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DISSERTATION

WELFARE REFORM, CHILD CARE CONSIDERATIONS,
AND MIGRATION DECISIONS

Submitted by

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In partial fulfillment of the requirements

For the Degree of Doctor of Philosophy

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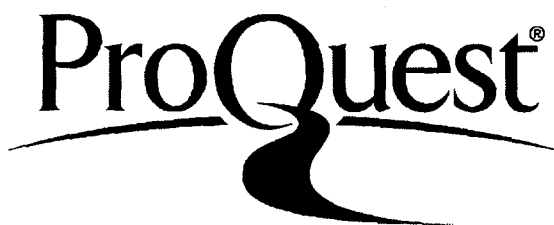
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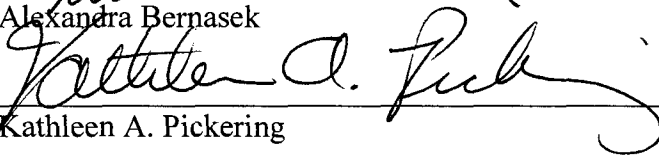
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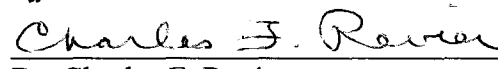
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ABSTRACT OF DISSERTATION
WELFARE REFORM, CHILD CARE CONSIDERATIONS,
AND MIGRATION DECISIONS

The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), passed in 1996, instituted a new welfare program, Temporary Assistance to Needy Families (TANF), with an emphasis on working for one's benefits and a five-year lifetime limit on benefits whereby benefits are withdrawn no matter one's financial or employment circumstances – thereby putting an end to the “enabling” aspect of Aid to Families with Dependent Children (AFDC). Given the changes to the welfare system, the research conducted here is done in an attempt to determine the migration effects (both the welfare magnet effect and the effect of social capital on migration) of the new work incentives arising out of PRWORA. Regarding the welfare magnet effect, the empirical results suggest that more aggressive state TANF programs effectively deter migration. In one way, this implies that states need only toughen their stance on welfare benefits and work requirements to stop the flow of potential welfare recipients into their states. On the other hand, the results also suggest that welfare recipients already living within the more aggressive states are not moving to find employment and, therefore, may not be behaving in ways that would make available sufficient employment opportunities. Regarding the effect of social capital on migration patterns, the empirical results suggest that some welfare-receiving mothers are not responding to TANF incentives by moving. More specifically, if welfare-susceptible mothers reported using their access to social capital (i.e., relatives) to

provide care for their children, they were less likely to have moved recently. It may then be proposed that many single mothers are not poor because they choose to be but because their choice sets (at least in their eyes) are such that self-sufficiency is unattainable and financial and emotional help is a necessity, whether it comes from the government or friends and family.

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Introduction

The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), passed in 1996, ushered in ground-breaking reforms to several social programs including Supplemental Social Security Income (SSI), Food Stamps, and Aid to Families with Dependent Children (AFDC). The reforms were enacted ostensibly because of the disincentive, or enabling, effects of the old programs. Indeed, some programs were blamed for trapping families in poverty. Conversely, PRWORA's incentive effects for those served by the social programs were crafted to create incentives to work. For example, where welfare recipients under AFDC ran the risk of losing their benefits if they accepted employment, under the new welfare program, recipients were eligible for some social programs only if they worked.

For those frustrated with the incentives of AFDC, PRWORA put work back on the table. Before PRWORA, many politicians publicly questioned why any financially poor parent would choose to work when the government was willing to redistribute income from "hard-working" citizens to the non-working poor. After PRWORA, choosing not to work was no longer an option. Instead, reformers stressed the connection between work and self-sufficiency; after all, all anyone needs are the right incentives. This argument for work requirements in 1996 was not new. Similar to current trends, Rose (2000) characterizes early welfare policy as requiring recipients to participate in work activities to prove they were not lazy but, instead, deserving of poor relief (p. 144). Welfare-policy-shaping ideology was to "create and maintain invidious distinctions between welfare recipients and other workers" (Rose, 2000, p. 144). Despite

PRWORA's incentives to strive for self-sufficiency, states continue to see individuals enrolling in their welfare programs. What might explain this phenomenon?

It may be that working does not lead to self-sufficiency – and this may be by design. For example, following emancipation, when wealthy businessmen desired cheap labor, they had the power and control to have relief for the poor withdrawn and then reintroduced when the laborers were no longer needed (Pickering, Harvey, Summers, & Mushinski, 2006, p. 17). Rose (2000) also writes of the powerful interests in the low-wage labor market. Low-wage employers wanted welfare payments set below wages to encourage work, but the same employers knew that “good” jobs need not be offered because of the welfare safety net (Rose, 2000, p. 144). In effect, the financial elite (and, subsequently, the major employers) have an incentive to abuse the welfare program for their own benefit by lowering their wage and benefit costs such that jobs providing for individual self-sufficiency are not available. It should be no surprise then that individuals continue to apply for financial assistance when employers are restructuring wages with this very expectation.

Welfare recipients have not only been characterized as lazy, but also self-interested to the point of searching out and moving to those states with the most generous welfare benefits. The “welfare magnet hypothesis” has been dedicated to testing this characterization. To date, the empirical evidence has provided no clear evidence validating said hypothesis. The welfare migration literature will be reviewed later. In the meantime, past welfare policies attempted to mitigate such perceived migration effects by limiting the first twelve months of AFDC payments received post-move to the amount families would have received if they had remained in the original state of residence

(Rose, 2000, p. 146). With PRWORA, new research has reexamined the migration tendencies of welfare recipients given the more aggressive push to lower the number of families receiving welfare payments, get recipients working for their benefits, and the eventual termination of welfare payments entirely. One might still hypothesize a greater tendency to migrate but maybe not for the reasons associated with the welfare magnet hypothesis.

Changes in migration tendencies related to the welfare reforms embodied in PRWORA are the focus of this research. PRWORA instituted a new welfare program, Temporary Assistance to Needy Families (TANF), with an emphasis on working for one's benefits and a five-year lifetime limit on benefits whereby benefits are withdrawn no matter one's financial or employment circumstances – thereby putting an end to the “enabling” aspect of AFDC.¹ With this newly imposed time limit, a family might react to these new incentives by searching for and, if necessary, moving to find suitable employment to avoid forced removal from the welfare rolls and, therefore, the loss of the safety net they have come to know. However, it might also be that families do not migrate, as they risk losing support from nearby relatives and friends; this is support that is usually needed regardless of welfare eligibility. Yet another scenario has families moving to an area near relatives, as employment, or TANF's work requirements, necessarily requires ready access to adequate affordable child care and relative care is likely less expensive than the alternatives. These are the migration incentives to be addressed within this research.

¹ As a consequence children who qualify may be denied benefits because of time limits (Pickering et al., 2006, p. 20).

Oftentimes, the welfare migration literature fails to consider the very real benefits provided to families by their network of friends and family. It is my contention that inclusion of such benefits will impact both the interpretation of empirical results presented here and perhaps the interpretation of existing results. If it is found that market inefficiencies exist because migration is not taking place for reasons involving family, it may be appropriate to call for policies designed to create incentives to make moves for employment-related reasons. On the other hand, such reforms may be detrimental in the long run because of the losses associated with weaker social networks.

For example, Stanfield (1984) describes the cost of increased mobility as including more superficial friendships and, subsequently, a less stable working-class community (p. 26). Gittel and Thompson (2002) list child care networks, among other social capital assets, as beneficial in fostering economic development (p. 122). The National Heart, Lung, and Blood Institute found that individuals above 80 years old with less developed social networks had a 60 percent greater chance of suffering from dementia (as cited in McKibben, 2007, p. 110). At a minimum, there are both economic and health reasons to encourage the formation and sustaining of social networks. Once policymakers entertain the idea of positive externalities provided by solid social networks, there may be wider support for the reinforcement of social networks, in general.

PRWORA and TANF

Goals and Program Features

For the purposes of this research, PRWORA's changes to AFDC are of primary interest. Welfare reform's major goals included (1) encouraging the formation and

sustaining of traditional two-parent families; (2) eliminating the potential promotion of long-term dependence on government programs by emphasizing job training, work, and marriage; (3) prevention and reduction of out-of-wedlock births and (4) providing financial support for children such that they are able to remain with their families (Corbett, 2002, p. 3). These newly crafted goals addressed many of the perceived problems with AFDC.

To meet these goals, major reforms were enacted. First, a block grant system was established entitling states to an annual fixed amount of funding for their individual TANF programs. The block grant was the result of consolidation of AFDC, Emergency Assistance, and the Job Opportunity and Basic Skills program. With this block grant, each state sets its own eligibility and participation requirements, time limits, and benefit levels, among other TANF components (Pickering et al., 2006, pp. 20-21). Second, a five-year lifetime limit was enacted.² Third, states were required to engage recipients in work or work-related activities within two years of starting to receive benefits (Corbett, 2002, p. 3).³ More specifically, federal law required that by 2002, 50 percent of a state's TANF caseloads and 90 percent of two-parent families "be working or in work preparation programs" (Blank, 2002, p. 1106). Also, by 2000, states were to require single-headed families to work 30 hours per week and two-parent families to work 55 hours (Pickering et al., 2006, p. 21). This emphasis on work was not a new idea, and rather than requiring work as a means to lift families out of poverty, work might now be

² This limit could be altered for up to 20 percent of a state's caseload with the effected case load subject to a shorter or longer time limit. If a state chooses to fund longer than the five years, the funding must come entirely from the state (Blank, 2002, p. 1106).

³ States were given the discretion to mandate work-related activities immediately upon TANF receipt. States including Kentucky, South Dakota, Texas and Mississippi implemented this "work-first" reform (Pickering et al., 2006, p. 21).

considered the end in itself whereby working TANF recipients are considered worthy of taxpayer assistance (Moffitt, 2007, pp. 42-43). Lastly, reforms included attempts to improve collection of child support payments as well as encourage paternity identification (Blank, 2002, p. 1106).

According to Corbett (2002), welfare recipients were now more appropriately called clients and the reforms should target the following groups of people: (1) those who were previously receiving welfare payments but now need help keeping their jobs or advancing; (2) those who are in danger of receiving cash assistance who might need help with parenting, work, or life in general but not necessarily cash benefits; (3) cash recipients; (4) those community groups who provide care and assistance to at-risk families; and (5) other groups within society in need of relatively simple assistance but not necessarily the more serious help of actual cash assistance (p. 9). Eligibility workers were now considered caseworkers who worked with TANF recipients on a one-on-one basis to develop individual plans, place recipients in work-related activities and supply services to help recipients retain their jobs (Reintsma, 2007, p. 2).

Social Welfare Effects of PRWORA

Caseloads

From the enactment of PRWORA in 1996 through early 2001, the number of caseloads fell from 4.6 million to 2.1 million families. The greatest drop in caseloads occurred among those who were young mothers (between the ages of 18 and 24) and mothers with younger children (Corbett, 2002, p. 4). Between 1994 and 2000, caseloads declined 56.5 percent nationwide; this is compared to an increase of 27 percent in caseloads between 1990 and 1994 (Blank, 2002, p. 1115). Alternatively, the number of

people accepting welfare payments peaked at approximately 14.2 million in 1994 while by June of 1999, the number receiving welfare fell to just under 7 million, a number only slightly above the number of recipients in 1969 (Adkisson, 2001, p. 185).

The fall in the number of welfare cases since 1994 was impressive given it was the largest decline seen in a number of years. However, the decline started long before PRWORA was enacted, and it would be a mistake to attribute the decline fully to the incentive effects introduced by PRWORA (Blank, 2002, pp. 1115-1116). Factors occurring simultaneously with the welfare reforms included increases in the Earned Income Tax Credit (EITC), an increase in the minimum wage, and an economic expansion. Should any of these factors themselves have contributed to the fall in caseload numbers, then any potential slowing of the economy coupled with a newly weakened social safety net could lead to more severe consequences than previously seen.

On the other hand, to say that the passage of welfare reforms in 1996 played no role in the declining caseload phenomenon would be wrong as well (Grogger, Karoly, & Klerman, 2002, p. xiv). For example, a 1999 study by the Council of Economic Advisers attempted to separate the economic effects from the policy effects on caseload numbers and found that 26-36 percent of caseload changes between 1993 and 1996 could be explained by a stronger labor market while only 8-10 percent of the 1996-1998 caseload changes could be attributed to such labor market improvements post-welfare reform (as cited in Adkisson, 2001, p. 194). More generally, the consensus among studies estimating the effects of welfare reform on caseloads suggests that the policies do, in fact, partially explain the rapid decline in caseloads noted above (Blank, 2002, p. 1135). Should these results be correct, then the reforms have done their job and low-wage

workers (versus low-income welfare recipients) might better weather future economic slowdowns.

In fact, however, the caseload numbers rose in approximately half of the states between 2001 and 2003; the caseload numbers in 23 states increased between June of 2001 and June of 2005 (Reintsma, 2007 pp. 7, 11). Nationally, the number of caseloads fell by 107,000 cases between June of 2001 and June of 2005. Given states were afforded the opportunity to fund their own welfare programs for TANF recipients who exhausted their federal eligibility, the fall in caseload numbers may be a mischaracterization of the trend in families receiving cash assistance. The increase in food stamp caseloads to a five year high in December of 2002 supports this hypothesis. Further, many non-welfare receiving families have financially benefited from states' child care and workforce development subsidies; the General Accounting Office (GAO) estimated that typically over 45 percent more families are receiving some sort of support through TANF funds than is reported in the TANF caseload numbers (as cited in Reintsma, 2007, pp. 11-12). In point of fact, the caseload numbers should not be taken at face value but as part of a bigger picture.

Employment Rates

What happened to the families behind the rapid decline in numbers of welfare cases? Corbett (2002), for example, reports that for those women no longer receiving financial assistance, two-thirds of them worked at some point in time since leaving the system with many experiencing financial gains (p. 4). Of the share of women who collected AFDC benefits in 1989, only 20 percent reported themselves as working the following year; however, the number increased to over 44 percent in 2000 (Blank, 2002,

p. 1117). Between 1994 and 1999, labor-force participation rates among single mothers with children increased ten percentage points; for single women with children under six years of age, participation rates rose five percentage points (Blank, 2002, p. 1116).

On the other hand, once welfare recipients approach their time limits, evidence of effects on employment rates is lacking with neither increasing nor decreasing employment rates (Grogger et al., 2002, p. xxi). Schoeni and Blank's (2000) empirical results suggest minimal TANF influences on labor force participation as post-welfare reform changes in participation rates among less-skilled women were fully explained once changes in the economy were included (p. 22). Other researchers report the EITC's significant influence on labor force participation rates as well. Further, although most former welfare recipients report finding jobs, these jobs tend to be unstable (Blank, 2002, p. 1139). Studies estimate that upwards of 60 percent of welfare leavers did not have regular work (Pickering et al., 2006, p. 64). While the evidence is mixed, if one's main concern is moving the welfare-poor toward work and away from financial assistance, the overall trend in employment rates is good news for PRWORA (and TANF) supporters.

Income, Earnings, and Standard of Living

One might want to know whether moving families away from welfare and toward work leads to an improvement in the families' total incomes. In other words, does work actually pay? In fact, there is some evidence to suggest former welfare recipients are better off post-AFDC. While these women were, on average, working low-wage jobs with little or no wage increases over time, the lowest 20 percent of women with children continued to see their incomes increase by nearly \$950 over four years to reach an average of \$8,867 in 2000 (Corbett, 2002, p. 4). The percentage of these women's

earnings coming from welfare assistance fell sixteen percentage points to 37 percent and the percentage of income coming from personal earnings rose from 26 percent to 36 percent (Corbett, 2002, p. 4).

Additional evidence suggests that the majority of single mothers who had lost government financial assistance had higher incomes by the end of the 1990s (Blank, 2002, p. 1143). Blank and Schoeni (2003) found increased income among families with children following the enactment of waivers in the early 1990s (p. 307). Grogger (2003), on the other hand, found time limits to have no significant effects on income or earnings (pp. 402-404). A report by the Center on Budget and Policy Priorities found single-mother families' average earnings and disposable incomes increasing substantially between 1993 and 1995 with the poorest 20 percent seeing income increase an average of 13.7 percent per family. The next highest 20 percent of female-headed families experienced an increase in earnings of \$900 between 1995 and 1997 as well as an average EITC increase of \$400 (Primus, Rawlings, Larin, & Porter, 1999, p. vii).

The increases in employment and income measures are heartening, but the end result is that women and children are making do with a meager increase. According to reported poverty numbers, however, female-headed households living in poverty dropped 6.1 percentage points from 1996 to 1999 to 30.4 percent. Also, child poverty rates fell approximately three percentage points, going from over 20 percent to under 17 percent (Corbett, 2002, p. 4). Between 1992 and 2000, the share of all families living in poverty dropped from 11.9 percent down to just 8.6 percent; this is a new low following a low of 8.8 percent in 1974. Poverty rates among female-headed families fell at an even faster rate going from 35.4 percent in 1992 to less than 25 percent in 2000 (Blank, 2002, p.

1117). It seems, then, PRWORA's opponents worried for not. However, poverty rates steadily increased after 2000 up until at least 2004 when the poverty rate was reported at 12.7 percent. The pattern was similar for children and members of single female-headed families (McKernan & Ratcliffe, 2006, p. 1).

In contrast, data from 1995-1997 showed the average disposable income of the poorest 20 percent of single-mother families actually dropping during this period; a drop in means-tested benefits over and above the actual decline in need contributed to this result. Other low-income female-headed families experienced greater incomes as a result of working but saw the gains completely drained when welfare benefits were fully adjusted (Primus et al., 1999, pp. vi, viii). Haskins (2001) reported a thirteen percent increase in income for the bottom quintile of single-mother families over the period 1993-1999; however, in the mid-1990s, the very poorest quintile of single-mother families saw little growth, or even a decline, in income (pp. 112-113). Average incomes declined by \$810 for the poorest 10 percent of single-mother families between 1995 and 1997 (Primus et al., 1999, p. x).

Haskins (2001) further reported an increase in the deep poverty rate among children for 1996, although the deep poverty rates reportedly declined in 1998 and 1999 (p. 125).⁴ Between 1996 and 1998, data again showed an increase in deep poverty among families with children (Zedlewski, Giannarelli, Morton, & Wheaton, 2002, p. 4).⁵ Ultimately, while some members of the welfare reforms' targeted population were better

⁴ Deep poverty is defined as the number of persons at less than 50 percent of the poverty line (Haskins, 2001, p. 125).

⁵ This increase in extreme poverty was the result of many single-parent families moving into paid employment that did not fully offset the losses in food stamp and welfare benefits as well as the increase in child care expenses and payroll taxes (Zedlewski et al., 2002, p. 4).

off, some of the poorest single-mother families achieved only minimal gains, and some were even more financially strapped than before (Blank, 2002, p. 1119).

Empirical evidence supports specific welfare reform policies, including state eligibility requirements, time limits and work incentives, influences poverty and deep poverty rates among ever-single mothers and the children of said mothers. Using data from the Survey of Income and Program Participation (SIPP) between the years 1988 and 2002, McKernan and Ratcliffe (2006) find that more lenient welfare eligibility requirements as well as more generous financial incentives generally work to lower rates of deep poverty, although the evidence is mixed when evaluating the same policies' effects on poverty. Specific financial incentives include using welfare benefit amounts, child support income exemptions, sanctions, and the minimum wage to combat deep poverty. Lastly, stricter time limit policies are believed to be effective in lowering the number of people living in deep poverty or poverty (McKernan & Ratcliffe, 2006, pp. 22-23).

Children's Well-Being

There is little reason to believe the children of extremely poor single mothers are any better off either. Between 1995 and 1997, while the number of children who were poor fell, those children living in poverty were now poorer. Further, over the same time period, means-tested programs lifted a significantly smaller number of children out of poverty (Primus et al., 1999, p. x).⁶ The numbers of children living in families with incomes at least 50 percent below the poverty line increased from 8.5 percent in 1995 to 9.0 percent in 1997, although the overall child poverty rate among female-headed

⁶ However, the decline was partially offset by the numbers of children helped by the EITC (Primus et al., 1999, p. xi).

families actually fell from just over 50 percent to 49 percent over the same period. For those children with working single mothers, the extreme child poverty rate increased from just over 12 percent to 15.2 percent between 1995 and 1997 (Rose, 2000, p. 152). Researchers have also been concerned with changes in educational achievements and other behavioral changes among younger children and adolescents as a result of moving welfare recipients away from dependency and toward work. Strong financial work incentives tend to decrease behavioral as well as educational achievement problems for school-aged children in general. The same results are not seen in adolescents, however. In particular, adolescents show increased incidence of school achievement problems (Grogger et al., 2002, p. xx).

Additional Measures of Interest

Other measures of interest to policymakers showed signs of promise in so far as the changes fell in line with the intent of PRWORA. The fraction of welfare recipients fulfilling work requirements increased rapidly. Of those families still receiving financial assistance in 1999, over 38 percent were participating in work-related activities, up from just 20 percent in 1994 (Blank, 2002, p. 1113). The number of out-of-wedlock births remained constant throughout the 90s, and the teen birth rate fell from 62.1 births per 1000 births in 1991 to just 48.7 births nine years later (Corbett, 2002, p. 4). There is also some evidence to suggest the financial work incentives coupled with work requirements have strengthened pre-existing marriages as well as encouraged marriage overall, although the overall body of evidence shows mixed results. In general, evidence of welfare reform's impact on Medicaid use, marriage, and fertility is mixed (Grogger et al., 2002, pp. xix, xxii).

Job Stability and the Future

In February of 2007 it was reported that “nearly one in six people rely on some form of public assistance, a larger share than at any time since the government started measuring two decades ago” (Associated Press, 2007, para. 3). Unfortunately, even if welfare leavers are finding employment, stable employment and a stable financial future are different matters as reflected in the increase in use of social programs other than TANF. An analysis of income trends suggests that over the last two decades, wages at the bottom and middle of the wage scale have stagnated or even declined. All the while, the very highest paid workers have seen significant increases in their wages (Bernstein, McNichol, Mishel, & Zahradnick, 2000, p. xi). Welfare leavers who were employed typically earned wages between just \$5.50 and \$8.50 (Blank, 2002, p. 1139).

Brauner and Loprest (1999) reported a substantial minority of welfare leavers experiencing unemployment at some later point (p. 8).⁷ Most leavers reported no greater than two spells of employment over the course of four years (Blank, 2002, p. 1139). Additionally, given the welfare reforms have, for the most part, affected single mothers, this is a demographic where starts and stops in employment will be common. These women often pull themselves out of the labor market for family reasons, including taking care of children or elderly or other family members in need of home care (Pickering et al., 2006, p. 57). Sources of support used by leavers included parents and other relatives to provide emotional and financial assistance as well as child care support. More specifically, 65 percent of welfare leavers in Iowa relied on support from their parents while 31 percent turned to other relatives. Approximately 30 percent of leavers in

⁷ Numerous studies suggested that between 53 percent and 70 percent of recent leavers “were employed at a point in time,” as summarized by Brauner and Loprest (1999).

Tennessee, Texas, and Wisconsin reported relying on relatives for assistance (Brauner & Loprest, 1999, pp. 7-8).

Discussions of future policies to help welfare families achieve stability typically include subsidies to help with the actual costs associated with being employed. States have increased their spending on work-support subsidies with child care subsidies increasing from \$9.5 billion to \$18 billion between 1993 and 2000 (Blank, 2002, p. 1114). Also growth in transportation spending as well as job search and placement services occurred across most states (Gais, Nathan, Lurie, & Kaplan, 2001, p. 52). This should be money well spent as the bulk of the research regarding work support programs enacted in the 1990s showed an improvement in the probability a welfare recipient becomes employed (Blank, 2002, p. 1141). President Bush released a welfare reform agenda that included a plan to require recipients to work, but more importantly, included a plan to provide an average of \$16,000 for every family to be paid out in the form of federal and state welfare payments, child care subsidies and job training resources; this is in comparison to the \$7,000 per family available in 1996 (The White House, 2003, “Background on the President’s Welfare Reform Agenda” section, para. 2).

Poor Families, Work Requirements, and Child Care

A specific issue addressed by this research involves the impact of child care considerations on household migration decisions. A need for child care is a necessary incident of the work requirements associated with PRWORA. Child care arrangements are a necessary yet expensive budget item for many families. There are several potential child care options available, but not all options will be available to all parents. Some of them include non-relative in-home child care, relative care, and child care centers. The

costs associated with each child care option differ with the better quality daycare choices usually correlated with greater expense. Of course, while relative care may involve some cost, it usually costs significantly less than the alternatives. Further, while there is the possibility of relatives providing less than adequate care, oftentimes relatives provide more trusted care than the equally inexpensive alternative child care options. As discussed earlier, it is known that at least some of welfare leavers are relying on family to provide care (Brauner & Loprest, 1999, pp. 7-8).

Ideally, unconstrained child care choice sets would be preferred for all families. However, given the cost of different options and the potential mismatch of employment opportunities and relative availability, families frequently find themselves with a subset of options. According to Wolfe and Lowe Vandell (2002), there are economic reasons as to why the government should then be involved in the subsidization of quality child care for these TANF or low-income families. It is hypothesized that the market is incapable of providing efficient and equitable child care solutions because of parents' lack of information and externality issues. The benefits of improved child care opportunities accrue not only to the children and parents, but all of society reaps the benefits of children with quality care arrangements. Benefits are realized on a societal level because better care has been linked to reduced criminal activity; children's improved preparation for elementary school; increased productivity due to fewer missed days of work for parents because of more reliable daycare; and less spending on social services because of parents sustaining employment due to better child care arrangements (Wolfe & Lowe Vandell, 2002, pp. 106-108).

With the justification for child care subsidies denoted above, the reality is that many states do offer some form of help for low-income families. For those Midwestern states that comprise the Welfare Peer Assistance Network, for example, spending on child care programs, on average, rose from about 14 to 38 percent of state welfare budgets between 1995 and 2002. However, nationally, of those families that were eligible to receive child care subsidies, only about 10 percent of eligible families in 1999 were actually receiving the subsidies. Given the expense that many families are left to face, the choice of relatives must carry some weight in terms of both quality and cost when choosing among child care options. While the research does indicate that other high quality child care options are beneficial to children, in-home child care provided by family members roughly doubles the positive effects associated with other quality child care arrangements (Wolfe & Lowe Vandell, 2002, pp. 106-107). It seems accurate to assume, from the information presented here, that families at risk of receiving or currently receiving TANF benefits are forced to consider child care issues when making employment and migration decisions.

Given that TANF-receiving families now face lifetime limits and work requirements, child care becomes an issue along with migration as a way to relieve dependence on TANF benefits. How welfare reform, child care considerations, and migration decisions interact is of specific interest here. In this paper, I provide a review of the literature on the importance of family and friends on families' migration decisions. I also review the research on the "welfare magnet hypothesis." Next I present a theoretical model, derived from the Harris-Todaro migration model, with modifications relating to child care costs. Using data provided as part of the National Survey of

America's Families, I present an empirical model and results as they pertain to welfare reform, child care, and the propensity to migrate. Lastly, I discuss policy implications, the known weaknesses within this research, and future areas of study.

Literature Review

Social Capital

Definition of Social Capital

The concept of social capital has been defined in a number of different ways. One definition includes an individual's access to networks, subjection to norms, involvement in interactions and perception of trust used not only for survival but to improve one's living experience (C. Cohen, 2001, p. 267). Others have defined social capital to be the traits deriving from or leading to trusting and cooperative relationships between individuals, such as a shared set of values or norms (Durlauf, 2002, p. 460; Warren, Thompson, & Saegert, 2001, p. 1). Putnam's (1995) definition refers to "the features of social organization, such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (p. 67). Yet another characterization of social capital is as capital being "fundamentally rooted in the cultural traditions and the institutional forms of those communities, as well as the physical spaces that they occupy" (Warren et al., 2001, p. 7). For the purposes of this research, when referring to social capital, it is the notion of networks used by TANF-eligible families for financial survival.

Benefits of Social Capital

Economists and other scholars are turning attention to the concept of social capital because of the numerous macroeconomic and societal benefits deriving from greater levels of social capital. For example, Helliwell and Putnam (2000) found levels of social

capital to influence the trend of per capita income convergence in regions in Italy between the 1960s and 1970s (p. 265). Greater powers among regional governments, due to greater levels of social capital, were successfully used to improve economic growth (Helliwell & Putnam, 2000, p. 254). It has been hypothesized that greater levels of social capital improves literacy and education rates, improves public health, reduces crime rates, and especially relevant for current research purposes, helps to alleviate the effects of poverty. The generation of goodwill and fellowship deriving from social capital is also influential in improving living conditions (Wallis, Killerby, & Dollery, 2004, pp. 240, 247). The presence of social capital has also been credited with improving levels of civic engagement necessary for the working of a democracy (C. Cohen, 2001, p. 269).

C. Cohen (2001) suggests drawing on social capital to empower communities; there is little scholarship addressing the capacity of increased levels of social capital to alter the current power structure sustaining poverty, for example (pp. 282, 285). However, there are scholars already looking to social capital as one means to alleviate poverty in this country through its potential to bring the poor together to fight for change (Warren et al., 2001, p. 2). Similar to the benefits of joining together and forming a union, the poor have an uphill battle if working individually to change the political and economic structure to better meet the needs of all those living in poverty. Pooling social capital has been shown to garner positive results for the poor, as suggested by Helliwell and Putnam's (2000) research, and such results may be possible when applied in this particular country.

On the other hand, the power wielded by the poor may not be enough to overcome the barriers raised by public institutions to undermine these same powers of social capital.

Two different ways such institutions have negated social capital's beneficial effects include providing information that "demeans, demoralizes, or makes invisible the recipient poor community" and calling formal meetings where the norms of communication among the poor will cause the poor not to be heard or disregarded entirely (Warren et al., 2001, p. 16). While it is not a focus within this research, the interaction between social capital, the power for change, and the ensuing battles for power among the classes is an important corollary addressing the ability of the underclass to wield the power to enact real economic and social change.

The uses for social capital, different than the positive externalities deriving from social capital and accruing to institutions and classes of individuals discussed above, include uses by the poor population "to get by" and "to get ahead," i.e., to change life circumstances, especially when other forms of capital are lacking (Briggs, 1997, p. 112; Edin & Lein, 1997, p. 188). Many poor families, for example, use their social capital to supplement their disposable incomes and to provide food and housing for their families (C. Cohen, 2001, p. 273). According to Edin and Lein (1997), only three-fifths of a typical welfare-dependent mother's expenses are covered by food stamps and cash welfare benefits (p. 147). Aspects of social capital, including relationships with extended family and more formal organizations, such as churches, are used by families to survive (Warren et al., 2001, p. 1). Research reveals single mothers turning to family and friends over taking side-jobs or going to public agencies for help. The maternal grandmothers are typically the most important benefactors with both cash and in-kind assistance provided. In-kind help includes babysitting the grandchildren while the mothers are working (Edin & Lein, 1997, pp. 147-150). This empirical information supports the

hypothesis presented in this research that in-kind help (most especially assistance with child care) may be one significant factor influencing a welfare-susceptible family's migration decision. Whereas the typical employee is hypothesized to move to take advantage of a positive wage differential other factors, including loss of child care assistance as detailed here, may outweigh the wage benefits.

However, the social ties mentioned above, while useful, are not necessarily the answer to pulling any and every family out of poverty. Nelson and Smith (1999) reported evidence of households with what were considered 'bad' jobs to face difficulties in building and benefiting from social ties unlike what 'good' job households were able to do with their social ties (p. 110). Bad job households could rarely afford the time needed to develop strong social ties, i.e., waiting for reciprocity to play itself out. Even if bad job households had access to households with more resources, such households might be hesitant to share their resources with households that would only constitute a drain. Interhousehold exchanges proved to be unreliable substitutes for a good job. Such exchanges could not be counted on to replace the goods and services that good wages and benefits could provide (Nelson & Smith, 1999, pp. 110-111, 114).

To leave poverty behind, one needs a good job and getting a good job is oftentimes linked to having the right connections or references; unfortunately, this sort of social capital is not the capital possessed by those living in poor communities (Warren et al., 2001, p. 3). Granovetter (1974) found social capital to be useful when looking for employment; for professional, technical, and managerial workers near Cambridge, Massachusetts, over half of them found their jobs through personal connections (pp. 7, 11). Interviewed TANF participants in South Dakota protested the common practice of

tribal leaders or current employees assigning permanent wage labor jobs to relatives or close friends (Pickering et al., 2006, p. 96). Mortensen and Vishwanath (1994) developed a theory explaining how one's salary may also be influenced by one's social contacts (pp. 189-200).⁸ Economists typically model an employee's wage as deriving from the human capital the employee possesses, but it would also make sense that the personal contacts one brings to the company would be valuable as well (Dasgupta, 2000, p. 386). Hence, seeing salaries dependent on one's social capital, e.g., social network, only makes sense.

Negative Outcomes Associated with Social Capital

There is concern that social capital may be detrimental to both individuals and communities. A little researched area concerns the qualities and long term consequences of the informal institutions originating from the relationships inherent in social capital. For example, it may be possible that the resulting informal institutions characteristic of specific forms of social capital prevent the formation of more productive social arrangements, and social networks act as a deterrent to further modernization (Dasgupta, 2000, pp. 327, 329). Moreover, the traits associated with social capital may lead to strong group loyalty such that those who attempt to study and work hard will be harassed or group members may be isolated from information regarding potential employment (Wallis et al., 2004, p. 249). Further, if social capital may be mobilized to exert power for good, it stands to reason that the same power can be used for the not-so-good. Woolcock (1998) cites the potential for social capital to destroy either (or both) physical and human capital (p. 186). C. Cohen (2001) writes of concern for social capital's

⁸ Mortensen and Vishwanath's (1994) model predicts higher wages for those employees who acquire wage information through employed acquaintances versus publicly available employment information (p. 187).

potential to be used in ways to “threaten and police more vulnerable segments of marginalized communities” or the disempowered (pp. 273, 286).

Social networks, themselves, have been shown to be an impediment to economic development, such as when networks prevent the mobility of labor (Dasgupta, 2000, p. 390). This may be construed as negatively influencing an individual’s financial well-being, but it carries with it implications for the economy in general and society as well. The mobility of labor is considered to be important to an economy’s overall efficiency as an individual’s skills may not match with current labor demands in one’s geographical area. Additionally, some scholars believe social networks and institutions may be prone to corruption and exclusion (Warren et al., 2001, p. 10). Again, it seems that where there is an opportunity to harness power to be used to improve the lives of the downtrodden, there is the potential for that power to be abused for the benefit of a select few.

Social Networks as a Part of Social Capital

Among social capital’s characteristics, the concept of social networks and the measurable benefits (and costs) of such networks among the poor is relevant here. Social networks, considered by Dasgupta (2000) to be the embodiment of social capital, are defined as “systems of communication channels, protecting and promoting personal relationships” (pp. 380, 385). Examples of such channels include nuclear families, voluntary organizations, churches or trade unions. Individuals’ social networks can be created over their lifetimes while individuals are born into others (Dasgupta, 2000, p. 380). Individuals’ networks are important as such networks provide another avenue, outside of the market system, to maintain adequate food and housing for their families and increased access to disposable income makes life somewhat easier for families. On a

macroeconomic level, an absence of strong networks has been tied to poor communities' inability to fight poverty with an effective reallocation of resources (C. Cohen, 2001, pp. 273-274). Social networks have been credited with providing the information necessary for the efficient functioning of markets; networks may also be one means by which markets get established in the first place (Dasgupta, 2000, p. 387).

Cost-Benefit Analysis of Creating and Maintaining Networks

The exact characteristics of individuals' social networks may be controlled, to some extent, by individuals themselves. Individuals (and families) face choices when constructing their social networks. How does one decide whether to assume the cost of maintaining or creating new network connections? There are benefits associated with either decision. Some benefits of a network relationship derive from the improvement in one's well-being because of the emotional or psychological benefits of friendship or love from family members. Some, though not all, social relationships generate acts of cooperation as well as reciprocal relationships and equality within a given community (Woolcock, 1998, p. 185). However, benefits deriving from ties established as a part of one's social network are not restricted to such hard-to-measure emotional or psychological advantages.

There are also the economic benefits from such relationships as one can rely on friends and family to provide financial assistance when times are bad. Both such benefits listed here might factor into the decision to create or maintain a network relationship (Dasgupta, 2000, p. 380). Those who are most fortunate are those individuals who inherit beneficial network connections or make valuable connections while others may find great emotional satisfaction from their group connections, but there may not be much in the

way of economic benefits deriving from these connections (Dasgupta, 2000, p. 381; Warren et al., 2001, p. 3). One might hypothesize that those living in poverty are much richer in the emotional connections as one would expect these individuals to have used all valuable economic connections to improve their financial situation.

Even so, the less valuable emotional connections can lead to economic prosperity. Research has shown that once one member of a network migrates away from a poor community to the city, others will start to follow. This is because the emotional costs of moving decline as the potential migrant knows that a member of her network is already there and subsequently lowers the perceived burden of moving away from what she knows toward the unknown. Such a theory has been used to explain the prevalence of city mills often employing disproportionate numbers of employees originating from the same village (Dasgupta, 2000, p. 382).

Policy History

C. Cohen (2001) identifies three major points regarding the role of institutions and social capital in improving conditions within poor communities. He first advises placing resources coming from outside the community in the hands of local residents with such resources being used to build upon the existing infrastructure, not tearing it down and starting over. Second, institutions should be aware of the complex nature of social groupings and the influence such groupings have on the control of the community's social capital. Lastly, while government intervention may be a part of the solution, government is not "the" solution. Other institutions, including labor unions, political parties, and banks, are also party to the use of social capital to improve the lives of the poor (C. Cohen, 2001, pp. 275-277). From my perspective, the benefits of drawing

on multiple institutions are two-fold. In the spirit of economic competition, involving multiple institutions, and subsequently a greater number of people, should be a natural check on any play for power by especially influential leaders. Further, the pool of creative solutions and access to social networks should multiply given the greater numbers of people engaged in the end result.

Positive community outcomes result only when people are able to look to their local communities, between their local communities, and outside to organizations with more extensive social ties as well as the corporate sector and macro-level institutions for developmental assistance (Woolcock, 1998, p. 186). According to Woolcock (1998),

The challenge for development theorists and policy-makers alike is to identify mechanisms that will create, nurture, and sustain the types and combinations of social relationships conducive to building dynamic participatory societies, sustainable equitable economies, and accountable developmental states. (p. 186)

Sustainable, participatory and equitable development is in jeopardy if entrenched poverty, discrimination, underemployment, inequality, and lawlessness are present. For these reasons, Woolcock (1998) suggests the nurturing of participatory groups that are given increasing responsibility for their own welfare while also encouraging the development of ties between formal institutions and local communities (p. 187).

At the individual level, rather than remaining in the trap of “surviving,” searching for opportunities outside one’s community may be the critical next step in escaping poverty (Warren et al., 2001, p. 10). Granovetter (1974) maintains that while individuals should be allowed to maintain their personal networks, they should also be encouraged to expand their networks outside the community; the expanded network, or greater bridging

social capital, might then lead to greater economic success. Unemployed and underemployed individuals often have ties to individuals who are also un- or underemployed; these are ties not likely to yield economically valuable job connections. Expanding the network outside the community is believed to expand job opportunities as employers have shown a tendency to hire workers via informal recommendation over the more formal process of hiring unknown individuals through employment offices or direct application (Granovetter, 1974, pp. 136-138).

Women may also be part of the answer as women have successfully brought together neighbors, friends, and relatives to provide support when the existing economic and political conditions have not provided for the basic needs of the poor. By studying the methods women have used to strengthen social ties, policymakers might adopt the most successful methods (Warren et al., 2001, p. 20).

On the community level, greater development of bridging social capital may yield greater resources and opportunities for poorer communities. The different avenues through which policymakers might influence a community's bridging social capital include ties within a poor community, between low-income communities, between poor and more affluent communities, and the connections between individuals and communities on a national level (Warren et al., 2001, pp. 11-12). For some communities, the poor are surviving through participation in informal markets. Plans for the further development of community economies should consider the role of informal economies as well (Pickering et al., 2006, p. 109).

Social Capital and Migration

Related research addressing the influence of family and friends on the migration decision includes articles by Salaff and Greve (2004), Spilimbergo and Ubeda (2004), Levy and Wadycki (1973), De Jong (2000), and Kan (2007). Salaff and Greve (2004) analyze the child care choices of dual-career couples immigrating to Canada from the People's Republic of China (PRC), where the authors pay special attention to the difficulties faced when distance dramatically affects access to social networks. Within Chinese culture, dual-career couples expect and utilize support from family in the raising of their children. This reliance on the family, or social network, as a source of child care services for these dual-career couples does not easily transfer to a different country (Salaff & Greve, 2004, pp. 149-162).

According to Chinese social norms, women are typically responsible for the rearing of children; however, institutional and personal support systems allow for the successful balancing of career and family responsibilities should that be a woman's desire. More specifically, the PRC's family policies support career and family including the provision of child care and nursery school facilities in the city and some state work units; and, as mentioned previously, the family provides valuable child care services as well. In contrast, the provision of child care and other child rearing responsibilities in Canada is primarily the responsibility of the family with little available in terms of public support. For the most part, Canadian women choose between not working or using family, neighbors, or hiring caregivers or nannies to care for their children while continuing paid employment (Salaff & Greve, 2004, pp. 149-162). This presents a problem for Chinese women and families immigrating to Canada who are accustomed to societal and familial support when raising children and working in the private labor

market. The Canadian government is not going to provide the supports necessary to replace the social networks that will not automatically migrate with these Chinese families.

Salaff and Greve (2004) conducted a case-study analysis of 50 couples. Because of the apparent loss of child rearing services when migrating such a great distance, it might be expected that the immigrating couples would compensate with outside, more expensive, alternatives to child care services. It would then be simple enough to conclude that the costs of moving (for example, the monetary costs of changing residence and increased day care costs) were less than the benefits gained from migrating. However, the authors found that 63 percent of the couples used relatives as a source of care for their children, a percentage close to what one would find in China. The parents accomplished the use of their social networks in two ways: (1) sent infants and toddlers to China with the grandparents taking over primary child rearing responsibilities, or (2) the grandparents immigrated to Canada or made use of shorter-term visitors' visas to provide care for the children within Canada. Additionally, neighbors were a source of support, although not the longer-term support provided by others within families' social networks (Salaff & Greve, 2004, pp. 149-162). In this case, parents created alternatives that did not greatly affect the migration decision.

Spilimbergo and Ubeda (2004) conclude that for Blacks in the United States, the loss of family ties when migrating is a major factor when deciding whether to migrate. This is true even when economic circumstances would suggest a move would be beneficial. To measure the effects of family on migration decisions, the authors introduce two proxies for family attachment. The first measure is defined as the

proportion of extended family members living in the same household as a proxy for one's nuclear family. The second measure, a proxy for one's attachment to extended family, is defined as the proportion of extended family members living in the same metropolitan area (Spilimbergo & Ubeda, 2004, p. 479).

Using a panel logit framework, Spilimbergo and Ubeda (2004) estimated three different migration models. The first model was a standard specification, i.e., no family attachment variables were included. The second model added an additional control for family attachment while the third model allowed for the interaction between the family attachment variables and race. The results from estimations using the second and third models showed that family attachment variables had a significant negative effect on the probability of migration for both Blacks and Whites. The third model further revealed that the family attachment effects on migration decisions were significantly stronger for Blacks than for Whites. A last important result shows that while previous research pointed to race playing a factor in the migration decision, once family attachment variables are interacted with race variables, the significance of race disappears. This indicates that while Blacks are less inclined to move in comparison to Whites, it is more specifically Blacks' greater attachments to family that is the important factor (Spilimbergo & Ubeda, 2004, pp. 486-488).

Internationally, Levy and Wadycki (1973) measure the influence of family and friends on the migration decisions of Venezuelans. Using a stepwise ordinary least squares multiple regression model, the control variable of interest here is the migrant stock variable. This variable measures the influence of family and friends who have previously moved on one's current migration decision. In this case, it is not that family

and/or friends are a restricting factor on migration decisions, but instead family and friends provide information to potential migrants. Levy and Wadycki (1973) find that a one percent increase in the migrant stock variable leads to a 0.626 percent increase in current migration from a shared place of origin to a specific location where family and/or friends have already moved. This result supports the hypothesis that previous migration provides valuable information to potential migrants. The authors explain the result as indicating that valuable information and communication channels are being provided by family and/or friends already located in that area that may not have developed without the presence of family or friends. This factor will be more important in those areas where sophisticated channels of communication are absent (Levy & Wadycki, 1973, pp. 198-201).

Using a slightly different approach, De Jong (2000) focuses attention on the role of expectations, gender, and social norms in an individual's migration decision. Gender roles and family norms are specifically considered as they apply to migration decisions made by men and women. Theoretically, the model is developed such that social norms and gender roles are significant predictors in the translation of expectations into intentions and subsequently, behavior (De Jong, 2000, pp. 307-309). Here, family affects migration decisions not through direct influences on migration costs or benefits but through socialization processes. The intent of my research is to analyze resulting migration patterns as they relate to specific family and financial characteristics, but familial and societal socialization processes represent effects of family on migration decisions nonetheless. De Jong's (2000) empirical results are discussed below.

De Jong (2000), using data from rural Thailand, estimates his results using multinomial regression analysis. The empirical evidence supports the importance of intentions on permanent (as opposed to temporary) migration decisions. Expectations of future locations fulfilling individual/family goals and lower satisfaction with the current location are both key indicators in the formation of both men's and women's migration intentions. Further, migration experience and the proxy variable representing labor force transfers also figure as statistically strong predictors of migration intentions and ultimately, action. Interestingly, the usual variables explaining migratory intentions, including education, household income levels, community, and land-ownership variables are no longer statistically significant when expectations, satisfactions, and gender roles are included in the model (De Jong, 2000, p. 317). This might then suggest that the usual variables were previously picking up the effects of expectations, satisfactions, and gender roles and are not, in and of themselves, significant predictors. In terms of family influences, there appears to be further evidence that families do, in fact, influence migration decisions, although the effect discussed within De Jong's (2000) research focuses on roles and norms instead of the psychological and financial costs that are discussed earlier as influencing migration behavior.

Recent research by Kan (2007) theorizes the potential for social capital (more specifically, social networks) to influence families' migration decisions. Kan reasons that since households look toward their social networks for both financial and emotional support, when moving away from one neighborhood toward another, there is the potential for households to lose this support. A move that might normally be made based on the typical comparison of wages and differential costs of living in each location now includes

a social network aspect. Also, applying the logic in reverse, a family's incentive to accumulate a valuable social network will be affected by families' tendencies, or plans, to move in the future (Kan, 2007, p. 437). Using the 1980 wave from the Panel Study of Income Dynamics (PSID), descriptive statistics indicate more than three-quarters of households having individuals nearby to provide help, specifically time, during periods of distress; 80 percent of the households classified the helping individuals as relatives (Kan, 2007, p. 444). Kan uses this information to approximate the effect of spatially available social ties on the migration decision.

His empirical results indicate that "the availability of emergency assistance to a household from someone living nearby does deter a household from moving" (Kan, 2007, p. 454). The effect is more significant in its effect on long-distance moves versus the insubstantial effect on shorter-distance moves (Kan, 2007, p. 454). These results address the general question being asked within this research, and the results follow what might be hypothesized, i.e., poor families are less inclined to migrate if they rely solely on the assistance of nearby family and friends in times of emergency. Where my research differs from Kan's (2007) work is the focus on social capital's effect on the mobility of welfare-susceptible families. The tendency, as reported by Kan, to remain near family and friends can effectively work against the goals of welfare reform in that poor families, no longer able to rely on a government-supplied safety net, must stay in economically depressed areas because of the safety net now solely provided by nearby family and friends. Whereas the goal of welfare reform is to push families into making the work decisions to become self-sufficient, immobility may be the unintended result.

Consequently, it is reasonable to hypothesize that the potential loss (or gain) associated with migrating will include changes in a family's social network via any or all of the channels cited above. I argue that family influences migration decisions via monetary child care costs and/or benefits associated with moving away from or moving nearer to family. Specifically, I hypothesize that there will be those circumstances when families face a high cost of moving away from family if they are currently using relatives to provide care for their children. Others will see significant monetary benefits from moving closer to family for help with child care costs. The statistics indicate that relative care is currently being used by a significant number of families with young children (e.g., Brauner & Loprest, 1999). Further, moving to center-based care or arrangements other than relative or parent care is hypothesized to be financially difficult for at least a subset of families. Thus, it is hypothesized that family proximity will affect families' migration decisions.

TANF, Migration Tendencies, and Cultural Effects

Political rhetoric often conjures up the vision of a steely independent individual who strives to succeed against all odds. The argument goes something like this "If the financially (and morally) poor welfare recipients would only redirect their energies away from living off those who play by the rules and instead look within themselves for their own independence, employment would quickly follow and all would realize the American Dream." Just because a welfare recipient actively seeks employment does not mean he/she will find it within a given location, however. In rural areas specifically, the potential for self-sustaining employment can be quite meager. Relocating to obtain financially viable employment may well be one of the only alternatives to being on the

welfare rolls. This section highlights the cultural and social effects associated with greater migration tendencies that TANF's lifetime limit may induce. Further, if migration is not a widespread phenomenon, in spite of no available work and families approaching their 60 month limit, is a pro-migration policy a worthwhile policy recommendation?

Children and Mobility Effects

The children are our future, as the saying goes, and the socialization process plays an integral part in shaping the adults of tomorrow to be responsible, hard-working, and non-welfare-collecting citizens. According to Haskell and Yablonsky (1970), three main social institutions provide the majority of the socializing of our nation's youth. The institutions include family, friends, and school with family steadily losing its importance in the socialization process while peer networks and school environments are gaining influence (Haskell & Yablonsky, 1970, pp. 295-296). Greater mobility among welfare-susceptible families will almost surely influence the socialization of children as many such families include at least one preschool- or school-age child. Further, the residentially stable children will see their neighborhoods, and possibly networks of peers, affected any time a new family moves into or out of the area.

Researching the effect of mobility on families' social networks (regardless of welfare status), Larner (1990b) evaluated changes in networks as they pertained to the six-year-old children of African-American, White and Swedish movers. Hypothesizing that the more mobile children would suffer because of having to interact with new day care workers, school teachers, school classmates and neighbors and their children (e.g., Jalongo, 1994/1995, p. 81), Larner (1990b) explored whether six-year-olds' social

networks had fewer and less extensive ties with neighbors than residentially stable children. Interestingly, she found that, regardless of the family's mobility status, six-year-olds had fewer adult neighbor-based social ties than anticipated. Instead, neighbor children played a relatively more significant role in the social network of the six-year-old, no matter the child's mobility status (Larner, 1990b, p. 215). However, when evaluating mobile versus stable children, the more mobile White American and Swedish children had neighborhood peers playing a more active role in their social networks than the more stable children (Larner, 1990b, p. 216).⁹

The author hypothesized that the difference arose because the mobile families were moving, at least in part, because the mother viewed the move as a move to a "better" neighborhood, including better schools, neighborhood hangouts, and trustworthy neighbors. In such cases, the mothers would have likely encouraged the development of ties with neighborhood children. Additionally, the age was significant in that six-year-olds in United States and Sweden were entering kindergarten making the formation of connections with local children easier (Larner, 1990b, p. 216). Depending on the neighborhood, however, ties never developed because of financial or social stresses within the neighborhood or the temporary nature of the moves into the neighborhood (Larner, 1990b, p. 217). For the welfare-receiving family trying to meet work requirements by moving, such ties could have been one way for families to plug holes in the safety net made weaker by welfare reforms, but if financial stresses prevent the formation of beneficial ties, even more importance is placed on finding financially stable employment.

⁹ For those members of the African-American sample, there was no difference between the mobile and stable children's social networks (Larner, 1990b, p. 216).

Residential mobility among families is also believed to contribute to academic problems. Children of families with both biological parents present do not typically suffer from the school problems; on the other hand, mobile children of all other family structures do face a greater probability of difficulties in school (Tucker, Marx, & Long, 1998, p. 111). Using NHIS data, Tucker et al. (1998) address the question of why children of families other than the typical mother-father household experience negative school outcomes as a result of greater residential mobility (p. 125). It is believed that the psychological distress of moving is disorienting to children and manifests itself in school. Teenagers are believed to be especially affected because of the loss of old friends and the difficulty in making new friends post-move (Tucker et al., 1998, p. 113). Coleman (1990) proposes the negative effects on children's intellectual development derive from disruptions in family and community networks that shape and guide children's behavior (pp. 590-597). Tucker et al.'s (1998) results only partially support Coleman's (1990) social capital-human capital theory; otherwise, all children (including the children of traditional married mother-father families) would experience negative educational effects.

Alternatively, Hagan, MacMillan, and Wheaton's (1996) study of migration's effects on children, social capital and educational attainment generally support Coleman's (1990) social capital theory. Migration has negative effects on one's path through life primarily through its negative effects on educational attainment, although it is not clear that the effects extend beyond early adulthood. Interestingly, regression analysis points to positive correlations between mothers' involvement in children's lives and high school graduation rates, college completion rates and occupational achievement

(Hagan et al., 1996, p. 378). This correlates with Buerkle's (1997) assertion that families are critical in the provision of the support and structure necessary for children to succeed academically (p. 107).

Further, focusing on low-income, high risk and highly mobile families, Buerkle (1997) found more residentially stable elementary school children scored higher in math but no significant differences were found in reading scores. More residentially stable children reported better school attendance while mobile children with average attendance achieved higher scores in reading than similar children with good or poor attendance. Aside from the academic and mobility correlations, geographically stable children were found to handle independence, separation, playing and relaxing more competently than mobile children. Behaviorally, mobile children had a tendency to be shy, withdrawn, or difficult to control; teachers anecdotally attested to the negative effects of greater mobility by citing a negative effect on the psychological or social competence of mobile children (Buerkle, 1997, pp. 93-101).

Juvenile Delinquency and Mobility Effects

Haskell and Yablonsky's (1970) research suggests living in high-delinquency areas makes it more likely children will participate in juvenile delinquent behavior. Further, unless parents actively influence their children's choice of friends and prepare their children for successful school experiences, the children's futures are in jeopardy (Haskell & Yablonsky, 1970, p. 300). Unfortunately, welfare-susceptible families are at risk of living in high-delinquency neighborhoods with parents less likely to take the time (or have the time) to positively influence choice of friends or have the skills to help their children succeed academically. Assuming high-delinquency areas offer few good

schools from which to choose and further combine this with the lower likelihood of poor families successfully preparing their children for success in school, and the school experience is sure to be frustrating for a significant number of children. Haskell and Yablonsky (1970) write, “The fact that almost every delinquent has a record of poor achievement, truancy, or both suggests a serious failure of the school to meet his needs” (p. 301). Parent-child relationships and ties to friends and the community might work to keep the children in school and out of trouble, but greater residential mobility among lower income families likely lessens the impact of such ties, as indicated by Lerner’s (1990b) research.¹⁰

Haynie and South’s (2005) research points to the correlation between greater residential mobility and juvenile delinquency; specifically, greater mobility can spur higher crime rates and greater incidents of violence among adolescents (p. 373). Using data from the National Longitudinal Study of Adolescent Health, the authors show a greater likelihood for mobile youth to come from welfare-receiving as well as broken families (Haynie & South, 2005, p. 369).¹¹ They further find that more mobile youth exhibit a significantly higher mean level of involvement in violent activities than non-mobile youth. Friends of recent movers also report greater involvement in violence (Haynie & South, 2005, p. 369). The analysis of the data suggests that recent movers are more likely to be friends with more violent adolescents. Associating with deviant peers is correlated with increased rates of violence overall (Haynie & South, 2005, p. 373).

¹⁰ On the other hand, encouraging poor families to relocate in search of employment might lead to moves to wealthier neighborhoods and better schools, which may open new doors for at-risk children.

¹¹ The survey’s families were interviewed starting in late 1994 with second and third rounds of interviews completed by the end of 1996 (Haynie & South, 2005, pp. 365-366). Given that major reforms to welfare were passed only in 1996, the survey’s results should not be interpreted as reflecting changes in mobility incentives deriving from such reforms.

What appears to be most interesting about Haynie and South's (2005) results, however, is the lack of evidence supporting the hypothesis that greater residential mobility leads to higher rates of violence and crime because of an absence of influential social ties to friends, family, and neighbors. It is commonly believed that greater mobility destroys old social ties, which then leads to mobile adolescents' isolation and greater proclivities for violent and criminal behavior. What the authors find instead is that it is not the absence of these social ties but the characteristics of the new peer group that influences the violent behavior. Contrary to expectations, the parent-child social capital measure does not show any significant influence on adolescent violence (Haynie & South, 2005, pp. 372-373).

Male and Female Differential Effects of Mobility

Residential mobility may also be evaluated according to the differential effects experienced by women as opposed to men; evidence suggests that residential mobility does have differential effects. Specifically, Butler, McAllister, and Kaiser (1973) study the effects using a national residential mobility survey (p. 219). It is hypothesized that residential mobility contributes to mental disorders because moving prevents enduring social relationships and connections with others (Jaco, 1959, p. 401). Butler et al. (1973) find that both voluntary and involuntary stayers as well as involuntary movers are all more likely to report poor physical health than voluntary movers. On the other hand, females who move are more likely to report mental disorders than moving males; no statistical differences are found when measuring levels of unhappiness among males and females (Butler et al., 1973, p. 225).

Using the same survey to address slightly different questions, McAllister, Butler, and Kaiser (1973) find that women react, for a limited period of time, to a recent relocation by increasing their interactions with others. These same women are also much more likely to experience neighborhood visits than those who had not moved. The period of heightened interaction is thought to help women develop new social contacts, although once the contacts are established, the interaction tapers off and the women settle into a new social life (McAllister et al., 1973, pp. 202-203). McCollum (1990) finds that it takes movers six months to feel comfortable in their new surroundings, including being able to find and navigate the local grocery stores, libraries and schools. Some find the adjustment period to be more enjoyable than others, but McCollum (1990) finds the newly acquired information to be a “significant element in beginning to feel at home” (p. 117).

In effect then, moving can confer positive as well as negative effects. According to McCollum (1990), “Clearly, moving can stimulate personal growth. It can contribute to a richer inner life and a clearer sense of self” (p. 290). Movers’ self-confidence is further strengthened when, in the midst of finding the local dry cleaner, for example, she learns something new about the neighborhood that she can pass on to the more settled neighbors and friends (McCollum, 1990, p. 117). When applying these findings to the welfare population, concerns arise. For example, will welfare families have the same time available to make such discoveries? Further, if the time is available, will the families have the same relationships with neighbors to acquire the self-confidence detailed by McCollum? If the answers to either or both of these questions is no, then

states' TANF caseworkers might look to develop resources to help welfare families take advantage of such benefits of moving.

An interesting question raised (although not answered) by McAllister et al. (1973) was how women who were left behind coped with the change in neighborhood composition (p. 203). Larner (1990a) was surprised to find that of the social ties that were dropped or lost over a three year period for her sample families, almost 40 percent of those ties were not lost because the sampled family moved away but because the other person left for personal, work, or other reasons. Another 22 percent of the dropped ties were the result of the family initiating the change in social relationships with another 33 percent of the ties disconnected because the costs of such social relationships were greater than the benefits derived (Larner, 1990a, p. 203). The point is appropriately made that even residentially stable individuals will likely experience the instability of social ties over their lifetimes; just because an individual desires a relationship with another does not make the relationship so (Larner, 1990a, p. 204).

Using network turnover (the percentage of relationships lost in an individual's network over a period of time) as a measure of network change, Larner (1990b) found residentially stable White American and Swedish women to have lower network turnover rates than their more residentially mobile counterparts in the survey. Neighbors were the least stable of the social ties for both White Americans and Swedes, although African-American women's mobility did not affect the number of neighborly ties. While the more mobile women experienced a greater percentage of relationships dropped, these same women actively sought to acquire new social ties thereby keeping the actual number of relationships intact. Moreover, many of the women focused on the positives associated

with their new social ties; this was similar to the positive results seen for their six-year-olds. Lerner (1990b) notes, however, that the women in the study were not moving long distances and, further, viewed the move favorably (rather than being forced to move because of poor housing conditions, for example). The women were not replacing relationships with relatives and often viewed the chance to meet new people as a positive development (Lerner, 1990b, pp. 217-219).

Single mothers, in particular, were found to have relatively high rates of turnover among their social ties. This was, in part, attributable to single mothers seeking relationships with others in similar situations, and the instability of single mother families contributed to the higher turnover rates. For the 26 single mothers participating in Lerner's (1990a) study, all experienced turnover rates of over 50 percent among nonkin social ties. Relative ties, in contrast, were long-lasting and reliable sources of support (Lerner, 1990a, p. 204). As explained previously, for the welfare population, specifically, while child care provided by relatives may involve some cost, it usually costs significantly less than other child care options. Relative ties are, therefore, extremely important to this particular population for likely psychological and financial reasons. It is to be expected, then, that welfare families will work especially hard to maintain relative ties.

While relative ties may be more stable, social relationships are more volatile and single mothers will be well-served by developing the skills to rebuild social networks whether it be because she made the choice to move or a non-kin relation leaves the area. As discussed earlier, such social ties not only offer psychological and emotional benefits but possibly connections to potential employers and higher wages (e.g., Granovetter,

1974; Pickering et al., 2006; Warren et al., 2001). Larner (1990a) recommends that mothers cultivate the ability to end draining relationships, emotionally release relationships that are not ending by choice, create new relationships, and generate beneficial relationships with reciprocity (p. 204). Not directly answered by either Larner's (1990a) or McCollum's (1990) work is how the movers' new friends and neighbors reacted to the changes in neighborhood composition. The same tie-cultivating techniques may well serve the friends and neighbors experiencing turnover in their neighborhoods.

In summary, for those women who make it through the depression and anxiety associated with moving, new energies are available to foster new friendships and relationships as well as complete new tasks and build self-confidence when successfully creating a feeling of home. On the other hand, depression and the losses associated with moving (e.g., familiarity with neighborhoods, close friends and family) can be such that little energy is left to complete the necessary tasks of raising children and re-creating a home (McCollum, 1990, p. 290). Only half of privileged movers, i.e., those who are educated, intelligent, and financially stable, in McCollum's (1990) study feel a sense of connection to the community within two years after moving (p. 291). Applying these results to single mothers with young children who are moving to meet TANF's work requirements, the adjustment process may be expected to be longer and more arduous. A woman's sense of security and dignity are tested following a move with many movers experiencing psychological homelessness (McCollum, 1990, p. 292).

Family versus Community Effects of Mobility

While some women and children were seemingly unaffected by their moves, Swedish sociologists noticed a difference in residential mobility's effects on the individual family versus the community. As translated by Lerner (1990b), Björnberg, Bäck-Wiklund, Lindfors, and Nilsson state:

If mobility is high, it is hard to create lasting relationships within the neighborhood. . . The creation of local cultures in new communities is a slow process. This need not imply, however, that all individual families who have moved live in isolation, since many "commute" back and maintain relationships where they lived before. It does mean, however, that local cultures which serve as safety nets and provide social control, social norms, and shared value systems do not develop" (pp. 228-229).

As discussed earlier, Stanfield (1984) describes the cost of increased mobility as including more superficial friendships and, subsequently, a less stable working-class community (p. 26). Therefore, not only is the individual affected by residential mobility, then, but also the remaining neighbors, friends and communities.

Policy Recommendations for TANF Administrators:

With self-sufficiency being welfare reformers' ultimate goal, the welfare-susceptible population should prepare itself for the eventual leaving behind of familiar institutions and relationships to find the employment necessary to make self-sufficiency a reality. Given the evidence presented previously, the adjustment to a new neighborhood and employment is not without its difficulties. These difficulties not only affect the families having just moved but also the neighbors and school children left behind as well as those in the new neighborhoods and schools. Welfare policy discussions do not, typically, address the necessity of moving and how best to help families make the

financially and psychologically beneficial social connections to reinforce self-sufficiency. Researchers have proposed policies that focus on the creation of strong social connections that may be successfully used to further support current or former welfare recipients making the move to self-sufficiency.

The conditions under which a woman moves may influence her ability to effectively adapt to the new circumstances; the more control over her decision to relocate, the more successful she is at accommodating the change in residence. On the other hand, it is more likely for poor women to move under duress. In such cases, having a sponsor is recommended as one way to lessen the stress of adjustment by pairing one mover with another to discuss and discover new ways to meet life's challenges in a new location. A sponsor may not be possible, and for those mothers on their own, McCollum (1990) describes the process of making friends as a form of work. Women should be cognizant of the major gathering places, such as playgrounds, farmers' markets, or libraries as potential places to make new social ties. Finding employment is thought to be helpful in the process of mourning the loss of friendships, not just because of the potential to forge new friendships but because working generates a sense of accomplishment and offsets the sense of mourning (McCollum, 1990, pp. 284-289).

It may be concluded that greater mobility among the welfare susceptible population can be a positive development from both the perspective of societal welfare as well as the economy. Moving to take the jobs that are open rather than languishing in economically depressed areas is economically beneficial to the family. Further, many women find self-confidence is a positive by-product of migration where the ability to build a new "home" and navigate a new community and its culture and institutions

demonstrates to the women their own abilities that they may have previously discounted. While some believe migration negatively influences educational attainment of more mobile children, others point to the research that suggests that the family structure is more influential than the actual act of moving. If the neighborhood is an improvement over the prior area of residence, the schools and social ties may improve educational and financial outcomes.

However, migration has its negative influences as well. Migration can lead to greater rates of juvenile delinquency. For students new to a school district, there is a greater likelihood that the students find a place within the more alienated and delinquent crowds. For the mothers, migration can be especially difficult because of the depression that sometimes follows a move. For those cases where migration is not a “choice,” the adjustment can be more difficult. Also, neighbors that see more movement in and out of the neighborhood are less likely to develop the relationships that have typically informally policed and shaped the development of the local youth. For those women who need affordable, reliable and trustworthy daycare, moving can remove one alternative, the relative or close friend or neighbor. Relatively short distance moves may be enough to eliminate such alternatives thereby bringing expensive daycare centers or less-reliable (or at least unknown) in-home daycare facilities to the forefront. While the research presented previously does not focus exclusively on the welfare-susceptible population, much is relevant to the discussion of welfare policy while keeping in mind that those receiving (or at risk of receiving) welfare face different constraints, especially when it comes to affordable quality daycare and the time necessary to meet TANF’s work requirements while also trying to foster new social ties and self-confidence.

Welfare Receipt and Migration

There appears to be widespread fear among politicians and within some economic circles that states choosing to offer relatively generous benefits as a part of their welfare programs will draw hordes of individuals from all across the country (not to mention other countries) to their benevolent states. Within the welfare literature, this phenomenon has been labeled the “welfare magnet” effect. More specifically, Allard and Danziger (2000) define a welfare magnet as “a state or locale whose policies attract poor migrants and/or retain a high percentage of its own poor” (p. 350). Subsequently, many policies have been proposed or enacted with the purpose of reducing welfare benefits to reduce the supposed welfare magnet effect. PRWORA was designed, in part, to mitigate possible welfare magnet effects. PRWORA allows a state to treat recent out-of-state migrants applying for TANF assistance differently than long-time state resident applicants for up to the first twelve months of residence in the new state. States may alternatively opt to apply the former state’s rules and benefit levels when determining welfare eligibility for recent out-of-state migrants (Schram & Soss, 1999, p. 39).

The welfare magnet hypothesis is based on three assumptions, as described by Schram and Soss (1999). The first assumption is an incentive assumption. States’ welfare benefits must be assumed to vary to such an extent that welfare recipients will respond to the financial incentives by moving across state lines. The second assumption, labeled as the salience assumption, has to do with the importance of differing levels of welfare benefits; while other factors will figure into the migration decision, the magnitude of states’ welfare benefits is assumed to dominate all other factors. The last assumption, a behavior-based assumption, employs the typical rationality assumption.

Welfare recipients are assumed to act as rationally as other economic participants (Schram & Soss, 1999, p. 40).

Several articles have analyzed empirically the welfare magnet hypothesis. Peterson and Rom (1990) offer much cited evidence in support of welfare benefits influencing families' migration decisions. They found that states offering "high welfare benefits [had] a poverty rate 0.9 percent higher than a state providing low benefits" (Peterson & Rom, 1990, p. 79). While a number of factors determine a state's poverty rate, Peterson and Rom attributed the increase in poverty to an increase in migration rates by comparing the change in poverty rates to the corresponding changes in racial composition due to changes in welfare benefits. Because changes in racial composition have been attributed to migration, it was hypothesized that poverty rate changes were the result of migration as well (Peterson & Rom, 1990, pp. 79-80).

An interesting historical event provides evidence against the welfare magnet hypothesis. Kyle D. Kauffman and L. Lynne Kiesling (1997) identified a natural experiment from the nineteenth century. Before 1878 both Brooklyn and New York City offered similar welfare programs called "poor relief." Starting in 1878, however, Brooklyn eliminated the outdoor poor relief part of its program, leaving only the less desirable indoor relief. New York City continued its full program, including indoor and outdoor relief. Kauffman and Kiesling (1997), looking to confirm the welfare magnet hypothesis, analyzed migration patterns from Brooklyn to New York City. They hypothesized that because New York City was in such close proximity to Brooklyn, and because New York City offered a more favorable poor relief program, the level of

spending on outdoor relief in New York City should have increased (Kauffman & Kiesling, 1997, p. 439).

Analyzing actual spending patterns in New York City, however, the evidence was contrary to what the welfare magnet hypothesis predicted. Post-1879, New York City actually spent more, in percentage terms, on its indoor relief program and, therefore, less on its outdoor program. This is taken as evidence against the welfare magnet hypothesis because, if Brooklyn residents were moving to New York City for better poor relief benefits, the percentage of funds spent on outdoor relief should have increased, not decreased. The argument was that Brooklyn residents would not have migrated to New York City to take advantage of its indoor relief program, because Brooklyn was offering an indoor relief program of its own. Kauffman and Kiesling (1997) speculate that it is possible for someone to have moved to New York City intending to make use of the outdoor relief program but for that person to have been turned down and forced to choose the indoor relief option instead. In analyzing the poverty rate post-1879, the lack of an increase is used as evidence against this speculation (Kauffman & Kiesling, 1997, p. 439-448).

Both the Peterson and Rom (1990) and Kauffman and Kiesling (1997) studies utilize non-econometric techniques to uncover evidence regarding the welfare magnet hypothesis. Several econometric studies of the hypothesis have been undertaken. Phillip B. Levine and David J. Zimmerman (1999) use a quasi-experimental design to estimate results applicable to the welfare magnet question. Evaluating their results, they offer little evidence that “those women most likely to be candidates for AFDC move in a pattern consistent with the welfare magnet hypothesis” (Levine & Zimmerman, 1999, p.

407). Specifically, in comparing these women with the AFDC ineligible poor population, they are no more likely to move from low benefit states to high benefit states. The authors suggest there are other factors which influence a migration decision or that the cost of moving is too high even when compared with the higher welfare benefits gained (Levine & Zimmerman, 1999, p. 407).

Enchautegui (1997) uses data from the 1980 Census of Population to analyze the migration decision. She specifically focuses on the female population by modeling a woman's individual decision to migrate as influenced by welfare payments, wages, and employment opportunities. Migration models are estimated for demographic groups including single mothers, low-educated women, Anglos, African-Americans, and Puerto Ricans (Enchautegui, 1997, pp. 530-531). She finds that (1) single mothers with children and those on public assistance are more likely to migrate for welfare reasons than are other groups; (2) nonmarried women and those with no recent work experience are also more likely to migrate for the same reason; and (3) single Anglo mothers show greater responsiveness to welfare benefits than either African-American or Puerto Rican groups. This could be related to Spilimbergo and Ubeda's (2004) results that African-Americans are less likely to move because of the high costs associated with moving away from family. Ultimately, Enchautegui (1997) finds strong evidence supporting the welfare magnet hypothesis, contrary to Levine and Zimmerman's (1999) research (Enchautegui, 1997, p. 549).

Gramlich and Laren (1984) also found convincing evidence of the welfare magnet hypothesis. Using a transition matrix technique, they solve for the equilibrium distribution of those on welfare for differing levels of benefits across states and compare

this distribution with what would occur if all states paid the same benefits. What results is an estimate of the sensitivity of migration to benefit levels. The estimate shows that benefit levels influence migration, though migration only adjusts sluggishly. Gramlich and Laren go on to say that state legislators are aware of this phenomenon and adjust welfare benefits accordingly. For this reason, the authors recommend that the national government set benefit levels rather than the states (Gramlich & Laren, 1984, pp. 489-510). With passage of PRWORA, this was not the policy followed, however. In fact, a key feature of PRWORA was the implementation of the block grant so that states would have greater flexibility in reforming their own welfare programs.

Using multivariate analysis, Allard and Danziger (2000) analyze the incentives for interstate migration of single-parent families and examine the relationships between demographic characteristics of migrants and state differentials in welfare benefits. They find that there is a tendency for higher welfare benefits to induce the poor to remain in the state, although the effect is rather insignificant; a 10 percent increase in welfare benefits leads to a 0.1 percent reduction in the probability of moving. They also find that individuals who reside within counties where the largest city reports a population of less than 100,000 people are more likely to move than others. Single-parent households are less likely to move if relatives are located within the state, and welfare recipients are no more likely to move than those not receiving welfare. In terms of demographics, White single parents are more likely to move than non-White counterparts; these results seem similar to what Enchautegui (1997) found and what Spilimbergo and Ubeda's (2004) results would predict. Allard and Danziger (2000) use OLS regression analysis to find that the difference in welfare benefits when welfare recipients move is actually a negative

\$60, meaning that those who move actually see a decline in welfare benefits (pp. 350-368). Hence, in contrast to Enchautegui and Gramlich and Laren, this is evidence against the welfare magnet hypothesis.

The last study discussed finds evidence of welfare-based migration, but its magnitude is not of much significance. Bruce D. Meyer (1998) appears to correct for many statistical biases found in the results of the studies above. Specifically, he points out that there are endogeneity problems when analyzing participation in welfare as well as migration. This problem can lead to biases that lead researchers to conclude incorrectly that migration is significantly influenced by welfare benefit levels. For example, Meyer predicts Gramlich and Laren's (1984) estimates are likely biased upward. Enchautegui's (1997) results are also predicted to be biased in the same direction. Levine and Zimmerman's (1999) results should actually be biased downward, but Meyer expects that the bias is likely small (Meyer, 1998, pp. 1-7). It is worthwhile to keep such proposed biases in mind when evaluating these results.

Meyer (1998) proposes to fix the bias problem by dividing the United States into high and low benefit regions and examining the interregional migration. In addition, he deviates from this model by dividing the country into nine regions of contiguous states and examining the migration effects under these new divisions (Meyer, 1998, p. 9). Ultimately, Meyer (1998) finds statistically significant evidence of welfare-induced migration, but the effect is not large in magnitude. For example, less than two percent of high-school dropout single mothers move because of higher welfare benefits. Further, the long run effects are only twice as large as the effects over a five-year period. Meyer

(1998) concludes state governments are misdirecting concern when altering benefit levels to lessen the impacts of migration (p. 30).

Policy History and Policy Recommendations

TANF Policies

More generally, proposed changes to the TANF program have included the limited extension of time limits in times of increasing unemployment rates or allowing former TANF recipients to earn credit toward future eligibility if they meet a set of certain requirements including working for pay yet being ineligible to receive unemployment benefits. Another policy would actively seek to improve the quality and stability of employment for the TANF-susceptible population through its focus on job training, placement and retention services along with funds to expand individuals' skill sets. However, it has been shown that once employed, it is difficult for low-income families to cover the expenses of working and programs propose to aid individuals in retaining employment. Proposals include helping families find and pay for child care services as well as their transportation to and from work. Many of the above policies are applicable to the low-income population as well (Peterson, 2000, pp. 523-524). What is not typically suggested, although recommended here, is the encouragement of welfare recipients to move toward employment. This would have to entail more numerous and larger child care subsidies for those who lose the help of family and friends post-move.

Migration Policies

A first attempt at influencing migration patterns was the Homestead Act of 1862; this act introduced the concept of zoning laws (West, Hamilton, & Loomis, 1976, p. 66). When formulating modern migration policies, West et al. (1976) emphasized the

importance of possible resulting effects on the development of future family and cultural ties stressing the need for a more interdisciplinary approach when suggesting policy (p. 67). In terms of “quality of life” and individual welfare, migration policies focused on the ending contribution to both the individual’s and the society’s well-being. Individuals may migrate to improve their private well-being; however, there is an external effect on the population’s distribution, and this may lead to significant changes in the community. One individual decision may result in the future movement of those original members of the affected community who value a less-populated community and who now see greater population concentration (West et al., 1976, p. 72).

Other policies have focused on encouraging migration among a population that has not shown a tendency to move to areas offering greater opportunities. Cunningham and Sawyer (2005) argue that “for many families, moving from a bad neighborhood to a good one may be the first step toward self-sufficiency and wider opportunities” (p. 1). Evidence validates the hypothesis with families living in lower-poverty neighborhoods experiencing lower levels of violence, better housing, and improvements in mental health (Orr et al., 2003, p. xvi). If such benefits result from moving, altering the welfare-susceptible population’s incentive to move may be a viable policy.

One example of such a policy is the Housing Choice Voucher Program. This program has been effective in helping families move; however, there continue to be a number of barriers discouraging the migration of voucher program participants. First, not all landlords are willing to accept the vouchers. Second, the participants themselves decide to limit their search for housing to those neighborhoods where they think the landlords will accept the vouchers or the neighborhoods that are familiar to them. Lastly,

the voucher holders face discrimination because of their race or their children (Cunningham & Sawyer, 2005, p. 1).

Buerkle (1997) highlights the highly mobile family's need for additional resources and assistance in developing the social capital that highly mobile families report as lacking (p. 99). Schools and communities should be prepared to assist not only the children, but their families as well. Adult family members must adapt to the new physical surroundings while children must take on the social challenges of making new friends and communicating with important, but unfamiliar, administrators. All family members are faced with the emotional responses to moving, including loss and uncertainty (Buerkle, 1997, p. 105). School psychologists are believed to best serve children and families who have recently moved by helping all involved focus on resiliency in the face of adversity and making the most of the family members' abilities. Because the family is crucial in providing the structure and support for children to succeed academically, the community's role in assisting mobile families should pay dividends when evaluating children's academic, social, and behavioral accomplishments (Buerkle, 1997, p. 107).

Social Capital Policies

From the perspective of national economic policy, greater levels of social capital improve the potential for economic development. Social capital can be important in the procurement of both economic and political resources. To increase levels of the social capital important to economic development, communities would do well to participate in strategic planning, identify assets and liabilities belonging to the community, and include community members and organizations in the prioritizing of community goals. More

specifically, social capital's role in economic development can be tied to its enhancement of financial assets and organizational capacity (Gittell & Thompson, 2002, pp. 120-121, 124).

Social capital, in itself, may not be the answer to successful economic development within low-income communities, as it cannot replace the presence of economic and political resources. On the other hand, without social capital, in the form of strong community institutions for example, corporations have taken advantage of weaker communities, through the use of the media and marketing, to influence social trends within low-income communities to the benefit of the corporations but not to the communities. The possibility of low-income communities building up their social capital and institutions for the betterment of the community can be difficult given the tendency for society to emphasize the individual over the community. Further, there is no guarantee that these stronger community institutions will lead to positive outcomes (Gittell & Thompson, 2002, p. 133). As was noted previously, the strengthening of social capital can lead to power struggles with the noble goals overshadowed by the fight for the power to be gained. However, it seems more realistic to believe that the presence of social capital lends itself to more positive outcomes than if it did not exist at all.

Migration Models

This section reviews articles which have either modeled migration decisions solely or whose econometric models include a migration decision. For the latter group of articles, I focus on the migration components of their models.

Davies, Greenwood, and Li (2001) focus on migration between states. They propound the advantages of using a conditional logit approach to estimating migration

equations versus the empirical techniques used in previous research. Some problems with past research include the failure to properly address alternative destinations as studies usually reduce all alternative destinations down to just one alternative in the choice set or if alternative destinations are considered, the present location is not an option. While these models have contributed much to the identification of reasons individuals migrate, Davies et al. (2001) argue that a better understanding can be obtained by using a conditional logit model. The benefit of using such a model is that it has the capability to include all alternative destinations and the present location as a part of each individual's choice set (Davies et al., 2001, pp. 337-338). More specifically, by being able to include the alternative of not moving, one is able to measure the unobserved difference between moving and not moving (Davies et al., 2001, p. 341).

Davies et al.'s (2001) research utilized aggregate state-to-state migration flow data within an individual utility maximization problem using a random utility model. Unlike the multinomial logit model, the conditional logit model restricts the regressors to choice-specific attributes with no accounting for individuals' characteristics that may affect migration decisions (Davies et al., 2001, pp. 338-339). Given that the authors did not have data on individuals' characteristics, the conditional logit model seems appropriate in this case. There are, however, problems with using the conditional logit model as the authors have presented it, and these are identified and discussed below.

First, there is a problem in the sense that individuals will usually view differently a choice to move to a particular state depending on where the individuals are presently located. This is considered similar to an individual characteristic affecting the migration decision; this is something that the conditional logit model is not capable of addressing.

By using relative measures of attributes between the potential new states of residence and the origin, the authors suggest this addresses the problem by representing migration choice as a comparison of the origin with potential destinations. Second, because of the inclusion of a set of choice dummy variables measuring state fixed effects such as states' amenities, there are a large number of parameters, which causes convergence problems. The authors address this problem by combining states and specifying state-group fixed effects. Lastly, the conditional logit model requires that the Irrelevant Alternative (IIA) property is satisfied, and the authors conducted tests finding that the IIA property could not be rejected (Davies et al., 2001, pp. 339-340). The IIA property maintains that the relative probabilities between migration choices (including the option to stay) must be independent of the remaining probabilities (Greene, 2000, p. 864).

Davies et al. (2001) estimated the conditional logit model for each of the years in the period 1986-1987 through 1996-1997. Their results suggest that individuals are more likely to move to more populous states, are significantly less likely to move to states with higher unemployment rates relative to other destination choices, and are more likely to move to areas with relatively high per capita incomes or perceived greater economic opportunities.¹² In terms of distance affecting migration decisions, a greater distance between the present and potential locations does have a significantly negative effect on the probability that an individual will decide to move, although the negative effect diminishes as the distance increases.

¹² The unemployment coefficient estimates are consistently significant and negative over time, but the size of the coefficient is less consistent. The inconsistency is hypothesized to be a result of lower variances in state unemployment rates thus providing less usable information when making migration decisions. This is in comparison to years when unemployment rates across states were more variable (Davies et al., 2001, pp. 344, 348-350).

The authors also include a non-migration dummy variable to measure the unobserved costs of moving. To further explain, Davies et al. (2001) constructed the non-migration variable in an attempt to measure the unobserved moving costs including the psychic costs of leaving family and friends behind, adjusting to a new surrounding, and the time needed to pack and unpack. The variable “identifies the decision to stay in the state of origin as distinct from the decision to move” (Davies et al., 2001, p. 351). Supposing there are two states, state j and state i , the states are assumed to be the same in all aspects (i.e., the distance between the two states is zero) such that one can imagine someone staying in the state of origin (state i) or being transported to an identical state j in which all of the costs of moving are incurred. Hence, with no actual distance between the two states, this is non-migration. On the other hand, migration does occur because the two states are identified as i versus j . Ultimately, the parameter estimate is positive and highly significant suggesting that unobserved costs are important when making migration decisions (Davies et al., 2001, pp. 344-351).

Nakosteen and Zimmer (1980) model the relationship between an individual's migration decision and his/her earned income. The results of their research indicate a negative effect of age on the probability of migration; being self-employed negatively affects migration as well. Being female is also found to affect the probability of migrating negatively while race is not found to be statistically significant. However, regional variables relating to growth in origin employment and origin per capita income are significant. More specifically, it is found that workers in states with growing employment opportunities are less likely to migrate while workers living in areas of high or growing income are more likely to migrate. The results suggest that self-selection

issues are present and the most significant factor influencing the migration decision process is the migrant-non-migrant earnings differential (Nakosteen & Zimmer, 1980, pp. 840-850).

Similarly, Bohara and Krieg (1997) estimate a multinomial logit migration equation simultaneously with earnings equations for individuals by migration status. Individuals are classified as direct, indirect, or non-migrants. Indirect migrants are those individuals who made a previous move with the prior move viewed as an investment in human capital. Direct moves are considered those moves made to remove oneself from a depressed area or situation. Lastly, non-migrants are those individuals who had not made a move (Bohara & Krieg, 1997, pp. 31-40).

The results of the simultaneous model indicate that indirect migrants are more likely to be highly educated, professional, and White than are direct or non-migrants. Whites are more likely to undertake both varieties of moves while homeowners are less likely to be indirect movers but more likely to undertake direct moves. Those who are employed are less likely to engage in either form of migration. Men, those with fewer months of tenure with employers, and those who are self-employed are all more likely to invest in indirect migration. The number of children also has a negative effect on direct migration, although, it is found that children do not significantly influence indirect migration (Bohara & Krieg, 1997, pp. 31-40). These, and the previous migration research, results are used to narrow the inclusion of relevant explanatory variables in the empirical migration model presented in a later section.

Theoretical Model

Generally, if the benefits of moving outweigh the costs, migration should occur. More specifically, if the expected net benefits of migration are positive, as measured by both net monetary and net non-monetary benefits, then moving to acquire these returns is a rational decision (Elliott, 1991, p. 136). The Harris-Todaro model, as outlined by Ghatak, Levine, and Wheatley Price (1996), offers a theoretical model explaining the rational individual's migration decision-making process just described.

The basic model, assuming risk neutrality, is as follows. An individual compares a potential location's future expected income stream with the current location's future expected stream of income. Harris and Todaro specifically model the migration decision according to a move to an urban area from a decidedly rural area. In this context, the future expected stream of income received as a consequence of moving is:

$$\int_0^{\infty} [pw_u + (1-p)w_b]e^{-rt} dt - C = 1/r[pw_u + (1-p)w_b] - C$$

where p is the probability that the individual will find employment, r is the individual's discount rate, w_u is the urban wage rate and w_b is the real income received if unemployed (or employed in the informal sector). Lastly, C represents the costs of migration.

Comparatively, the future expected income stream received as a consequence of staying in the current location is:

$$\int_0^{\infty} e^{-rt} w_r dt = (1/r)w_r$$

where w_r is the rural wage rate. It should also be noted that w_u is assumed to be fixed at some subsistence level and that the migration rate is assumed to be so small that it does not affect the rural wage rate, w_r (Ghatak et al., 1996, pp. 162-163).

Within the Harris-Todaro model, the rural-urban wage differential is the motivating factor driving individuals to relocate to urban areas (Ghatak et al., 1996, pp.

162-163). However, such a wage differential need not be (nor is) the only factor motivating the migration decision. Additional factors influencing the migration decision are both implicit as well as explicit in nature. Those matters considered social in nature with no conveniently measurable pecuniary consequences include variations in the cultural as well as the political and physical environments across possible locations. More explicit factors involve differences in fringe benefits across potential locations as well as opportunities for promotion and advancement. Also, not to be excluded are the pecuniary costs of moving and the probability of employment in potential future destinations (Elliott, 1991, p. 137). However, two factors, according to Elliott (1991), are fundamental to the migration decision for all individuals. One such factor is the long-term nature of the benefits and costs of migration, i.e., the benefits and costs of migration will not be experienced in their entirety immediately upon moving; the benefits and costs will stretch one's entire life cycle. Second, no individual will know with certainty the exact benefits or the precise costs over one's entire life cycle, and so it is *expected* net benefits of migration that are used by individuals when making the decision to move (Elliott, 1991, pp. 137-138).

I now turn to the probability of employment in the new urban location. One condition of the Harris-Todaro model is that one will move only if $(1/r)w_u - C > (1/r)w_r$. If one assumes employment is certain, this is a necessary, but not sufficient, condition. If employment is certain and the costs of migration outweigh guaranteed benefits, then no migration should take place. Further, assuming migrants from rural areas compete on the same level with the incumbent urban population, as more rural residents migrate, the probability that one finds employment falls and migration continues only up to the point

where the returns from moving are exactly equal to the returns from deciding not to move. The probability of employment is modeled as:

$$p = L_u^*/N_u = L_u^*/(L_u^* + MN_r^*)$$

where L_u^* is the urban employment prior to any migration, N_r^* is the rural population prior to migration, M equals the number of migrants divided by the initial rural population, and MN_r^* is then the number of migrants in equilibrium. From this, it is possible to solve for an equilibrium migration rate. First, consider the condition:

$$pw_u + (1-p)w_b - w_r = rC.$$

This condition represents the equilibrium condition where migration from rural to urban areas occurs until there is no longer any monetary gain to be had from migrating; migration occurs until the differential in wages is only enough to cover the cost of moving (Elliott, 1991, p. 143; Ghatak et al., 1996, pp. 162-163). After substituting the probability of employment into this equilibrium migration rate and solving for M :

$$M = [(w_u - w_r - rC)/(rC - w_b + w_r)](L_u^*/N_r^*)$$

(Ghatak et al., 1996, pp. 162-163).

Comparative analysis of the first order conditions imply that migration will increase with either a marginal decrease in the rural wage (w_r) or an increase in the urban wage (w_u) and vice versa. Further, any increase in the costs of migration will imply a decrease in the rate of migration (Ghatak et al., 1996, pp. 163-164). While this is the most basic model, various changes to the model have been made to better reflect the reality of the migration decision.

One alteration of particular interest to the study of the welfare-susceptible population and their migration patterns includes relaxing the assumption of risk

neutrality. If one assumes risk-aversion rather than risk-neutrality, this leads to a lower equilibrium migration rate than if risk neutrality is assumed, i.e., the more uncertainty present, the more appealing is the option to remain in the present location (Ghatak et al., 1996, pp. 164-168). In particular, the migration decision involves the estimation of several variables whose values are not known with certainty, and because of this, individuals' reaction to increased risk associated with such uncertainty will influence individuals' propensity to migrate (Elliott, 1991, p. 140). For example, for the welfare eligible population, the uncertainties are numerous. Because of PRWORA's devolution of welfare program development to the individual states, the differences in benefits, work requirements, eligibility rules, including family caps, call into question the motivation to move in search of a better welfare package. As stated by Schram and Soss (1999), "eligibility requirements have become so complex and now vary so much that recipients cannot be sure that they will receive any benefits in a neighboring state" (p. 54). It seems realistic to assume that families face substantial risks when interpreting outside states' welfare rules and benefits. Add to this the risk of "going it alone" without the support of an already-established social network, and the decision to move appears more likely to be rejected (Schram & Soss, 1999, pp. 54-56).

Turning attention to the costs of migration, costs will include both monetary and nonmonetary costs. Sjaastad (1996) addresses these costs. Sjaastad defines money costs as those out-of-pocket expenses incurred as a direct result of a move. These costs might include the costs of packing supplies, a moving truck, and rental deposits. Non-money costs include the opportunity costs of moving (i.e., what one would be doing if not moving) and the psychological costs associated with changing locations, including losing

contact with neighbors, friends, and perhaps relatives in the original location (Sjaastad, 1996, pp. 434-438). Potential migrants might also incur costs of time when searching for potential locations of residence and the time spent evaluating the benefits to be gained from migration to a particular location (Elliott, 1991, p. 139).

Further, according to Sjaastad (1996), the “psychic costs” of moving do not involve “resources for the economy and should not be included as part of the investment in migration” (p. 439).¹³ However, Sjaastad goes on to contradict this assertion by stating that if psychic costs were not present, more migration would take place (Sjaastad, 1996, p. 439-440). This implies that psychic costs do affect the allocation of the economy’s resources. Psychic costs may be particularly applicable to the welfare-eligible population. The tendency of members of this population to remain in an economically depressed area may be directly attributable to significant psychic costs and may be detrimental to the end goal of self-sufficiency.

The theoretical model developed here derives from the Harris-Todaro model with specific acknowledgment of childcare costs related to the geographical presence of relatives and friends.¹⁴ As outlined above, the costs of moving include what have been described as monetary and non-monetary costs of moving. The monetary costs will be those costs incurred in the course of moving. The non-monetary costs have been thought to include psychic costs including the loss of utility resulting from a move away from family and friends, but here it is theorized that there may actually be monetary costs associated with leaving the support of family. Assuming, up until the time of the move,

¹³ The non-money returns to migration are similarly thought to contain no economic resources, and should therefore be ignored in any migration analysis (Sjaastad, 1996, pp. 439-440).

¹⁴ Specific details of the model are illustrated in the appendix.

relatives were the major source of daycare for children, the costs of moving are modeled as:

$$C = C(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}})$$

where c_{move} is the monetary cost associated with moving, c_{daycare} is the monetary cost of childcare and c_{psychic} are the non-monetary costs of moving including the loss of familiarity with a particular area and its associated population. If a family moves away from an area devoid of relatives toward family for the purpose of utilizing inexpensive, reliable childcare provided by relatives, the price of daycare would be negative. Further, it is assumed that the cost function is strictly increasing and strictly convex in each of its arguments, c_{move} , c_{daycare} , and c_{psychic} , e.g., $\partial C(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}})/\partial c_{\text{move}} > 0$ and $\partial^2 C(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}})/\partial c_{\text{move}}^2 > 0$.

Returning to the Harris-Todaro model, much of the model remains the same with the major addition being the cost function now a function of both monetary and non-monetary costs. The future expected income stream received as a consequence of moving is now:

$$1/r[pw_{\text{new}} + (1-p)w_{\text{unemp}}] - C(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}})$$

where r is the discount rate, p is the probability of employment, w_{new} is the wage received if employed and w_{unemp} is the real income received if unemployed (or employed in the informal sector). The future expected income stream received as a consequence of staying is:

$$(1/r)w_{\text{original}}$$

where w_{original} is the original wage rate.

Again, one necessary, but not sufficient, condition of the Harris-Todaro model includes a family moving only if $(1/r)w_{\text{new}} - C(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}}) > (1/r)w_{\text{original}}$, given employment is guaranteed at the new location. Further assuming migrants compete on the same level with the incumbent population, as more families migrate, the probability that one finds employment falls and migration continues only up to the point where the returns from moving are exactly equal to the returns from declining to move. The probability of employment continues to be modeled as:

$$p = L_{\text{new}}^*/N_{\text{new}} = L_{\text{new}}^*/(L_{\text{new}}^* + MN_{\text{original}}^*)$$

where L_{new}^* is the employment in the new location prior to any migration, N_{original}^* is the original location's population prior to migration, M equals the number of migrants divided by the initial original location's population, and MN_{new}^* is then the number of migrants in equilibrium. From here, substituting the probability of employment and solving for M , the equilibrium migration rate, M , is:

$$M = [\{w_{\text{new}} - w_{\text{original}} - rC(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}})\} / \{rC(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}}) - w_{\text{unemp}} + w_{\text{original}}\}] * (L_{\text{new}}^*/N_{\text{original}}^*).$$

With the migration decision-making model defined, marginal changes in any one variable may be evaluated. Of specific interest is how the price of daycare associated with a decision to move affects the equilibrium migration rate. Differentiating M with respect to c_{daycare} (i.e., doing comparative statics), the equilibrium number of migrants decreases as the cost of daycare increases, i.e., $\partial M / \partial c_{\text{daycare}} < 0$. This result is true provided one makes two assumptions. First, it must be assumed that $w_{\text{new}} > w_{\text{unemp}}$. Second, recall the assumption that the migrants' cost function is strictly increasing and strictly convex. These two assumptions imply that $\partial M / \partial c_{\text{daycare}} < 0$. Intuitively, this

suggests that the equilibrium migration rate, M , decreases as the cost of daycare increases, all else held constant. This makes sense as the comparative static result is suggesting that as the cost of moving increases, fewer moves will meet the requirement that returns to moving exceed the costs of moving. While it may seem reasonable to expect welfare-receiving families to move to find employment, the increase in daycare costs when moving away from family may be enough to outweigh the benefits from regular and stable employment.

With a typical migration model, the difference in wages is the force driving migration. For the welfare-susceptible population, it is hypothesized that child care costs are significant and the possibility of friends or relatives providing free or relatively inexpensive care will inhibit migration. This will be true in instances where the loss of the current provider of child care will outweigh the increase in wages typically thought to drive migration. In other cases, where families have taken the risk of moving away from friends and relatives, they may migrate to low-wage areas to be near a reliable family-provided safety net.

Families of specific concern within this research are those single-mother families currently receiving or at risk of receiving TANF benefits. Given the mainstream economic assumption that labor is essentially mobile and applying this to the target group described, it is not obvious why these families do not move to find employment, especially now with the enforcement of a life-time limit of 60 months to receive TANF benefits. However, applying the theoretical model outlined above to the circumstances of this target group, an explanation might be found. As specified within the model, the cost of migration will change as the cost of daycare changes. Assuming that a family has the

opportunity to draw on relatives for the care of their children, the cost of daycare will increase or decrease depending on a family's original child care situation. For those families currently using relatives to provide care, they will face a higher cost of moving because of the loss of free or near-free child care as compared to those families who are currently paying for some other form of care. Alternatively, one might expect for some to move toward relatives for the benefit of affordable, quality child care services.

Generally, child care costs are hypothesized to affect migration decisions.

Another question of interest with the target group outlined above includes how a move might affect, not only child care costs, but also the TANF benefits for which a family is eligible. While some states offer benefits that remain neutral as a family moves within the state, other states leave the determination of benefit levels to the individual counties, and this is an effect that will affect migration decisions through w_{unemp} . Of course, any out-of-state move will most surely involve a change in the TANF work and benefits requirements package. As previously described, w_{unemp} is the payment received if unemployed or working in the informal sector. This payment also includes any TANF benefits received. Depending on the specific circumstances, the family may see a change in w_{unemp} as well as a change in $c_{daycare}$ when making a move.

How does the equilibrium migration rate change as TANF benefits change, *ceteris paribus*? Differentiating M with respect to w_{unemp} , we find that M increases as w_{unemp} increases, (i.e., $\partial M / \partial w_{unemp} > 0$). In effect, as the welfare magnet hypothesis predicts, families should be more inclined to move if there is an opportunity to receive greater TANF benefits. This, of course, assumes that the costs of moving do not outweigh the benefits received.

When a family within the target group evaluates a particular move such that daycare costs increase and TANF benefits increase, there are competing effects.

Alternatively, for families contemplating a move closer to relatives and to an area with greater potential welfare benefits, the two effects reinforce each other. Even if a family moves closer to kin in the interest of finding paid employment with reliable, affordable child care, the increased TANF benefits work to improve the ultimate expected future income in the new location. Overall, the outcome of a move is considered more favorable than if TANF benefits decreased or did not change.

Empirical Model

The empirical model used here derives from the theoretical model outlined previously and closely follows Kaestner, Kaushal, and Van Ryzin's (2003) model. Of specific interest are those factors found to influence significantly the probability of migration for a target population. For the purposes of this research, the target population consists of low-educated single women with at least one child under the age of six. In terms of modeling the target family's migration decision, the probability that a family migrates to location j will depend on the costs associated with the family's moving to location j . The costs of moving are hypothesized to depend on states' welfare program characteristics (W), the differences in the family's lifetime utility between living in location j and all other locations k (m_{jk}), and family characteristics (X). In particular, M_{ijt}^* is defined as the net gains to individual i of moving to (or remaining in) the ending location j in year t . As in the standard latent-variable model, the econometrician does not observe M_{ijt}^* . Rather, she observes a binary variable, M_{ijt} , which indicates whether a family moved.

Formally, the model is specified as follows:

$$M_{ijt} = \begin{cases} 1 & \text{if } M_{ijt}^* > 0 \\ 0 & \text{if } M_{ijt}^* \leq 0 \end{cases}$$

where

$$M_{ijt}^* = \alpha + \beta S_{jt} + \tau Y_t + \delta X_{it} + \gamma W_j + \lambda f(m_{j1t}, \dots, m_{jKt}) + e_{ijt}. \quad (1)$$

β measures the effects of the current state of residence (S_{jt}) on the migration decision, τ measures year effects (Y_t), δ represents family characteristic (X_{it}) effects, γ measures the migration effects of a state's commitment to moving poor parents into work or work-related activities (W_j), λ represents the migration effects deriving from the differences in lifetime utility between location j and other locations (m_{jkt}), and $i = 1, \dots, N$ family observations, $j = 1, \dots, J$ current locations, $k = 1, \dots, K$ alternative locations and $t = 1997, 1999, 2002$ (Kaestner et al., 2003, p. 363).

Two specific problems arise when estimating the parameters in model (1). First, it is impossible to determine all of the possible location choices for each target family, i.e., all of the k location choices. Second, all of the relevant characteristics are not known for each of the possible location choices. Summarily, it is impossible to calculate the relevant m_{jkt} s accurately. Because I do not have information on the function $f(m_{j1t}, \dots, m_{jKt})$ in model (1), this raises omitted variable concerns. More specifically, because the m_{jkt} s and W_j s are likely correlated, the parameter estimate γ will be biased (Kaestner et al., 2003, p. 363). Depending on the direction of the bias, the parameter estimate will be too high or too low resulting in an inaccurate interpretation of welfare reform's effects on the migration tendencies of the target population.

One method of addressing the omitted variable problem is to use a difference-in-differences (DD) approach.¹⁵ Intuitively, the DD approach involves the estimation of

$$M_{ijt}^* = \alpha + \beta S_j + \tau Y_t + \delta X_{it} + \gamma W_j + e_{ijt} \quad (2)$$

for a group of interest, the target group. In addition, equation (2) will be estimated for a group carefully chosen to include those individuals whose migration decisions are going to be similar to the target group but are not affected by welfare reform measures, a comparison group. The equation to be estimated for the comparison group is:

$$M_{ijt}^* = \alpha' + \beta' S_j + \tau' Y_t + \delta' X_{it} + \gamma' W_j + u_{ijt}. \quad (3)$$

Note that because the comparison group is chosen such that the group members are not affected by any changes in welfare policy, the coefficient γ' measures the influence of the omitted variables, m_{jkt} s, as they correlate with welfare policy.

The DD estimating equation is then:

$$M_{ijt}^* = \alpha' + (\alpha - \alpha')T_i + \beta' S_j + (\beta - \beta')S_j T_i + \tau' + (\tau - \tau')Y_t T_i + \delta' X_{it} + (\delta - \delta')X_{it} T_i + \gamma' W_j + (\gamma - \gamma')T_i W_j + v_{ijt} \quad (4)$$

where $T_i = 1$ if family observation i is a member of the target group and $T_i = 0$ if a member of the comparison group. When interpreting the effects of welfare policy measures on migration tendencies among those affected by such policy, $(\gamma - \gamma')$ is now the coefficient of interest (Kaestner et al., 2003, pp. 363-364).

Because of the binary nature of the dependent variable, the econometric model is restricted to those models capable of handling the dependent variable, M_{ijt} , with its

¹⁵ An alternative to the DD model includes conceptualizing the migration decision in a step-wise fashion. Previously published studies model the migration decision as a sequential process. The first decision involves the determination of whether the individual is going to make a move. Assuming that the individual decides to move, the second decision determines to which location the individual will move. This approach is often used for ease of estimation rather than because it accurately represents the decision making process. The simultaneous, multiple-choice model seems appropriate for the present purposes.

restricted discrete values, zero and one. The linear probability, probit, and logit models are all possibilities. The linear probability model has one major shortcoming in that it does not guarantee that the predictions generated by the model will look like probabilities. More appropriate models include the probit and logit models. Both models assume a continuous probability distribution defined over the real line; the probit model assumes the normal distribution while the logit model assumes the logistic distribution (Greene, 2000, pp. 813-815). The probit model is defined as

$$\text{Prob}(Y = 1) = \int_{-\infty}^{\beta'x} \varphi(t)dt = \Phi(\beta'x)$$

and the method of maximum likelihood is used to estimate the binary choice model (Greene, 2000, p. 820).

The logit model could just as easily have been used to calculate parameter estimates. The probit model is chosen because it does not rely on the independence of irrelevant alternatives assumption (Griffiths, Hill, & Judge, 1993, pp. 741, 751). More specifically, the logit model derives from the initial assumption that disturbances are both independent and homoscedastic leading to the assumption that estimated odds ratios are independent of all other alternatives. This has been labeled the independence of irrelevant alternatives assumption. Regarding the modeling of consumer behavior, this assumption is unnecessarily restrictive leading to the preference for the probit model within this research (Greene, 2000, pp. 864-865).

What makes this research different from Kaestner et al.'s (2003) work and the research found within the welfare magnet literature is the introduction of a child care variable in an attempt to estimate the influence of access to valuable services provided by social networks on the propensity to migrate. More specifically, included within this

research is a variable measuring the influence on the migration decision of relatives' willingness and availability to provide child care. Recall the low-educated single mothers of young children who comprise the target group; these are families chosen not only because of their susceptibility to PRWORA's work-based reforms but also because of their assumed struggle to find individuals to provide safe, affordable, and reliable care for their children while working for pay or for their TANF benefits.

Researchers who are interested in the welfare magnet effect are particularly interested in welfare reforms' effects on the migration decision as families are assumed to be rational and moving to (or remaining in) those states with relatively large TANF benefits and lenient work policies. While I am also interested in such welfare-related effects, I further introduce the influence of child care considerations as I hypothesize the new emphasis on work and work-related activities as necessitating the arrangement of care for young children. For instance, one family might move to be closer to its social network even though the welfare magnet hypothesis would not predict such a move; or another family may choose to remain in an area that offers little in the way of employment but offers access to a social network that is newly valuable because of the child care that may be arranged while the single mother completes the work necessary to receive TANF benefits. Moving for welfare-related but non-benefit-related reasons is the specific contribution here.

Within the empirical model, the parameter estimate associated with the child care variable is interpreted slightly differently than the welfare variable. More specifically, the comparison group is also likely to be influenced by the presence of social networks. The idea that the comparison group's parameter estimate is picking up an omitted

variable bias is no longer correct, although the parameter estimate ($\delta - \delta'$) does contain interesting information. In particular, because the comparison group is chosen so as not to be directly influenced by welfare reform measures, one may say that the parameter estimate δ' does not include welfare reforms' influence on the importance placed on the child care provided by nearby family members. To interpret the estimate ($\delta - \delta'$) is to say this is the difference in the child care parameter for the target family versus the comparison family; this difference represents how much more (or less) important child care provided by one's family influences the probability a target family migrates now that AFDC has been replaced with TANF and its associated work requirements.

Data and Variables

Dataset

The National Survey of America's Families (NSAF), a survey conducted for the Urban Institute and Child Trends by Westat, was commissioned as part of the Urban Institute's project, *Assessing the New Federalism*. *Assessing the New Federalism* was a project intended to reveal the effects of the devolution of social program responsibilities from the federal level down to the state and local governments. Specific areas or programs studied as a part of the project included health care, income security, training, social services, and employment. The NSAF paid special attention to the low-income populations (Wang, Cantor, & Vaden-Kiernan, 1999, p. 1-1). The survey's emphasis on reporting the social and financial conditions of those considered most susceptible to the changes in the country's welfare program made this a dataset of particular interest for the purposes of this research. Most importantly, the NSAF provided information regarding a

family's choice of child care provider, i.e., whether relatives were currently providing care for at least one young child within the family.

Populations from the following states were oversampled to better provide state estimates: Alabama, California, Colorado, Florida, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, Texas, Washington, and Wisconsin. Also, a national-level sample was used to supplement the state-level samples in order to produce national estimates (Wang et al., 1999, p. 1-1). Regarding sample demographics, the sample drawn consisted of non-institutionalized individuals under the age of 65 with or without children. If there were children of differing age levels in the household, one child under age six was sampled, and one child between the ages of six and seventeen was sampled. A screening question was also asked to determine whether a sampled household had income below 200 percent of poverty. The household income was compared to a poverty income number adjusted for family size and whether there were children present (Wang et al., 1999, p. 1-2). The Urban Institute completed its first round of the survey in 1997; a second round was done in 1999; and the third round was finished in 2002. The timing is beneficial for this research in that samples were taken following the enactment of the 1996 welfare reforms as well as a sample immediately following passage but before families likely had the opportunity to fully respond.

Variables

Using data taken from the NSAF, the present model includes as the dependent variable, a dummy variable defined as follows:

moved = 1 if made an in-state or out-of-state move within the last year
 0 if had not made any move.

The independent variables may be grouped as those relating to the characteristics of the person or family, TANF-related, and state-level variables.

Personal or Family Characteristic Variables

Characteristics of the person or family are the first set of explanatory variables. In particular, personal- or family-level variables expected to influence the decision to migrate include a variable indicating whether an observed family is currently using relatives to provide care for young children, variables accounting for the head of household's age, highest level of education completed, race or ethnicity and, lastly, variables reporting a family's income and current working status. These variables are hypothesized to capture many of the individual-level influences on the migration decision. In particular, the first family-level variable, which has received relatively little attention within the welfare migration literature, is a family's primary child care arrangement. The caregiver variable is defined as:

$$\begin{aligned} relcare = & \quad 1 \text{ if family unit is currently using relatives to provide care} \\ & \quad 0 \text{ otherwise;} \end{aligned}$$

where a family using a relative to provide child care services in another home or in the child's own home is categorized as using relatives to provide care. The distinction is made such that the relative providing the care is considered a non-transferable feature of the family's social network whereas some cases of relatives providing care may be considered a transferable commodity or service. For instance, if the caregiver is less than eighteen years old, he or she may be a sibling to the child needing care, and he or she would therefore move with the family. In this case, the child care service would be transferable, and there would be no child care-related barriers influencing a family's

propensity to move. It is hypothesized that the current use of relatives to provide care positively affects the probability of having recently moved if one assumes the original location was devoid of relatives. Alternatively, if the original location provides access to relatives while alternate locations do not, this thereby restricts a family's set of migration possibilities, and the probability the family will have recently moved is hypothesized to fall.

In addition to a family's choice of child care provider, other personal characteristics hypothesized to affect the migration decision include age, race or ethnicity, and the individual's level of education. An individual's age is included to capture the tendency to remain in one place as one grows older. The NSAF variable, *umkaage*, reveals the age of the most knowledgeable adult (MKA), and this information is used to construct the *age* variable.¹⁶ As generally discussed within the migration literature, it is hypothesized that the probability of migration will fall as an individual ages. Previous studies support this negative relationship including the Kaestner et al. (2003) paper, a study published by De Jong, Roempke Graefe, and St. Pierre (2005), and a survey of migration studies by Greenwood (1975) among others. Assuming an individual's social network is of value, it should be no surprise that as one grows older, the social network that would be left behind if one moved would be significant given the greater number and significance of such connections that come with age. *Age* is, therefore, hypothesized to contribute to the cost of moving as one ages, and is a negative influence on the migration decision.

¹⁶ While it is not necessarily the case that the MKA is the family unit's mother and major decision-maker, I use a sample such that there are no male MKAs and it may then be expected that the MKA is likely the child's mother and/or the one making the final migration decisions. In most cases, the MKA is the child's mother, and the *umkaage* variable provides the desired age information.

An adult's race or ethnicity has also been shown to be an important predictive variable in the migration decision. The adult's race/ethnicity variable is categorized as:

raceth2 = 1 if Black Non-Hispanic origin
0 otherwise;
raceth3 = 1 if other than Black Non-Hispanic and Hispanic origin
(i.e., most likely Caucasian)
0 otherwise.

As discussed previously, those of different races and/or ethnicities have been shown to have different migration patterns. For example, African-Americans are less likely to move than those of other races. The evidence seems to suggest that the connection with family seems to be greatest among African-Americans and this precludes individuals from moving (e.g., Greenwood, 1975; Spilimbergo & Ubeda, 2004). One might also speculate that racial discrimination in the work place leads to a greater reliance on one's social network to either find work or sustain the family in times of financial hardship, and this may necessitate living in close proximity to particular network members. On the other hand, those individuals who most closely identify with being Caucasian have relatively greater propensities to migrate. With the excluded group being those of Hispanic origin, it is predicted that the *raceth2* variable will negatively affect the probability the individual has recently moved. Alternatively, the *raceth3* variable is hypothesized to be positive reflecting those of any other ethnicity (most especially Caucasian) tending to move in greater propensities.

When deciding whether to move, the adult's level of education is also hypothesized to be an influencing factor. The MKA's highest level of education

completed is initially coded according to three major categories. These categories include those who, at most, completed school through the eighth grade; those who reported completing at least ninth grade but less than twelfth grade; and lastly, those who completed the twelfth grade but did not receive a high school diploma or GED. The initial sample was purposefully constructed to only include those individuals who do not have a high school diploma or GED. This restriction was relaxed in a later model.

Edulev2 and *edulev3* coded as indicated below:

edulev2 = 1 if completed ninth, tenth, or eleventh grade

0 otherwise;

edulev3 = 1 if completed twelfth grade but did not earn a high school diploma or GED

0 otherwise.

Those whose education ended at the completion of eighth grade are the omitted group. I hypothesize that a more educated individual is more likely to move in order to pay back education loans or to maximize their benefits of working (both in terms of monetary compensation and overall personal satisfaction) or both.¹⁷ Further, Greenwood's (1975) survey of internal migration studies cites evidence of increased education reducing the deterring effects of longer-distance migration. Researchers have proposed improved job opportunities and better employment information as contributing to this reducing effect. It has also been hypothesized that increased education lessens the ties to one's family and

¹⁷ However, one must be careful when interpreting the direction of the education-migration relationship as there is the potential for self-selection bias. For those individuals who have a greater propensity to move they may choose to invest in advanced degrees to enhance their chances of employment no matter their location of residence.

increases awareness of other opportunities in other more distant locations (Greenwood, 1975, p. 406).

Employment and income may also affect migration patterns. For example, if a household head is unemployed prior to a move and employed post-move, it may be reasonably inferred that employment-related reasons played a part in the migration decision. Unfortunately, while I do have post-move employment information, I do not have individuals' pre-move employment conditions. However, inferences may still be made. Specifically for those families susceptible to welfare reforms, one may not be surprised to find that, of those currently employed, many had made a recent move. Given that PRWORA increased the costs of remaining in a neighborhood with little or no employment opportunities, more families are likely making moves to obtain employment. Further, knowing that an individual is employed post-move suggests the individual moved toward better employment and not better welfare benefits. Migration might also be a strategy for individuals who are drawing close to the lifetime TANF limit and who need to find employment lest they exhaust all TANF eligibility and find no work in their present communities. Another scenario may be that a family chooses not to move, even though there are no working adults in the family, but staying in the area allows the option of using relatives to provide quality affordable child care while meeting TANF's work requirements.

If an individual reports having moved recently but is unemployed, a couple of explanations seem plausible. One, individuals move to improve their welfare benefits. According to the welfare magnet hypothesis, one expects to see some individuals moving to take advantage of another state's generous TANF benefits with the individuals having

no intention to find employment (at least, not until forced to consider the idea when reaching the 60-month limit). An alternative explanation might find that individuals move to be closer to relatives so that they might strengthen their safety nets given welfare reform's weakening monetary effects coupled with the original location's lack of support from family and friends. Other studies as summarized by Greenwood (1975) have reported results supporting moves made for the purpose of being near family members (p. 405). In summary, to allow for employment effects to affect the migration decision, the following variable is used:

$$work = \begin{cases} 1 & \text{if individual is currently working} \\ 0 & \text{otherwise.} \end{cases}$$

Lastly, a family's income is hypothesized to influence the decision to move (*income*). For example, Greenwood (1975) concludes, after surveying the literature on the determinants of migration, that income is an important personal characteristic in the migration decision (p. 411). In this particular case, a family's income is categorized as being in a low income category (*lowincome*) if their prior year's income is below the poverty line, a high income category (*highincome*) if the prior year's income is greater than or equal to 1.5 times the poverty line, or as *povertyincome* if the family's income is at least as much as the poverty line but less than 1.5 times the poverty line. The last category is the omitted category.

Income is hypothesized to influence migration tendencies according to past research indicating that those who are relatively poor also rent in greater numbers and are shown to move in greater propensities than relatively wealthy homeowners (e.g., L. Cohen, 1950; Crowley, 2003). The reasoning behind why homeowners make fewer

moves than those who rent relates to reasons of established equity and stability. Those who have invested in a home have a greater incentive to stay in their present location and build equity, social ties, and/or stability for the family. The cost of leaving behind already established equity and social ties dampens the propensity to move in the future. From this perspective, the greater families' reported income (and the more likely the families own their own homes), the lower the probability the families recently moved. However, it may also be argued that those households with relatively greater incomes have the financial resources to fund a move that a poorer family may have made but did not because of a lack of funds. I suspect the former argument is more prevalent than the latter, but both are valid.

TANF-Related Variables

Each state's TANF program is unique, and many politicians and policymakers assume that a state's TANF rules, restrictions, and benefit levels affect low-income families' migration to and from states, i.e., the welfare magnet hypothesis is typically assumed to be accurate. Two TANF-program characteristics of special interest include states' policies regarding the 60-month time limit as well as their monetary commitment to child care subsidies for working poor families. A third variable attempts to measure states' overall level of leniency or stringency towards its welfare population.

The state time limit variable came from the Urban Institute's Welfare Rules Database. The variable is defined as follows:

timelimit = 1 if state enforced a time limit
 0 if state had no time limit or allowed for the possibility of
 extended eligibility using state funds.

Depending on the wave from which the observation came, the *timelimit* variable was coded to represent a state's time limit policy one year prior to the wave year, i.e., the year 1996 for the 1997 wave, 1998 for the 1999 wave, and 2001 for the last wave. For the 1997 wave, the *timelimit* variable was coded as 1 if the state had previously requested an experimental waiver. The prior year's policy was used to account for a lag in a family's reaction to changes in a state's welfare program. One might even imagine a family learning of a new time limit policy and not reacting in the hopes that the policy will be delayed or revoked.

Those individuals at risk of receiving welfare assistance living in states with relatively strict time limits are hypothesized to be more likely to move than those residing in states with more lenient TANF policies. A rational individual takes a state's commitment to limit benefit payments to just 60 total months into consideration when calculating the costs and benefits of remaining unemployed without moving to improve employment opportunities. It is likely that, for some, the costs of unemployment now outweigh the benefits, and while finding employment may involve moving, depending on the local economic conditions, the benefits are now large enough to induce a move. Alternatively, a state which is relatively strict in its enforcement of time limits is less likely to be a magnet, i.e., will not attract potential welfare recipients from other states and the probability that a welfare recipient will have recently migrated to the current state of residence is hypothesized to be lower.

The child care subsidy variable, *ccdfundr5*, is a state-level continuous variable calculated from information provided by the National Child Care Information Center. The variable is the result of dividing a state's total Child Care and Development Fund

(CCDF) expenditures in 2004 by the state's total number of children under age six in the year 2003.¹⁸ Child care expenditures are assumed to be relatively stable over time and the 2004 figures are expected to be a good approximation of the state's commitment to funding child care. It is hypothesized that as the dollar amount of CCDF expenditures per child increases, the benefits of working increase. Because of the greater payoff to working, a potential migration decision will now return larger benefits. Therefore, the probability a family has recently migrated to a state with a relatively generous child care policy is hypothesized to increase because of greater monetary incentives to move to find employment. The probability of state residents moving within the state is hypothesized to increase as well given the relatively higher net wage being offered as a result of moving to find employment. Overall, migration is expected to increase because of the greater payoff to moving to find employment opportunities.

The last state TANF-related variable is a measure of a state's commitment to moving welfare recipients into work or successfully deflecting potential recipients from collecting welfare payments in the first place. This research utilizes Ellwood's (2000) measure of aggressiveness where the more aggressive a state's TANF program, the less desirable the state from a potential welfare recipient's perspective (p. 1105).¹⁹ In-state migration is predicted to increase the more aggressive Ellwood's state classification. Further, the probability a more aggressive state will be a welfare magnet is hypothesized to decrease as the state should be less appealing to anyone at risk of or currently receiving

¹⁸ A variation of the average child care subsidy per child was also used (*ccdfperchld*). A state's CCDF expenditures were divided by the number of children in the state under age 18. The hypothesized sign of this variable remains unchanged. Ultimately, this variable was rejected in favor of an average subsidy per child under six years of age.

¹⁹ Alternatively, Meyer and Rosenbaum's welfare aggressiveness measure, as reported by Ellwood (2000), could be used in place of Ellwood's measure. Meyer and Rosenbaum compiled various state program characteristics and developed an aggressiveness measure from the combining of these characteristics.

TANF payments. While empirical studies do not unequivocally support this hypothesis, it is, nevertheless, a widely-held assumption within the welfare-magnet literature (e.g., Allard & Danziger, 2000; Enchautegui, 1997; Gramlich & Laren, 1984; Levine & Zimmerman, 1999; Meyer, 1998; Peterson & Rom, 1990).

The following briefly describes Ellwood's (2000) process of assigning aggressiveness values. Each state's value is derived from individual state-level probit models where AFDC participation among single parents for the years 1984 through 1992 is estimated using the independent variables age, education, race, state unemployment rates, earnings and a time trend. With the probit results, Ellwood (2000) predicts the fraction of sample participants one would expect to collect AFDC in 1997 and 1998 given the 1984-1992 state eligibility and participation rules. Because of economic conditions in 1997 and 1998, Ellwood (2000) predicts that all states would see a fall in AFDC caseloads, but some states report a greater-than-predicted fall in caseload numbers. If the state showed greater declines in caseloads, Ellwood (2000) concludes that the state's TANF program is relatively more aggressive. More specifically, Ellwood (2000) gives a state a value of one if there is less than a four percent difference between the predicted rate and the actual rate of participation, a value of two if the difference is something greater than four but less than ten percent, and a value of three when the difference is greater than ten percent. Ultimately, the probit results placed one-quarter of single parents living in states considered the least aggressive, one-third living in the most aggressive states and the rest living in states considered to be moderately aggressive (Ellwood, 2000, pp. 1076-1077).

Using Ellwood's (2000) measure here, the *welfagg2* and *welfagg3* variables are dummy variables indicating whether the state is classified as a category 2 or a category 3 or neither. If a state's TANF program is rated as relatively more aggressive, i.e., a 2 or 3, one would expect greater numbers of intra-state moves in those states versus states rated least aggressive. The probability of inter-state moves is hypothesized to decrease because relatively less welfare aggressive states offer more in terms of a safety net than the original state of residence thereby creating the welfare magnet problem discussed previously. The more aggressive is a state in deterring welfare receipt, the fewer the number of low-income parents moving into the state looking to make use of the state's generous nature towards welfare recipients (at least, according to politicians). Similarly, intra-state moves are hypothesized to increase because of individuals moving to find employment given they cannot rely on the state to offer sufficient financial resources should they remain unemployed for any long period of time.

The last TANF-related variable is reported at the level of the individual. The TANF variable is defined as the following:

$$\begin{aligned} \text{tanf} = & 1 \text{ if family is currently receiving TANF benefits} \\ & 0 \text{ otherwise.} \end{aligned}$$

The hypothesized sign on this parameter could be either positive or negative. It may be that TANF families are more likely to have recently moved because they moved toward better TANF benefits, assuming the move was an inter-state move. One might see greater numbers of families making inter-state moves because of greater employment prospects as well. However, it may be hypothesized that these same families have not recently migrated because of changing eligibility rules across and within states; families

might conclude it safer for them to stay within the current state of residence where the eligibility rules and monetary benefits are best understood. As discussed earlier, not only do relocated families face the risk of being denied TANF benefits within the new state of residence, but the families will also have left behind an established social network that could have been used to bridge the gap between TANF benefits and living expenses (Schram & Soss, 1999, pp. 54-56).

Regarding intra-state moves, it is hypothesized that the probability that this type of move had recently occurred increases because of the greater pressures felt by adults to find employment and retain possible future TANF eligibility. Overall, given the goals of PRWORA, an increase in the numbers of moves within and across states among current TANF recipients should not be unexpected given the genuine desire of politicians to create policies such that work is always a better option than collecting welfare benefits. Moving to find work would lead to either in-state or out-of-state moves.

Year and State Unemployment Rates

A last group of variables attempt to delineate the specific effects of migration trends over time and across states. The NSAF consists of three surveying rounds with the first round conducted in 1997, the second round in 1999 and the third round in 2002. For this paper, the omitted category is the year 1997 and the remaining dummy variables are:

$year2 =$	1 if individual was interviewed in 1999 (second round)
	0 otherwise;
$year3 =$	1 if individual was interviewed in 2002 (third round)
	0 otherwise.

Additionally, the independent variables, *prior-* and *currentunemploy*, are included to proxy for a state's overall employment prospects. Other variables have been used to measure a state's economic condition, including state income or wage information, but a state's unemployment rate has been the typical economic variable used (Blank, 2002, p. 1127). Hoynes' (2000) research further points to low-wage workers responding to changes in the unemployment rate providing greater evidence that unemployment rates do have the potential to capture a state economy's effects on low-wage workers' migration decisions (pp. 54-59). On the other hand, several past studies have found insignificant coefficients or unexpected signs on the unemployment variable (Greenwood, 1975, p. 403). Included here are the unemployment rates for the year prior to the year of the survey and the current survey year; the unemployment rates for the years 1996-1997, 1998-1999, and 2001-2002 are used in this research.

It is predicted that as the unemployment rate rises, the probability that an individual will have recently moved to that particular state falls. After all, the welfare reforms are intended to encourage job-seeking and job-retaining behavior, and the Harris-Todaro model theorizes that as the probability of employment falls, there is less overall migration, holding all else equal. Conversely, the same unemployment rate will have the effect of encouraging migration among those who are living within that state, who are unemployed, and who take seriously the change in policy such that individuals will be forcibly dropped from the welfare rolls after 60 months.

Lastly, I include state dummy variables for each state representing the current state of residence to account for state-level effects not captured in any of the independent variables described previously.

Description of the Data

When reporting descriptive statistics, initial and alternative samples are separated into two smaller groups, the comparison and target groups. The separation of the samples is done for reasons relating to omitted variable bias concerns; the DD approach is used with target and comparison groups strategically chosen to best correct estimated welfare effects for potential omitted variable bias. More regarding the DD approach and the criteria used to categorize sample observations into the two groups follows below. Tables 1A and 1B categorize sample families according to families who reported using relatives to provide care and whether they had recently migrated. Tables 2A and 2B provide mean and standard deviation values for several select variables included within the regression analysis. A detailed description of the differences across the comparison and target groups follows.

As explained previously, the DD approach necessitates the identification of a comparison group as well as a target group. For the results labeled within Table 3 as initial probit results found in the first set of columns, the target group is comprised of single women with less than a high school diploma and/or GED and who have at least one child under the age of six. The comparison group is comprised of, again, women with at least one child under the age of six and relatively little education, but only married women are included in this group. It is hypothesized that married women with young children will have similar perceptions and concerns as the target group regarding the decision to move; however, married women's migration decisions are likely not affected by states' welfare policies. In this way, the potential correlation between the

missing m_{jkt} s and the welfare policy variables is theoretically reduced or, ideally, eliminated. This is, essentially, the DD approach.

A concern relating to the comparison group is the likelihood of married women with children qualifying for welfare receipt. If likely, then the comparison group may very well be affected by changes to the welfare program and the DD approach would be compromised. Historically, two-parent families have been effectively denied reliable access to cash welfare. Until 1961, federal funding of cash welfare benefits to two able-bodied parent families was explicitly denied. Federal funding was extended to an unemployed parent in a two-parent family in the 1960s. It was not until 1990 that federally-funded welfare benefits were available to two-parent families on a nationwide basis, although the families needed to meet restrictive eligibility requirements. Under waivers of AFDC rules implemented in the 1990s and now under TANF, states have greater freedom to set eligibility requirements that are more inclusive of two-parent families (Falk & Tauber, 2001, pp. 10-11).

According to statistics from 2003 reported by the U.S. Department of Health and Human Services, nearly 92 percent of persons in married-couple families reported receiving no family income from means-tested programs while 6 percent reported 25 percent or less of their family's income coming from said programs. Only 1.1 percent of married-couple families reported greater than 50 percent of their income coming from means-tested assistance (U.S. Department of Health and Human Services, 2006, p. II-5). More specifically, 4.6 percent of all persons in married-couple families in 2003 reported receiving assistance in the form of TANF, food stamps, or SSI; of this 4.6 percent, only 0.2 percent reported receiving TANF only and another 0.5 percent reported using TANF

and food stamps (U.S. Department of Health and Human Services, 2006, p. II-23). These statistics suggest that the comparison group, as chosen for this research, is likely not heavily influenced by changes in welfare benefits and/or eligibility requirements given the relatively few two-parent families making use of means-tested assistance programs. Nevertheless, it is acknowledged that the potential for the comparison group households to qualify for welfare benefits introduces a potential bias to these results.

In an effort to determine consistency, an alternative sample is also used in the estimation of a probit migration model. For the alternative probit results, corresponding to the second set of columns in Table 3, the target and comparison groups continue to be differentiated by marital status; however, the sample was expanded to include all those women with young children who have earned either a high school diploma or a GED or attended school for any number of years less than a diploma or GED. This alternative sample allowed for a much larger sample but also provided another opportunity to apply the DD approach. Within both the initial and alternative probit models, the group variable is a dummy variable coded as 1 if the observation qualifies as a member of the target group and as 0 if a part of the comparison group.

A small number of observations had to be dropped when adding the state dummy variables. For a handful of states, the few observations gathered from these states all reported either having recently moved or no move at all. Because there was no variation in the dependent variable, this caused estimation issues. For this reason, and given that the number of observations affected was small, these state dummy variables and their corresponding observations were dropped. Also, no welfare aggressiveness measure was

available for the state of Wyoming, and the few observations drawn from Wyoming were dropped as well.

Results

Table 3 presents the probit results. Because of the NSAF's sampling design, a researcher must also include each observation's probability of inclusion when conducting the regression analysis. In particular, I utilize the appropriate NSAF weights such that the sampling weights "denote the inverse of the probability that the observation is included because of the sampling design" (Long & Freese, 2006, p. 84). Because of the sample weighting process, robust standard errors and log pseudo-likelihood measures are reported within the overall probit results. A pseudo-likelihood measure is reported because "the 'likelihood' does not fully account for the 'randomness' of the weighted sampling" (Scribney, 2005). The results are robust to some forms of model misspecification (Greene, 2000, p. 488). When testing individual hypotheses, I use the Wald test in place of the typical likelihood-ratio test as a further consequence of the weighting process (Scribney, 2005).

Parameter Estimates

When analyzing the initial probit results, the relative care variable predicts opposing effects across the two groups. First, for comparison group mothers, if they report currently using relatives to provide care for their young children, then these families are more likely to have recently moved than those comparison group families that did not report using relatives to provide care. This parameter estimate is statistically significant at the 5 percent level. While it is not known whether the married mother hired relatives for care prior to the move, it is known that a relative is providing care after the

move. Supposing that relatives were used to provide care only post-move, then a plausible explanation might include a traditional family moving toward employment opportunities at least partially because the new location offers relatives as a child care option. Without being near relatives, the move toward favorable employment opportunities may possibly fail the cost-benefit analysis given the relatively more expensive option of daycare versus relatives. It is also possible that there is some omitted variable bias affecting the parameter estimate, i.e., because not all the m_{jks} are included, it is possible that the *relcare* variable is picking up the effects of omitted m_{jks} .

In contrast to the comparison group, the target group's relative care parameter estimate is negative; however, the parameter estimate is not statistically significant. To calculate the relative care variable's overall estimated effect for the target group, one must sum the *relcare* and *grouprelcare* parameter estimates and calculate the relevant t-statistic.²⁰ The parameter estimate for the *grouprelcare* variable is significant, however, at the 1 percent level and is negative. This suggests that for those single mothers using relatives to provide care, their probability of having recently reported a move is lower than for the comparison group and may be interpreted as welfare reform influencing target families in ways that negatively influence migration tendencies relative to the comparison families. For the alternative probit model the results are similar, although the *relcare* variable is no longer significant for the comparison group. The *relcare* variable remains statistically insignificant for the target group.²¹ However, welfare reform's influence on the target group, as measured by the *grouprelcare* parameter estimate, is

²⁰ The t-statistic = -0.5213

²¹ The t-statistic = -1.2437

negative and statistically significant at the 5 percent level of significance. Again, there is the potential for omitted variable bias.

In explanation of the above results, target group families (i.e., unmarried women with young children) may be choosing to remain near the economic and emotional support of family members even when employment opportunities may be available elsewhere. This may be to the dismay of welfare reform proponents. For those single mothers who do not report a move but are living in relatively aggressive states (in terms of welfare reform policies) and using relatives to provide care for their children, why do some families fail to respond to the incentives carefully constructed to encourage self-sufficiency? It may be that the safety net of nearby relatives is viewed as stronger than what can now be reasonably expected from the state or federal government. The risk is high to leave behind the free (or relatively inexpensive) support of family and friends to find work that is likely not going to cover both living expenses and the child care required for the single mother to successfully enter and remain in the workforce. This may be especially influential when the mother knows that the government is not going to supplement her income when times are lean.

Moving to the empirical results addressing the welfare magnet hypothesis, the welfare aggressiveness variable effects are telling. Comparing the target group effect with the comparison group, one will see results of opposite sign; however, it should be noted that the typical interpretation of the comparison group's TANF-related parameter estimates is not appropriate here given the DD approach used in the estimation process. For example, while one might interpret the welfare aggressiveness variable, *welfagg3*, as suggesting those comparison families who currently reside in states categorized by

Ellwood (2000) as most aggressive in deterring poor families from state TANF money are more likely to have moved recently, the parameter estimate is more appropriately interpreted as measuring omitted variable bias. This is because of the DD approach as those families categorized as being a part of the comparison group have been chosen because they should not be influenced by changes in welfare program characteristics.

Regarding the target group, the omitted-variable-bias-corrected estimates are the group welfare aggressiveness variable estimates including *groupwelfagg2* and *groupwelfagg3*. Evaluating states' welfare aggressiveness effects on the target population, the coefficient corresponding to the target group (*groupwelfagg2*), is negative and statistically significant at the 1 percent level in the case of the initial probit model and significant at the 5 percent level for the alternative model. Similar results are reported for the *groupwelfagg3* variable for both the initial and alternative sample results; both estimates are of negative sign and statistically significant at a 1 percent level of significance.

The above results imply that those states categorized by Ellwood (2000) as being moderately aggressive had the effect of consistently reducing the target population's propensity to migrate. As discussed previously, this result fits with the typical anecdote predicting that states wanting to avoid becoming a welfare magnet should "get tough" on welfare. A more nuanced (but possibly more relevant) explanation results when assuming that a significant number of moves are in-state moves, i.e., a "get tough" stance leads to fewer families moving. A relatively more aggressive welfare state would, theoretically, push poor families into making a move (either within the state or out of the state) to improve employment opportunities and subsequently increase incomes and the

general standard of living among welfare-eligible families. According to results presented here, this may not be the actual effects of such aggressive welfare policies.

An additional source of funds available to families is the child care subsidy program with such subsidies hypothesized to help poor families pay the costs associated with work. For both the initial and alternative probit results, parameter estimates for the group child care subsidy effects (*groupccdfundr5*) on migration tendencies are positive and significant. Again, the interpretation of the group parameter estimates is unique. In this case, the estimates represent the increase in the propensity to move for those single-mother families with young children over and above child care subsidies' effects for the traditional married mother-father families. This effect may be interpreted as estimating welfare reform's effects on the importance of monetary child care assistance for welfare-susceptible families. The parameter effect is statistically significant at the 1 percent level for the initial model and 5 percent for the alternative model. This suggests that help with child care costs may be expanding employment options such that target families are taking advantage of employment opportunities that were previously considered too costly. From the perspective of comparing the costs and benefits of moving, the benefits of moving are now greater given the relatively more generous subsidies and more moves are being made. For the total child care subsidy effect for the target group (adding the *ccdfundr5* parameter estimate with the *groupccdfundr5* estimate), the effect is essentially zero and is not statistically significant.

On the other hand, the comparison group's subsidy parameter estimate is negative. The probability a comparison group family has recently moved is less the greater the child care subsidies available within their current state of residence. While

single mothers are the sole breadwinners, married mothers have the luxury of drawing on a potential second source of income. To return to the major goals of welfare reform, one of the goals was the promotion of marriage at least partially because of the financial benefits of having two potential breadwinners in the family. This may explain the statistically insignificant effects of child care subsidies on the comparison group families as married mothers have husbands to help both financially and caring for the children while the mother may be working. Overall, the parameter estimates may be interpreted as evidence for the greater importance of child care subsidies for single mothers versus married mothers.

Statistically significant personal characteristics include the head of household's age and race. As previously hypothesized and presently reported for both sets of probit results, the older the MKA, the lower the propensity to move. Specifically, the older the head of the household for those families classified as part of the comparison group, the probability the family moved recently falls. For members of the target group within the alternative model, one calculates a parameter estimate equal to the comparison group effect plus the *groupage* variable effect that is negative and is statistically significant.²² However, the age variable is not found to be statistically significant for members of the target group as defined for the initial probit model.²³ Further, there appears to be no statistically significant welfare-induced effect on the target group's parameter estimate for age, which would be the proper interpretation of the *groupage* parameter estimate.

In regards to the race or ethnicity variable, the third racial category (non-Black, non-Hispanic) is the only racial category to return statistically significant results; further,

²² The t-statistic for the alternative model = -2.1740

²³ The t-statistic for the initial model = -0.0798

this is only found to be true for the alternative probit results. In particular, for the comparison group the parameter estimate for *race3* is negative and significant at the 5 percent level of significance. These results suggest married Caucasian women were less likely to report a recent move than married Hispanic women. For the target group, the combined parameter estimate is 0.17, but the result is not statistically significant.²⁴ Further, when interacting the TANF status variable with the same race variable, the parameter estimate for *grouptanfrace3* is significant at the 5 percent level for the initial model and the 1 percent level for the alternative model. These results suggest that for families currently identified as receiving welfare payments (and categorized as non-Black non-Hispanic members of the target group), the probability that such an individual will have made a move is less than if not already a participant within the welfare system. This may follow from the hypothesis that poor single mothers are less likely to move because of their financial circumstances and because of the importance associated with relative-provided care.

Regarding the household head's highest level of education attained and its effects on migration tendencies, hypothesis testing suggested fewer educational categories be used. The education variable was revised and defined as equal to one if the MKA had completed schooling up to and including twelfth grade with no high school diploma or GED if one is reviewing the initial probit results. Regarding the alternative probit results, the *edulev* variable was alternatively defined as equal to one if the MKA earned at most a high school diploma or his/her GED and zero otherwise. While the level of education on its own was not statistically significant in either model, the variable, when interacted with the relative care variable, warrants attention.

²⁴ The t-statistic = 1.1680

In particular, for the alternative probit model, target group members who are susceptible to changes in welfare programs and are reporting relatively greater levels of education and presently drawing on relatives to provide care are predicted to have a greater tendency to migrate than those who are not currently using relatives to provide care; this effect is significant at the 10 percent level of significance. The interpretation of this variable effect is similar to the child care subsidy and relative care variable effects in that the *groupedulevrelcare* variable estimate measures welfare reform's additional influence. The total target family parameter estimate (*edulevrelcare* plus *groupedulevrelcare*) is positive but not statistically significant.²⁵ In effect, for low-income single mothers who are reporting relatively greater educational accomplishments and reliance on family members to provide care for their children, these mothers are more likely to have made a move due to changes in relevant welfare programs versus those mothers with the same level of education and same child care circumstances but are not typically influenced in any significant way by changes in the welfare system. One possible scenario may be that single mother families whose mothers completed more years of education may have made an earlier move to find better financial conditions but with the more stringent welfare reforms are now finding it difficult to survive without the help of family. In turn, these women are returning home to solicit help from family members in the providing of care for their children.

In summary, for married mothers currently reporting the use of relatives to provide care, they are more likely to have recently moved than single mothers in the same situation. This could be explained by the hypothesis that single mothers are less likely to have moved away from relatives in the first place. More aggressive states (i.e., anti-

²⁵ The t-statistic = 0.3923

welfare encouraging states) effectively reduced migration. This can be viewed as beneficial or not depending on whether the state's welfare policy goals include the prevention of migration of poor families to the state or encourage migration, in general, to find better employment opportunities. Furthermore, empirical evidence suggests that welfare reform effectively created the incentive to work thereby leading to the increased importance of child care subsidies for the welfare-susceptible single mother.

Comparatively, comparison group households (i.e., married mothers) were less likely to move if the state offered larger child care subsidies. Lastly, empirical evidence suggests the child care subsidies are more important to single mothers.

Hypothesis Testing

A Wald test supports the inclusion of the group variables, i.e., the DD approach is appropriately used in this case. Results from a regression minus the group variables and estimated using a sample including only those mothers who are categorized as part of the target group are reported within Table 3. Without the DD approach, the welfare aggressiveness variables are statistically insignificant when, alternatively, the DD approach reports statistical significance. This signifies the DD approach may be uncovering influences on migration tendencies that otherwise would not be reported, especially results related to the welfare magnet hypothesis and the influences of welfare reforms and child care on migration decisions. Further, Wald tests suggest state dummy variables are necessary. The *timelimit* variable was, ultimately, rejected while a Wald test could not reject the inclusion of the child care variable. When interacting the relative care variable with the year variable, a Wald test rejected the inclusion of the interaction variable.

Marginal Effects

Additional results of interest include the marginal effects of specific independent variables emphasized within this research. The marginal effects are calculated for the variables *welfagg2*, *welfagg3*, and *relcare*. Specifically, marginal effects are calculated and reported as changes in the probability an individual moves given a discrete change in the variable of interest. For example, the *welfagg2* variable is allowed to vary between two values, 0 and 1, while all other variable values are held constant at their mean values. The same is true for both the *welfagg3* and *relcare* variables. Following are the marginal effects as reported for both the initial and alternative versions of the probit analysis.

Regarding the *welfagg2* effect, for the initial probit model, the probability that a family living in a relatively more aggressive welfare state had recently moved was 0.1372 lower than families not living in such a state. This is compared to an increase in the same probability of 0.0450 for the same family within the alternative probit model. Evaluating the change in the probability for a family living within the most aggressive welfare states (*welfagg3*), such a family is more likely to have recently moved; this is true for both the initial and alternative probit models. The probabilities of moving for the initial and alternative probit analyses increase by 0.0792 and 0.0601, respectively. Lastly, for the relative care variable, those families who currently report using relatives to provide care are less likely to report a move than those families who are not making use of family to meet their child care needs. For the initial probit results, the probability of a move falls by 0.2793. For the alternative results, the probability of a move falls by 0.2687.

Conclusion

Low-income program expenditures in 2004 were the greatest they had been in the last 40 years, but the nature of, and the categories of low-income families receiving assistance, has changed. PRWORA embodied one important change. TANF was structured so that an eligible family received cash benefits only if the family demonstrated a commitment to employment. At the same time, there was a shift away from assisting single unemployed mothers to helping working families and disabled adults and children. While the welfare program in the 1970s and 1980s increasingly emphasized the acquisition of greater levels of education and training in preparation for the work world, TANF largely eliminated these aspects of assistance. The fact that the new work requirements did not follow the employment patterns of married middle-class mothers was of little consequence; ironically, a large proportion of married women work fewer hours than required by TANF's new work requirements for recipients (Moffitt, 2007, pp. 40-43).

Given the changes to the welfare system, the research conducted here is done in an attempt to determine the migration effects (both the welfare magnet effect and the effect of social capital on migration) of the new work incentives arising out of PRWORA. Regarding the welfare magnet effect, the empirical results suggest that more aggressive state TANF programs effectively deter migration. This could be interpreted in two different ways. In one way, this implies that states need only toughen their stance on welfare benefits and work requirements to stop the flow of potential welfare recipients into their states. On the other hand, the results also suggest that welfare recipients already living within the more aggressive states are not moving to find employment and,

therefore, may not be behaving in ways that would make available sufficient employment opportunities.

Regarding the effect of social capital on migration patterns, the empirical results suggest that some welfare-receiving mothers are not responding to TANF incentives by moving. More specifically, if welfare-susceptible mothers reported using their access to social capital (i.e., relatives) to provide care for their children, they were less likely to have moved recently. It may then be proposed that many single mothers are not poor because they choose to be but because their choice sets (at least in their eyes) are such that self-sufficiency is unattainable and financial and emotional help is a necessity, whether it comes from the government or friends and family. After all, what more serious incentives might be instituted to get parents to take responsibility than taking away the last vestiges of a safety net? Yet, welfare-susceptible adults are still not demonstrating they will do whatever it takes, including moving, to find jobs paying a self-sufficient wage.

With the renewed emphasis on weaning low-income, impoverished mothers from public assistance, many policymakers feel that PRWORA will create incentives for poor single mothers to find employment in order to improve their own financial well-being. The tendency to remain in a location with poor job prospects can be explained, at least partially, by the role social capital plays in the survival of the welfare-poor family. One question that might then be raised is what should be done to help the average welfare family succeed in being self-sufficient? Is it possible that families want to move but just do not have the cash to finance it? Should the federal government offer subsidies to families that move to find self-sustaining employment? Devoting more of TANF's

resources to helping families move and find employment may be the answer. However, encouraging greater mobility has its disadvantages for everyone, not just the welfare population. As discussed earlier, there are social and cultural consequences when neighborhoods are perceived to be less stable and neighbors take less and less interest in the collective “raising” of the youth. On the other hand, this might be a temporary response with the greater self-confidence experienced by working welfare mothers producing benefits that far outweigh the potential costs of less stability.

Ideally, each low-income family is viewed as a unique entity to be serviced in the best way possible to meet the needs of that particular family (while at the same time bearing in mind the community’s overall social welfare). If TANF caseworkers can be expected to direct low-income families to appropriate employment opportunities, then it seems realistic to entrust additional relocation resources in caseworkers’ hands in an effort to assist those families looking to move away from poverty toward employment. It does not appear wise to force non-willing families to relocate; this is both the case for the well-being of the individual family members and the communities potentially involved in the family’s relocation.

Other policy recommendations might include using child care subsidies to pay for family members to care for the children. Also, the government is not the only social institution available to help impoverished families. Some employers are finding it profitable to provide some sort of on-site daycare for their employees’ young children. While minimum-wage-offering employers are not typically a part of this growing trend, perhaps the daycare-providing employers could work together with the local minimum-wage-paying employers to share access to one conveniently located facility. This could

include a significant subsidy to a minimum-wage earning family, for example. Perhaps it would even be appropriate to pay the mothers (or fathers) to care for their children in their own homes with work requirements not starting until the children are old enough to attend school. While this solution has not been well-received to date, it might be more palatable if the stay-at-home parents were required to somehow show effectiveness in raising their children thereby quieting those who believe welfare mothers leave their kids to fend for themselves and, therefore, perpetuate the cycle of poverty.

While the results presented here are interesting, the empirical analysis is not without its flaws. One unfortunate problem is the inability to track families over time within the NSAF data set. Rather than evaluating the migration tendencies of families who started with using relatives as the main child care providers, I had only the resulting child care provisions of families. Therefore, I was not able to determine whether families moved to or away from relatives, just that families are currently using (or not using) relatives to provide care. A second problem is the relatively short time frame involved. Ideally, the NSAF would include a few more rounds to determine the long-term effects of TANF. Especially with recent economic downturns, it would be interesting to follow migration patterns when the economy is not growing as it was when PRWORA was initially passed. Third, there is a potential bias should the comparison group include married mothers with children who are eligible to receive TANF benefits. Ideally, the comparison group contains only those families that are not TANF-eligible. Further, future research might include the separation of the dependent variable such that the probabilities of inter- and intra-state moves are estimated.

Table 1A
Migration Propensities for Initial Sample's Target & Comparison Groups

	Comparison		Target	
	No Relative Care	Relative Care	No Relative Care	Relative Care
Did Not Move	536 (47.81)	170 (15.17)	469 (37.55)	238 (19.06)
Moved	305 (27.21)	110 (9.81)	346 (27.70)	196 (15.69)

Percentages in parentheses.

Table 1B
Descriptive Statistics for Alternative Target & Comparison Groups

	Comparison		Target	
	No Relative Care	Relative Care	No Relative Care	Relative Care
Did Not Move	2175 (48.28)	911 (20.22)	1408 (35.36)	949 (23.83)
Moved	993 (22.04)	426 (9.46)	1003 (25.19)	622 (15.62)

Percentages in parentheses.

Table 2A
Descriptive Statistics for Initial Target & Comparison Group Designation

Variable	Comparison Group (n=1121 observations)	Target Group (n=1249 observations)
Migration Variables		
moved		
move=1; no move=0	.37 (.48)	.43 (.50)
moved		
in-state=1; out-state=2; no move=0	.42 (.58)	.47 (.56)
Welfare Aggressiveness Variables		
timelimit	.43 (.49)	.47 (.50)
state welfare aggressiveness (Ellwood)		
least=1; moderate=2; most=3	2.20 (.80)	2.26 (.80)
state welfare aggressiveness (Meyer and Rosenbaum)		
least=1; moderate=2; most=3	2.31 (.85)	2.25 (.86)
ccdfperchld	96.86 (36.40)	101.84 (34.72)
ccdfundr5	360.70 (142.88)	381.57 (135.48)
Family Characteristics		
tanf	.09 (.29)	.31 (.46)
relcare	.25 (.43)	.35 (.48)
working	.34 (.47)	.38 (.49)
income		
lowincome	.44 (.50)	.71 (.46)
highincome	.16 (.37)	.09 (.29)
priorunemploy	4.86 (1.02)	4.82 (1.02)
currentunemploy	5.09 (1.11)	5.02 (1.14)
age	31.01 (8.81)	28.99 (10.55)
education level		
8 th grade=1; 9 th -11 th =2; 12 th =3	1.71 (.58)	1.90 (.51)
edulev2	.58 (.49)	.73 (.45)
edulev3	.07 (.25)	.08 (.28)
race2	.12 (.33)	.39 (.49)
race3	.37 (.48)	.29 (.45)

Standard deviations in parentheses.

Source: 1997, 1999, and 2002 National Surveys of America's Families

Table 2B
Descriptive Statistics for Alternative Target & Comparison Group Designation

Variable	Comparison Group (n=4505 observations)	Target Group (n=3982 observations)
Migration Variables		
moved		
move=1; no move=0	.31 (.46)	.41 (.49)
moved		
in-state=1; out-state=2; no move=0	.36 (.56)	.45 (.57)
Welfare Aggressiveness Variables		
timelimit	.46 (.50)	.47 (.50)
state welfare aggressiveness (Ellwood)		
least=1; moderate=2; most=3	2.24 (.79)	2.27 (.79)
state welfare aggressiveness (Meyer and Rosenbaum)		
least=1; moderate=2; most=3	2.26 (.86)	2.24 (.86)
ccdfperchld	101.52 (37.33)	102.69 (36.20)
ccdfundr5	380.55 (145.95)	385.66 (140.52)
Family Characteristics		
tanf	.05 (.23)	.22 (.41)
relcare	.30 (.46)	.39 (.49)
working	.49 (.50)	.56 (.50)
income		
lowincome	.26 (.44)	.57 (.50)
highincome	.74 (.44)	.43 (.50)
priorunemploy	4.77 (.99)	4.76 (1.00)
currentunemploy	4.94 (1.13)	4.93 (1.15)
age	31.26 (7.56)	28.75 (8.96)
edulev2	.16 (.37)	.26 (.44)
edulev3	.75 (.43)	.68 (.47)
race2	.11 (.31)	.37 (.48)
race3	.62 (.48)	.40 (.49)

Standard deviations in parentheses.

Source: 1997, 1999, and 2002 National Surveys of America's Families

Table 3

Variable	Initial Probit Results		Alternative Probit Results	
	Parameter Estimate (DD)	Parameter Estimate (No DD)	Parameter Estimate (DD)	Parameter Estimate (No DD)
Personal or Family Characteristic Variables				
relcare	0.46** (0.21)	0.05 (0.24)	0.27 (0.17)	-0.27* (0.14)
groupprelcare	-0.60*** (0.22)		-0.55** (0.22)	
lowincome	0.32** (0.14)	0.22 (0.17)	collinear	0.25 (0.08)
grouplowincome	-0.10 (0.22)		0.06 (0.12)	
highincome	0.18 (0.20)	-0.14 (0.25)	-0.20** (0.08)	collinear
grouphighincome	-0.31 (0.32)		collinear	
age	-0.08** (0.03)	-0.04 (0.04)	-0.09*** (0.02)	-0.07*** (0.02)
groupage	0.04 (0.05)		0.03 (0.03)	
age2	0.00 (0.00)	-0.00 (0.00)	0.00** (0.00)	0.00 (0.00)
groupage2	-0.00 (0.00)		-0.00 (0.00)	
edulev	-0.14 (0.28)	-0.19 (0.26)	-0.05 (0.10)	-0.03 (0.11)
groupedulev	-0.20 (0.41)		0.03 (0.15)	
edulevrelcare	-0.21 (0.22)	-0.40 (0.27)	-0.37* (0.19)	0.12 (0.17)

Table 3 continued

Variable	Parameter Estimate (DD)	Parameter Estimate (No DD)	Parameter Estimate (DD)	Parameter Estimate (No DD)
groupedulevrelcare	0.48 (0.48)		0.49* (0.25)	
race3	-0.20 (0.19)	0.12 (0.21)	-0.22** (0.09)	0.17 (0.12)
grouprace3	0.30 (0.28)		0.39*** (0.15)	
tanfrace3	1.05* (0.58)	-0.55 (0.34)	0.69** (0.34)	-0.43* (0.22)
grouptanfrace3	-1.60** (0.67)		-1.12*** (0.41)	
TANF-Related Variables				
welfagg2	-1.34 (1.07)	-0.23	1.82* (1.08)	-0.48 (0.83)
groupwelfagg2	-4.68*** (1.06)		-2.85** (1.17)	
welfagg3	6.21*** (1.29)	0.44 (0.31)	1.97** (0.93)	-0.00 (0.48)
groupwelfagg3	-6.99*** (1.36)		-2.59*** (0.82)	
ccdfundr5	-0.02*** (0.00)	-0.00 (0.00)	-0.01*** (0.00)	-0.00 (0.00)
groupccdfundr5	0.01*** (0.00)		0.01** (0.00)	
tanf	-0.15 (0.27)	0.43** (0.21)	-0.20 (0.23)	0.41** (0.18)
grouptanf	0.57* (0.35)		0.61** (0.29)	

Number of observations	2247	1145	8132	3675
Log pseudo-likelihood	-1276.84	-654.58	-4764.73	-2209.94
Pseudo R ²	0.17	0.17	0.12	0.12
robust standard errors in parentheses				
* = statistically significant at 10% level of significance				
** = statistically significant at 5% level of significance				
*** = statistically significant at 1% level of significance				

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APPENDIX

Harris-Todaro Model with Costs a function of Child Care Costs

The future expected income from migration is

$$1/r[pw_{\text{new}} + (1-p)w_{\text{unemp}}] - C(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}})$$

where $C(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}})$ is a typical cost function where

$$\partial C / \partial c_{\text{move}} > 0; \partial C / \partial c_{\text{daycare}} > 0; \partial C / \partial c_{\text{psychic}} > 0 \text{ and}$$

$$\partial^2 C / \partial c_{\text{move}}^2 > 0; \partial^2 C / \partial c_{\text{daycare}}^2 > 0; \partial^2 C / \partial c_{\text{psychic}}^2 > 0.$$

The future expected income from remaining in the original location is

$$(1/r)w_{\text{original}}.$$

Assuming probability of employment is

$$p = L_{\text{new}}^*/N_{\text{new}} = L_{\text{new}}^*/(L_{\text{new}}^* + MN_{\text{original}}^*)$$

migration takes place until the returns to moving are equal to the returns to staying.

This condition is as stated below:

$$1/r[pw_{\text{new}} + (1-p)w_{\text{unemp}}] - C(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}}) = (1/r)w_{\text{original}}.$$

This condition then becomes

$$pw_{\text{new}} + (1-p)w_{\text{unemp}} - w_{\text{original}} = rC(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}}).$$

Substituting in the probability of employment

$$\{L_{\text{new}}^*/(L_{\text{new}}^* + MN_{\text{original}}^*)\}w_{\text{new}} + \{1 - L_{\text{new}}^*/(L_{\text{new}}^* + MN_{\text{original}}^*)\}w_{\text{unemp}} - w_{\text{original}} = rC,$$

this simplifies to

$$\begin{aligned} & w_{\text{unemp}}(MN_{\text{original}}^*) - w_{\text{original}}(MN_{\text{original}}^*) - rC(MN_{\text{original}}^*) = \\ & - w_{\text{new}}L_{\text{new}}^* + w_{\text{original}}L_{\text{new}}^* + rCL_{\text{new}}^* \end{aligned}$$

Solving for M:

$$M = \left[\{w_{\text{new}} - w_{\text{original}} - rC(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}})\} / \{rC(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}}) - w_{\text{unemp}} + w_{\text{original}}\} \right] * (L_{\text{new}} / N_{\text{original}}).$$

How does M change as the price of child care changes?

$$\partial M / \partial c_{\text{daycare}} = \partial M / \partial C (\partial C / \partial c_{\text{daycare}})$$

where

$$\begin{aligned} \partial M / \partial c_{\text{daycare}} = & (L_{\text{new}} / N_{\text{original}}) (\partial C / \partial c_{\text{daycare}}) [-r \{rC(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}}) - w_{\text{unemp}} + \\ & w_{\text{original}}\} - r \{w_{\text{new}} - w_{\text{original}} - rC(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}})\}] / [\{rC(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}}) - \\ & w_{\text{unemp}} + w_{\text{original}}\}^2]. \end{aligned}$$

This condition can be further reduced to:

$$\begin{aligned} \partial M / \partial c_{\text{daycare}} = & (L_{\text{new}} / N_{\text{original}}) (\partial C / \partial c_{\text{daycare}}) [r(w_{\text{unemp}} - w_{\text{new}})] / [\{rC(c_{\text{move}}, c_{\text{daycare}}, c_{\text{psychic}}) - \\ & w_{\text{unemp}} + w_{\text{original}}\}^2]. \end{aligned}$$

Assuming that $w_{\text{new}} > w_{\text{unemp}}$ and by assumption of convexity of the cost function, it can be said that

$$\partial M / \partial c_{\text{daycare}} < 0.$$