	Non-intensive
Louisiana	12%	\$2,000	Non-intensive
Maryland	12%	\$2,000	Non-intensive
Massachusetts	19%	\$2,500	Non-intensive
Michigan	22%	\$3,000	Non-intensive
Minnesota	23%	\$5,000	Non-intensive
Missouri	17%	\$5,000	Non-intensive
Nebraska	22%	\$5,000	Non-intensive
Nevada	29%	\$2,000	Non-intensive
New Hampshire	18%	\$2,000	Non-intensive
New Jersey	15%	\$2,000	Non-intensive
New York	21%	\$2,500	Non-intensive
North Carolina	31%	\$3,000	Non-intensive
Ohio	30%	None	Non-intensive
Oklahoma	25%	\$1,000	Non-intensive
Oregon	17%	\$6,500	Non-intensive
Pennsylvania	21%	\$1,000	Non-intensive
South Carolina	20%	\$2,500	Non-intensive
Tennessee	32%	\$2,000	Non-intensive
Texas	13%	\$2,500	Non-intensive
Utah	15%	\$2,000	Non-intensive
Vermont	29%	\$1,000	Non-intensive
Virginia	31%	\$1,000	Non-intensive
Washington	28%	\$1,000	Non-intensive
Wisconsin	0%	\$2,500	Non-intensive

Table 5d. Sanction and Diversion Policies

State	Sanction Amount	Sanction Length	Diversion	Intensity
Alabama	Entire Benefit	6 months	No	Non-intensive
Alaska	Adult Portion	12 months	Yes	Intensive
Arizona	Entire Benefit	1 month	No	Non-intensive
California	Adult Portion	6 months	No	Non-intensive
Colorado	Entire Benefit	3 months	Yes	Intensive
Connecticut	Entire Benefit	3 months	No	Non-intensive
Delaware	Entire Benefit	Permanent	No	Intensive
D.C.	Adult Portion	6 months	No	Non-intensive
Florida	Entire Benefit	3 months	Yes	Intensive
Georgia	Entire Benefit	Permanent	No	Intensive
Hawaii	Adult Portion	6 months	No	Non-intensive
Idaho	Entire Benefit	Permanent	Yes	Very Intensive
Illinois	Entire Benefit	3 months	No	Non-intensive
Indiana	Adult Portion	36 months	No	Non-intensive
Kansas	Entire Benefit	2 months	No	Non-intensive
Kentucky	Adult Portion	Until Compliance	Yes	Non-intensive
Louisiana	Entire Benefit	Until Compliance	No	Non-intensive
Maryland	Entire Benefit	1 month	Yes	Intensive
Massachusetts	Entire Benefit	1 month	No	Non-intensive
Michigan	Entire Benefit	1 month	No	Non-intensive
Minnesota	Adult Portion	1 month	Yes	Non-intensive
Missouri	Adult Portion	6 months	No	Non-intensive
Nebraska	Entire Benefit	12 months	No	Intensive
Nevada	Entire Benefit	Permanent	Yes	Very Intensive
New Hampshire	Adult Portion	1 month	No	Non-intensive
New Jersey	Entire Benefit	3 months	No	Non-intensive
New York	Adult Portion	6 months	No	Non-intensive
North Carolina	Adult Portion	6 months	Yes	Non-intensive
Ohio	Entire Benefit	6 months	Yes	Intensive
Oklahoma	Adult Portion	Until Compliance	No	Non-intensive
Oregon	Entire Benefit	Until Compliance	No	Non-intensive
Pennsylvania	Adult Portion	Permanent	No	Non-intensive
South Carolina	Entire Benefit	1 month	No	Non-intensive
Tennessee	Entire Benefit	3 months	No	Non-intensive
Texas	Adult Portion	6 months	Yes	Non-intensive
Utah	\$100	Until Compliance	Yes	Non-intensive
Vermont	Adult Portion	6 months	No	Non-intensive
Virginia	Entire Benefit	6 months	Yes	Intensive
Washington	Adult Portion	1 month	Yes	Non-intensive
Wisconsin	Entire Benefit	Permanent	Yes	Very Intensive

Table 5e. Lifetime Limits

State	Life Limit	Intensity
Alabama	60 months+	Non-intensive
Alaska	60 months+	Non-intensive
Arizona	60 months+	Non-intensive
California	60 months+	Non-intensive
Colorado	60 months+	Non-intensive
Connecticut	21 months	Intensive
Delaware	60 months+	Non-intensive
D.C.	60 months+	Non-intensive
Florida	48 months	Intensive
Georgia	48 months	Intensive
Hawaii	60 months+	Non-intensive
Idaho	24 months	Intensive
Illinois	60 months+	Non-intensive
Indiana	60 months+	Non-intensive
Kansas	60 months+	Non-intensive
Kentucky	60 months+	Non-intensive
Louisiana	60 months+	Non-intensive
Maryland	60 months+	Non-intensive
Massachusetts	60 months+	Non-intensive
Michigan	60 months+	Non-intensive
Minnesota	60 months+	Non-intensive
Missouri	60 months+	Non-intensive
Nebraska	60 months+	Non-intensive
Nevada	60 months+	Non-intensive
New Hampshire	60 months+	Non-intensive
New Jersey	60 months+	Non-intensive
New York	60 months+	Non-intensive
North Carolina	60 months+	Non-intensive
Ohio	36 months	Intensive
Oklahoma	60 months+	Non-intensive
Oregon	60 months+	Non-intensive
Pennsylvania	60 months+	Non-intensive
South Carolina	60 months+	Non-intensive
Tennessee	60 months+	Non-intensive
Texas	60 months+	Non-intensive
Utah	36 months	Intensive
Vermont	60 months+	Non-intensive
Virginia	60 months+	Non-intensive
Washington	60 months+	Non-intensive
Wisconsin	60 months+	Non-intensive

Changes in Marital Bargaining Power in Intensive and Non-intensive Reform States

In the previous section I qualitatively characterized states as “intensive” reformers and “non-intensive” reformers based on their welfare reform implementation policies. I use this variation in policy across states, along with variation over time, to precisely identify the effect of welfare reform on marital bargaining power.

Intensive Reform States

I first estimate the differential change in the male bias for vulnerable women in intensive reform states over the period. In this set of regressions, we would expect to see positive and significant changes in the male bias if intensive welfare reform policies effectively reduced the marital bargaining power of lower-income married women with young children relative to other married women.

I limit my sample to observations from the 20 states characterized as intensive reformers. This sample includes 3,853 families headed by married couples.

As shown in model (7), I regress male bias on the subgroup indicator, the post-period indicator, the interaction between subgroup and post-period, and a full set of controls.

$$(7) \text{ Male Bias} = \beta_0 + \delta_0 \text{subgroup} + \beta_1 \text{post} + \delta_1 \text{subgroup} * \text{post} + \beta_k X_{ik} + \mu$$

The coefficient of interest is δ_1 , the difference-in-differences estimator. This model is the same as the model used to estimate the differential change in the male bias over time, but in this case the sample is restricted to those states characterized as intensive reformers. Therefore, the interpretation of the coefficient δ_1 is somewhat different. If the coefficient is positive and significant, we can conclude there is a differential change in the bargaining power of lower-income women with young children relative to other married women living in intensive reform states over the period.

I find very large, significant effects of welfare reform in states with intensive reform policies. I estimate an increase of 20.89 percentage points ($p=.00$) in the male bias for women with young children living in poverty, and 7.65 percentage points ($p=.00$) for low-income women. This estimate remains large and significant for income subgroups up to 500 percent of the poverty line. For the subgroup living at or below 500 percent of the poverty line, the estimated effect is a 3.55 percentage point ($p=.04$) increase in the male bias. Across subgroups we see similar relationships between male bias and the control variables as those presented in Table 4a. These results are presented in Table 6a.

Table 6a. Welfare Reform Intensive States: Differential Change in Male Bias for Married Mothers with Young Children under the given Percent of the Poverty Level (1995-2000)

	100%	200%	300%	400%	500%
Intercept	-8.51** (3.28)	-8.25** (3.29)	-8.32** (3.30)	-8.77** (3.31)	-9.13** (3.30)
Vulnerable Subgroup	-10.84** (2.43)	-6.16** (1.92)	-4.11** (1.74)	-1.50 (1.78)	1.07 (1.94)
Post Reform Period	-0.39 (0.82)	-0.28 (0.84)	-0.59 (0.87)	-0.56 (0.90)	-0.43 (0.92)
Subgroup*Post	20.89** (4.16)	7.65** (2.61)	6.49** (2.08)	4.80** (1.87)	3.55** (1.77)
Percent of Poverty Line	1.37** (0.14)	1.36** (0.14)	1.39** (0.14)	1.44** (0.14)	1.48** (0.14)
Young Children	-7.04** (0.97)	-6.79** (1.03)	-7.05** (1.16)	-8.03** (1.35)	-9.63** (1.61)
Family Size	0.32 (0.35)	0.30 (0.35)	0.32 (0.35)	0.33 (0.35)	0.34 (0.35)
Husband: Age	-0.04 (0.10)	-0.04 (0.10)	-0.04 (0.10)	-0.04 (0.10)	-0.04 (0.10)
Wife: Age	0.03 (0.10)	0.01 (0.10)	0.02 (0.10)	0.03 (0.10)	0.03 (0.10)
Husband: Black	-3.25 (3.50)	-2.88 (3.51)	-2.67 (3.50)	-2.57 (3.51)	-2.55 (3.50)
Wife: Black	0.69 (3.70)	0.53 (3.71)	0.25 (3.70)	0.10 (3.71)	0.10 (3.71)
Husband: Asian	1.24 (2.85)	0.90 (2.86)	1.02 (2.86)	0.97 (2.86)	0.89 (2.88)
Wife: Asian	-3.60 (2.69)	-3.34 (2.69)	-3.43 (2.70)	-3.37 (2.70)	-3.26 (2.70)
Husband: Hispanic	-4.41** (1.93)	-4.33** (1.94)	-4.22** (1.94)	-4.24** (1.94)	-4.33** (1.94)
Wife: Hispanic	1.32 (1.90)	1.33 (1.91)	1.12 (1.91)	1.08 (1.91)	1.17 (1.91)
Husband: <HS	3.94** (2.01)	4.14** (2.01)	4.10** (2.01)	4.12** (2.01)	4.11** (2.01)
Husband: HS	3.93** (1.55)	3.84** (1.55)	3.85** (1.55)	3.78** (1.55)	3.74** (1.55)
Husband: SC	4.34** (1.49)	4.23** (1.49)	4.25** (1.49)	4.24** (1.49)	4.19** (1.49)
Husband: BA	2.00 (1.42)	1.89 (1.42)	1.88 (1.42)	1.93 (1.43)	1.96 (1.42)
Wife: <HS	-2.58 (2.18)	-2.37 (2.19)	-2.55 (2.19)	-2.70 (2.19)	-2.75 (2.19)
Wife: HS	1.80 (1.69)	1.97 (1.69)	2.01 (1.70)	1.94 (1.70)	1.82 (1.70)
Wife: SC	0.84 (1.60)	0.96 (1.60)	0.98 (1.60)	0.92 (1.60)	0.87 (1.60)
Wife: BA	0.11 (1.56)	0.22 (1.56)	0.25 (1.56)	0.29 (1.56)	0.23 (1.56)
Large City	-0.17 (1.29)	-0.27 (1.29)	-0.31 (1.29)	-0.31 (1.29)	-0.33 (1.29)
Small City	5.28** (1.38)	5.21** (1.38)	5.18** (1.38)	5.15** (1.38)	5.11** (1.38)
R ²	0.08	0.08	0.08	0.08	0.08
N	3,853	3,853	3,853	3,853	3,853

* significant at p < .10; ** significant at p < .05

Non-intensive Reform States

I then estimate the differential change in the male bias for lower-income women with young children relative to other married women living in non-intensive states over the same period. In this set of regressions, we would expect to see little change in the male bias because the policy treatment was relatively weak. While the safety net did not become stronger in these states, it did not become much weaker either.

I limit my sample to observations from the 20 states characterized as non-intensive reformers. My sample includes 3,656 families headed by married couples. I use the same model as above, regressing male bias on the subgroup indicator, the post-period indicator, the interaction between subgroup and post-period, and a full set of controls.

I find no evidence of a differential change in bargaining power of women with young children in non-intensive states. The difference-in-differences estimate is 1.16 ($p=.76$) for poor women. Estimates for higher-income groups are similarly small and insignificant. Relationships between male bias and the control variables are consistent with earlier findings. These results are presented in Table 6b.

The findings from samples of intensive and non-intensive reform states support the theory that intensive welfare reform policies reduced the marital bargaining power of those women most likely to perceive welfare as an alternative to marriage. We see large, significant effects of welfare reform in intensive reforms states and no evidence of effects in non-intensive reform states. Next, we isolate vulnerable subgroups of women and estimate the differential effect of welfare reform across states by intensity of reforms.

Table 6b. Welfare Reform Non-intensive States: Differential Change in Male Bias for Married Mothers with Young Children under the given Percent of the Poverty Level (1995-2000)

	100%	200%	300%	400%	500%
Intercept	-0.69 (3.49)	1.12 (3.51)	0.67 (3.51)	0.23 (3.52)	-0.28 (3.52)
Vulnerable Subgroup	-10.47** (2.54)	-6.00** (1.99)	-3.89** (1.82)	-1.81 (1.91)	0.44 (2.18)
Post Reform Period	0.67 (0.86)	0.87 (0.89)	0.64 (0.92)	0.57 (0.95)	0.60 (0.98)
Subgroup*Post	1.16 (3.83)	-0.41 (2.67)	0.70 (2.20)	0.96 (1.99)	0.76 (1.87)
Percent of Poverty Line	1.62** (0.16)	1.64** (0.16)	1.69** (0.16)	1.75** (0.17)	1.82** (0.17)
Young Children	-4.59** (1.06)	-4.25** (1.13)	-4.34** (1.27)	-5.17** (1.50)	-6.69** (1.87)
Family Size	-1.38** (0.37)	-1.32** (0.37)	-1.32** (0.37)	-1.32** (0.37)	-1.30** (0.37)
Husband: Age	-0.11 (0.11)	-0.14 (0.11)	-0.14 (0.11)	-0.14 (0.11)	-0.14 (0.11)
Wife: Age	0.12 (0.11)	0.13 (0.11)	0.13 (0.11)	0.14 (0.11)	0.14 (0.11)
Husband: Black	-2.35 (4.81)	-2.61 (4.82)	-2.35 (4.83)	-2.36 (4.83)	-2.36 (4.83)
Wife: Black	-4.63 (4.89)	-4.40 (4.90)	-4.60 (4.90)	-4.58 (4.91)	-4.55 (4.91)
Husband: Asian	-4.62 (4.36)	-4.80 (4.37)	-4.81 (4.37)	-4.78 (4.38)	-4.69 (4.38)
Wife: Asian	-5.99 (4.05)	-5.82 (4.05)	-5.86 (4.06)	-5.88 (4.06)	-5.96 (4.06)
Husband: Hispanic	1.20 (2.45)	1.02 (2.45)	0.81 (2.46)	0.76 (2.46)	0.70 (2.46)
Wife: Hispanic	-3.42 (2.33)	-2.89 (2.33)	-2.94 (2.33)	-3.08 (2.33)	-3.08 (2.33)
Husband: <HS	8.73** (2.21)	9.05** (2.21)	9.07** (2.22)	9.00** (2.22)	9.01** (2.22)
Husband: HS	9.30** (1.73)	9.40** (1.73)	9.52** (1.73)	9.49** (1.73)	9.50** (1.73)
Husband: SC	8.09** (1.66)	8.25** (1.66)	8.40** (1.66)	8.45** (1.66)	8.44** (1.66)
Husband: BA	5.23** (1.59)	5.25** (1.60)	5.36** (1.60)	5.48** (1.60)	5.54** (1.60)
Wife: <HS	-3.32 (2.27)	-3.30 (2.27)	-3.34 (2.27)	-3.40 (2.28)	-3.46 (2.28)
Wife: HS	-0.19 (1.82)	0.08 (1.82)	0.11 (1.83)	0.04 (1.83)	-0.07 (1.83)
Wife: SC	1.39 (1.75)	1.52 (1.75)	1.70 (1.76)	1.63 (1.76)	1.57 (1.76)
Wife: BA	-1.04 (1.72)	-1.06 (1.72)	-0.96 (1.73)	-0.93 (1.73)	-0.93 (1.73)
Large City	-5.42** (1.35)	-5.77** (1.35)	-5.63** (1.35)	-5.64** (1.35)	-5.62** (1.35)
Small City	-2.09 (1.43)	-2.36* (1.44)	-2.17 (1.44)	-2.15 (1.44)	-2.15 (1.44)
R ²	0.11	0.11	0.10	0.10	0.10
N	3,656	3,656	3,656	3,656	3,656

* significant at $p < .10$; ** significant at $p < .05$

Change in Marital Bargaining Power for Lower-income Women with Young Children across Intensive and Non-intensive Reform States

Finally, I restrict my sample to women with young children. I then create five separate samples including only women in the income subgroup of interest. For example, my first sample includes only women with young children living in families at or below the poverty line (348 families). I then use model (8) to estimate the differential change in the male bias for poor women with young children living in intensive reform states relative to poor women living in non-intensive reform states over the period. I regress male bias on the intensive reform state indicator, the post-period indicator, the interaction between intensive reform and the post-period, and a full set of controls.

$$(8) \text{ Male Bias} = \beta_0 + \delta_0 \text{intensive} + \beta_1 \text{post} + \delta_1 \text{intensive} * \text{post} + \beta_k X_{ik} + \mu$$

I find a very large, significant differential change in the bargaining power of poor women in intensive reform states relative to those in non-intensive reform states. Poor women in intensive reform states experience an estimated 17.44 percentage point ($p=.01$) increase in the male bias relative to their counterparts in non-intensive reform states over the period of welfare reform.

I then expand my sample to include women in progressively higher income groups and use model (8) to determine the differential effect of living in an intensive reform state within each group. Therefore, the sample size grows with the increase in the income level of those women included in the sample. For those women living at or below 200 percent of the poverty level experience an estimated 7.90 percentage point ($p=.04$) increase in the male bias relative to their counterparts in non-intensive reform states. The effect remains positive, sizeable, and significant through women living at or below 300 percent of the poverty line. The estimate is positive, but not significant, for subsamples including higher income groups through 500 percent of the poverty line. These results are presented in Table 7.

Given the sample restrictions, controls for the presence of young children and poverty level of the family are left out of this model. The estimated relationships between male bias and control characteristics are fairly consistent with earlier patterns. Given small overall sample sizes for the lowest income groups, the low levels of representation of racial and ethnic minority groups generally, and the low representation of highly educated husbands and wives in poor or near-poor families, I refrain from closely interpreting the coefficient estimates on these control characteristics.

Table 7. Intensive v. Non-intensive States: Differential Change over Time in Male Bias for Married Mothers with Young Children under the given Percent of the Poverty Level (1995-2000)

	100%	200%	300%	400%	500%
Intercept	-9.79 (14.27)	-5.03 (9.30)	-0.41 (7.19)	2.95 (6.04)	1.01 (5.42)
Intensive Reform State	-3.41 (3.88)	-4.30* (2.55)	-4.52** (1.92)	-4.13** (1.66)	-3.86** (1.53)
Post Reform Period	0.98 (4.48)	-0.09 (2.78)	0.72 (2.10)	0.91 (1.80)	1.19 (1.62)
Intensive*Post	17.44** (6.80)	7.90** (3.89)	6.26** (2.90)	4.24 (2.48)	2.84 (2.25)
Family Size	-0.05 (1.65)	0.35 (1.02)	0.20 (0.80)	-0.01 (0.71)	-0.32 (0.66)
Husband: Age	-0.29 (0.39)	-0.38 (0.24)	-0.34* (0.19)	-0.46** (0.17)	-0.43** (0.15)
Wife: Age	-0.09 (0.46)	-0.04 (0.27)	-0.11 (0.21)	0.05 (0.18)	0.17 (0.17)
Husband: Black	-7.93 (15.02)	-0.35 (9.10)	2.85 (6.16)	2.63 (5.74)	4.56 (5.05)
Wife: Black	-1.08 (16.05)	-8.10 (9.52)	-11.74* (6.42)	-10.77* (5.98)	-12.14** (5.34)
Husband: Asian	-18.56 (16.23)	-9.10 (9.58)	-4.00 (6.51)	0.08 (5.60)	-1.10 (4.98)
Wife: Asian	30.27** (15.29)	10.91 (9.19)	2.82 (6.30)	-2.34 (5.33)	-2.03 (4.76)
Husband: Hispanic	7.28 (9.38)	-1.20 (4.64)	-3.75 (3.37)	-3.35 (3.02)	-3.79 (2.74)
Wife: Hispanic	-9.76 (9.51)	-2.10 (4.54)	-0.92 (3.28)	-0.68 (2.94)	-0.45 (2.65)
Husband: <HS	5.85 (8.05)	7.67 (5.34)	7.02* (4.02)	2.06 (3.37)	4.34 (3.03)
Husband: HS	5.34 (7.13)	9.98** (4.95)	8.66** (3.60)	3.44 (2.87)	5.14** (2.52)
Husband: SC	2.44 (7.07)	8.84 (4.97)	5.42 (3.58)	1.24 (2.84)	3.04 (2.46)
Husband: BA	-2.11 (6.67)	0.58 (5.00)	2.45 (3.62)	0.11 (2.81)	3.37 (2.43)
Wife: <HS	-0.14 (8.85)	3.26 (6.27)	2.89 (4.77)	3.52 (3.81)	0.96 (3.36)
Wife: HS	0.75 (8.05)	1.27 (5.89)	2.77 (4.38)	4.41 (3.33)	2.57 (2.84)
Wife: SC	1.74 (7.96)	2.71 (5.84)	4.22 (4.29)	5.46* (3.25)	3.78 (2.75)
Wife: BA	5.23 (7.33)	0.85 (5.69)	1.81 (4.28)	3.78 (3.24)	1.83 (2.71)
Large City	-2.11 (4.70)	-4.88 (2.90)	-4.38* (2.29)	-2.35 (1.97)	-2.29 (1.82)
Small City	5.96 (5.24)	2.30 (3.11)	1.91 (2.41)	2.59 (2.08)	2.08 (1.94)
R ²	0.11	0.07	0.06	0.04	0.04
N	348	776	1,272	1,671	1,967

* significant at $p < .10$; ** significant at $p < .05$

Change in Marital Bargaining Power for Lower-income Women with Young Children Living in Intensive Reform States over the Period of Welfare Reform

I then return to the full sample of families headed by married couples, excluding those states for which data or identifiers were not available (7,509 families). My final model estimates the differential changes in male bias for lower-income women with young children living in intensive reform states over the period of welfare reform.

Using model (9), I regress male bias on the subgroup indicator, the intensive reform state indicator, the post-period indicator, the two-way interactions between these three variables, the three-way interaction between these variables, and a full set of controls.

$$(9) \text{ Male Bias} = \beta_0 + \delta_0 \text{subgroup} + \beta_1 \text{intensive} + \beta_2 \text{post} + \delta_1 \text{subgroup} * \text{post} + \delta_2 \text{post} * \text{intensive} + \delta_3 \text{post} * \text{subgroup} + \delta_4 \text{subgroup} * \text{intensive} * \text{post} + \beta_k X_{ik} + \mu$$

In this final analysis, the coefficient on the three-way interaction term (δ_4) represents the triple-difference estimator, which captures the differential change in the male bias for lower-income women with young children in states that enacted the more intensive policy reforms over the period. Table 8 presents these regression results.

I find a very large, significant differential change in the bargaining power of vulnerable women in intensive-reform states. Poor women with young children in intensive reform states experience an estimated 20.0 percentage point ($p=.00$) increase in the male bias relative to other married women. Those women in the subgroup living at or below 200 percent of the poverty level experience an estimated 8.47 percentage point ($p=.02$) differential increase in the male bias. The effect of intensive welfare reform on the male bias remains positive, sizable, and significant for women living at or below 300 percent of the poverty line. Estimates remain positive, but are not significant, for relatively higher-income subgroups of women through 500 percent of the poverty line. Coefficient estimates on the control characteristics are consistent with earlier findings. These results are presented in Table 8.

Table 8. Differential Change in Male Bias for Married Mothers with Young Children Living under the given Percent of the Poverty Line by Intensity of State Welfare Reform (1995-2000)

	100%	200%	300%	400%	500%
Intercept	-2.27 (2.43)	-1.99 (2.44)	-2.28 (2.45)	-2.75 (2.46)	-3.20 (2.46)
Vulnerable Subgroup	-10.47** (2.43)	-5.65** (1.85)	-3.49** (1.61)	-1.28 (1.59)	1.08 (1.70)
Intensive Reform State	-3.21** (0.80)	-3.18** (0.83)	-3.09** (0.86)	-3.07** (0.89)	-3.05** (0.92)
Post Reform Period	0.47 (0.84)	0.66 (0.86)	0.45 (0.90)	0.40 (0.93)	0.43 (0.95)
Subgroup*Post	0.89 (3.76)	-0.56 (2.63)	0.69 (2.16)	0.90 (1.95)	0.74 (1.84)
Post*Intensive	-0.64 (1.15)	-0.76 (1.19)	-0.89 (1.24)	-0.83 (1.28)	-0.76 (1.31)
Subgroup*Intensive	-0.56 (3.34)	-0.80 (2.47)	-1.07 (2.03)	-0.83 (1.84)	-0.71 (1.76)
Subgroup*Intensive*Post	19.99** (5.66)	8.47** (3.73)	6.08** (3.02)	4.16 (2.72)	3.12 (2.57)
Percent of Poverty Line	1.48** (0.10)	1.49** (0.11)	1.53** (0.11)	1.58** (0.11)	1.63** (0.11)
Young Children	-5.84** (0.72)	-5.58** (0.76)	-5.76** (0.86)	-6.65** (1.00)	-8.24** (1.22)
Family Size	-0.52** (0.26)	-0.50 (0.26)	-0.49* (0.26)	-0.48* (0.26)	-0.47* (0.26)
Husband: Age	-0.07 (0.07)	-0.08 (0.07)	-0.08 (0.07)	-0.09 (0.07)	-0.08 (0.07)
Wife: Age	0.07 (0.07)	0.07 (0.07)	0.07 (0.07)	0.07 (0.07)	0.08 (0.07)
Husband: Black	-2.97 (2.85)	-2.84 (2.85)	-2.62 (2.85)	-2.56 (2.85)	-2.56 (2.85)
Wife: Black	-2.04 (2.95)	-2.08 (2.96)	-2.30 (2.96)	-2.39 (2.96)	-2.36 (2.96)
Husband: Asian	-0.91 (2.40)	-1.22 (2.41)	-1.14 (2.41)	-1.17 (2.41)	-1.21 (2.41)
Wife: Asian	-4.48** (2.25)	-4.24* (2.26)	-4.31* (2.26)	-4.28* (2.26)	-4.22* (2.26)
Husband: Hispanic	-2.66* (1.52)	-2.69* (1.52)	-2.71* (1.53)	-2.76* (1.53)	-2.83* (1.53)
Wife: Hispanic	-0.68 (1.48)	-0.45 (1.48)	-0.59 (1.48)	-0.66 (1.48)	-0.61 (1.48)
Husband: <HS	6.15** (1.49)	6.41** (1.49)	6.41** (1.49)	6.39** (1.49)	6.40** (1.49)
Husband: HS	6.43** (1.15)	6.43** (1.16)	6.50** (1.16)	6.46** (1.16)	6.44** (1.16)
Husband: SC	6.02** (1.11)	6.04** (1.11)	6.13** (1.11)	6.15** (1.11)	6.14** (1.11)
Husband: BA	3.38** (1.06)	3.32** (1.06)	3.38** (1.07)	3.46** (1.07)	3.52** (1.07)
Wife: <HS	-2.50 (1.57)	-2.40 (1.57)	-2.50 (1.58)	-2.60* (1.58)	-2.66* (1.58)
Wife: HS	1.07 (1.24)	1.30 (1.24)	1.34 (1.24)	1.28 (1.25)	1.17 (1.25)
Wife: SC	1.41 (1.18)	1.54 (1.18)	1.64 (1.18)	1.60 (1.19)	1.54 (1.19)
Wife: BA	-0.23 (1.16)	-0.18 (1.16)	-0.11 (1.16)	-0.07 (1.16)	-0.10 (1.16)
Large City	-2.87** (0.93)	-3.07** (0.93)	-3.04** (0.93)	-3.04** (0.93)	-3.05** (0.93)
Small City	1.65* (0.99)	1.51 (0.99)	1.57 (0.99)	1.56 (0.99)	1.53 (0.99)
R ²	0.09	0.09	0.09	0.09	0.09
N	7,509	7,509	7,509	7,509	7,509

* significant at $p < .10$; ** significant at $p < .05$

Summary of Findings

The purpose of this study is to estimate the effect of welfare reform on the marital bargaining power of lower-income women with young children. I use changes in family demand to signal shifts in marital bargaining power, differentiating between those shifts that appear husband-driven and those that appear wife-driven. I then construct a measure of male bias, which is the difference between the share of consumption that is husband-driven and the share that is wife-driven, to indicate the direction of observed shifts in family demand.

In my analysis of the causal impact of welfare reform on male bias, I first use the time period over which welfare reform was implemented at the national level to estimate the differential change in the bargaining power of married women with young children relative to all other married families. For poor women, I estimate a differential and significant increase of 10.6 percentage points in the male bias over the period. This effect persists and remains significant for relatively higher-income groups of women.

To precisely identify the effect of welfare reform, I use variation in policy implementation across states over the period of reform. I use 12 dimensions of welfare policy implementation to qualitatively characterize states as “intensive” reformers or “non-intensive” reformers. Based on these characterizations, I limit my sample to allow for estimation of two-way interaction effects. I first restrict the sample to intensive reform states. I estimate a differential and significant increase of 20.9 percentage points in the male bias for poor women with young children. This effect persists and remains significant for relatively higher-income groups of women. I then restrict my sample to non-intensive reform states and find no evidence of a differential change in bargaining power over the period. Finally, I restrict my sample to subgroups of lower-income women across all states. I estimate a differential and significant increase in the male bias of 17.4 percentage points for poor women. This estimate remains positive, sizable, and significant for women living at or below 300 percent of the poverty line. Estimates for relatively higher income women remain positive through 500 percent of the poverty level, but are not significant.

Lastly, I return to the full sample of married couples and estimate the differential change in the bargaining power of lower-income women with young children in intensive-reform states over the period of welfare reform. I estimate this three-way interaction effect and find very large, significant effects of welfare reform on male bias. I estimate a differential and significant increase in the male bias of 20.0 percentage points for poor women; 8.5 percentage points for women living at or below 200 percent of the poverty level; and 6.1 percentage points for women living at or below 300 percent of the poverty level. Estimates for changes in the male bias for relatively higher-income women remain positive through 500 percent of the poverty level, but are not significant. Based on these findings, I conclude that the weakening of the social safety net through welfare reform reduced the marital bargaining power of poor and low-income women, those most likely to consider welfare as a possible exit alternative to their marriages.

IV. Policy Implications

Findings from this study show that welfare reform substantially reduced the marital bargaining power of poor and low-income women with young children. These findings have narrow implications for evaluating welfare reform and broad implications for how we design and implement future policies that may impact the distribution of power in families.

Implications for Evaluating Welfare Reform

The goal of welfare reform was to address the perverse work, marriage, and childbearing incentives experienced by the welfare recipient population. On average, recipient and would-be recipient families may have experienced benefits from welfare reform to the extent that work, marriage, and childbearing decisions were influenced by changes in these incentives. Based on impact studies, it appears some families did benefit through higher incomes and increased family stability, while others experienced increased economic hardship (Ellwood 2000; Loprest 2001; Blank 2002; Danziger et al. 2002; Johnson, Kalil, and Dunifon 2007). However, welfare reform had impacts beyond the recipient population.

There is some debate over the extent to which welfare reform actually reduced budgetary costs. The average spending level in the four years following the implementation of welfare reform was lower than the average spending level in the four years prior to reform. However, economic conditions also improved substantially during the post-reform years, suggesting budgetary costs would have declined even in the absence of reform (Figlio et al. 2000). The observed decline in spending over the period was roughly proportional to the decline in caseloads (Scholz, Moffitt, and Cowan 2009). While transferring benefits from would-be recipients back to taxpayers does not represent a gain to society overall, those reductions in budgetary costs associated with efficiency gains through program reform should be counted as benefits associated with the legislation.

Evaluations of welfare reform have typically focused on these average increases in well-being for the welfare recipient and taxpaying populations. We now understand that an evaluation of welfare reform that stops at this point has left out an important population. The presumed gains associated with welfare reform were primarily achieved through restrictions in the social safety net for poor women and their children, resulting in losses in marital bargaining power for non-recipient, low-income mothers. While indirect, the effect of welfare reform was to induce a reduction in the consumption levels of these women. Based on the correlation between women's bargaining power and children's consumption levels in the literature, these findings also suggest welfare reform led to a reduction in children's consumption levels as well (Thomas 1990; Lundberg, Pollak, and Wales 1997; Phipps and Burton 1998; Duflo 2003; Rangel 2006; Bobonis 2009). A complete evaluation of welfare reform would need to weigh the presumed benefits to recipients and taxpayers against these costs to married women and children in low-income families.

Implications for Making Future Policy

Three of the four stated goals of PRWORA focus on traditional family formation. Welfare reform policies aim to increase marriage, decrease non-marital childbearing, and increase the proportion of children raised in two-parent families. The primary mechanism through which these goals were to be achieved was the restriction of the social safety net, leaving mothers more dependent on men for economic survival. The secondary consequence of taking this approach to achieving family formation goals was to effectively reduce the consumption of low-income married women and, possibly, children.

Welfare reform is just one example of a policy change that may indirectly affect the intra-family distribution of resources. Any policy that impacts the ownership of income within marriage or the relative well-being of partners in divorce may affect the relative bargaining power of husbands and wives. To the extent that we continue to perceive families as single utility-maximizing units, we miss the equity implications of many policy proposals. Policies that have the potential to improve the well-being of families overall may have differential impacts on individuals within families. The distribution of these impacts needs to be fully considered.

In addition to these equity concerns, there are also efficiency implications of this study for policy-making. Numerous public supports are intended to increase the well-being of children in low-income families. The findings in this study build on a literature that suggests policies that increase mothers' ownership of family income or improve mothers' relative positions in divorce may induce increases in children's consumption and well-being. To the extent that we are concerned with principal-agent problems or under-allocation problems in low-income families, these findings have important efficiency implications. This possible source of efficiency gains (or losses) should motivate us to consider the potential effects of policy changes on marital bargaining power.

References

- Bachu, Amara. 1999. "Trends in premarital childbearing: 1930 to 1994, Current Population Reports." Washington: Census Bureau.
- Becker, Gary. 1974. "A Theory of Marriage: Part II." *The Journal of Political Economy* 82(2):S11-S26.
- Becker, Gary, Elizabeth Landes, and Robert Michael. 1977. "An Economic Analysis of Marital Instability." *Journal of Political Economy* 85(6):1141-87.
- Becker, Gary. 1981. *A Treatise on the Family*. Cambridge, MA: Harvard University Press.
- Bell, Winifred. 1965. *Aid to Families with Dependent Children*. New York: Columbia University Press.
- Bertrand, Marianne, Esther Duflo, and Sendhil Mullainathan. 2004. "How Much Should We Trust Differences-in-Differences Estimates?" *Quarterly Journal of Economics* 119(1):249-75.
- Bitler, Marianna, Jonah Gelbach, Hilary Hoynes, and Madeline Zavodny. 2004. "The Impact of Welfare Reform on Marriage and Divorce" *Demography* 41(2): 213-236.
- Blank, Rebecca. 2002. "Evaluating Welfare Reform in the United States," *Journal of Economic Literature* 40(4).
- Bobonis, Gustavo. 2009. "Is the Allocation of Resources within the Household Efficient? New Evidence from a Randomized Experiment." *Journal of Political Economy* 117(3):453-503.
- Browning, Martin, François Bourguignon, Pierre-André Chiappori, Valérie Lechene. 1994. "Incomes and Outcomes: A Structural Model of Intrahousehold Allocation." *Journal of Political Economy* 102(6):1067-1096.
- Chase-Lansdale, Lindsay, and Maris Vinovskis. 1997. "Whose Responsibility? An Historical Analysis of the Changing Roles of Mothers, Fathers, and Society." In *Escape from Poverty: What Makes a Difference for Children?* Lindsay Chase-Lansdale and Jeanne Brooks-Gunn, eds. Cambridge: Cambridge University Press.
- Chiappori, Pierre-André, Bernard Fortin, and Guy Lacroix. 2002. "Marriage Market, Divorce Legislation, and Household Labor Supply." *The Journal of Political Economy* 110(1):37-72.

Danziger, Sheldon, Colleen Heflin, Mary Corcoran, Elizabeth Otlmans, and Hue-Chen Wang. 2002. "Does It Pay to Move from Welfare to Work?" *Journal of the Association for Policy Analysis and Management* 21(4): 671-692.

Duflo, Esther. 2003. "Grandmothers and Granddaughters: Old Age Pension and Intrahousehold Allocation in South Africa." *The World Bank Economic Review* 17(1):1-25.

Edin, Kathryn. 2000. "What Do Low-Income Single Mothers Say about Marriage?" *Social Problems* 47(1):112-133.

Ellwood, David. 2000. "The Impact of the Earned Income Tax Credit and Social Policy Reforms on Work, Marriage, and Living Arrangements." *National Tax Journal* 53(4.2):1063-1105.

Figlio, David and James Ziliak. 1999. "Welfare Reform, the Business Cycle, and the Decline in AFDC Caseloads," in *Economic Conditions and Welfare Reform*. Sheldon Danziger, ed. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Goldin, Claudia, and Lawrence Katz. 2002. "The Power of the Pill." *Journal of Political Economy* 110:730-770.

Goldberg v. Kelly, 397 U.S. 254 (1970)

Goodwin, Joanna. 1995. "Employable Mothers and Suitable Work: A Re-Evaluation of Welfare and Wage-Earning for Women in the Twentieth-Century United States." *Journal of Social History* 29(2):253-274.

Gordon, Linda. 1994. *Pitied, but not Entitled*. New York: Free Press.

Gray, Jeffrey. 1998. "Divorce-Law Changes, Household Bargaining, and Married Women's Labor Supply." *American Economic Review* 88(3):628-642.

Handler, Joel. 1972. *Reforming the Poor: Welfare Policy, Federalism, and Morality*. New York: Basic Books.

Holcomb, Pamela. 1993. *Welfare Reform: The Family Support Act in Historical Context*. Washington, DC: Urban Institute.

Johnson, Rucker, Ariel Kalil, and Rachel Dunifon. 2010. *Mothers' Work and Children's Lives: Low-income Families After Welfare Reform*. Kalamazoo, MI: Upjohn Institute Press.

King v. Smith, 392 U.S. 309 392 (1968)

Klawon, Emily, and Jill Tiefenthaler. 2001. "Bargaining over Family Size: The Determinants of Fertility in Brazil." *Population Research and Policy Review* 20(5):423-440.

Lundberg, Shelly, Robert Pollak, Terence Wales. 1997. "Do Husbands and Wives Pool Their Resources? Evidence from the United Kingdom Child Benefit." *The Journal of Human Resources* 32(3):463-480.

Loprest, Pamela. 2001. How Are Families that Left Welfare Doing? A Comparison of Early and Recent Welfare Leavers. Series B, No B-36, Assessing the New Federalism Project. Washington, D.C.: Urban Institute.

Manser, Marilyn, and Murray Brown. 1980. "Marriage and Household Decision-Marking: A Bargaining Analysis." *International Economic Review* 21(1):31-44.

Mink, Gwendolyn. 1995. *The Wages of Motherhood: Inequality in the Welfare State*. Ithaca: Cornell University Press.

McElroy, Marjorie, and Mary Jean Horney. 1981. "Nash-Bargained Household Decisions: Toward a Generalization of the Theory of Demand." *International Economic Review* 22(2): 333-349.

Nightingale, Demetra Smith, and Pamela Holcomb. 1997. "Alternative Strategies for Increasing Employment." *The Future of Children* 7(1):52-64.

Nightingale, Demetra Smith. 1997. "Work-related Resources and Services: Implications for TANF." Washington: Urban Institute.

Phipps, Shelly, and Peter Burton. 1996. "Collective Models of Family Behaviour: Implications for Economic Policy." *Canadian Public Policy* 22(2):129-143.

Phipps, Shelly, and Peter Burton. 1998. "What's Mine is Yours? The Influence of Male and Female Incomes on Patterns of Household Expenditure." *Economica* 65(260):599-613.

Rangel, Marcus. 2006. "Alimony Rights and Intrahousehold Allocation of Resources: Evidence from Brazil." *The Economic Journal*, 116: 627-658.

Rein, Mildred. 1982. "Work in Welfare: Past Failures and Future Strategies." *Social Science Review* 56(2):211-229.

Samuelson, Paul. 1956. "Social Indifference Curves." *The Quarterly Journal of Economics* 70(1):1-22.

Schultz, Paul. 1990. "Testing the Neoclassical Model of Family Labor Supply and Fertility." *The Journal of Human Resources* 25(4):599-634.

Scholz, John Karl, Robert Moffitt, and Benjamin Cowan. 2009. "Trends in Income Support," in *Changing Poverty, Changing Policies*. Sheldon Danziger and Mary Cancian eds. Cambridge: Harvard University Press.

Shapiro v. Thompson 394 US 618 (1969)

Thomas, Duncan. 1990. "Intra-Household Resource Allocation: An Inferential Approach." *The Journal of Human Resources* 25(4):635-664.