

Child Care, Female Employment, and Economic Growth

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In this paper, I describe the linkage between child care, female employment, and regional economic growth. I begin with a detailed examination of modal choices in child care and relate these choices to female employment outcomes. Next, I discuss the empirical evidence regarding the importance of child care prices in employment choices. In the mid-section of the paper, I describe governmental involvement in the child care market both at the federal and state level. Then, I discuss problems with child care that affect parents' involvement, and the role that work disruption plays in the motherhood wage gap. I conclude the paper with a discussion of the importance of a community's work/family support system, including child care assistance to the region's economic development. Although workforce development policies typically focus on preparing new workers for work, I argue for an increased emphasis on worker retention, particularly mothers who comprise an ever-growing proportion of the high-skilled workforce.

Keywords: *child care; female employment; intermittent work; motherhood wage gap*

Considerable research by labor economists documents multiple linkages between child care and employment. These linkages include the role of child care prices on child care modal choices as well as employment choices, and the role that policy plays in these choices. The bulk of this literature focuses on the demand side of the child care market; i.e., parental decision-making and individual outcomes in a static setting. Only recently has the discussion been broadened to describe the supply side of the market, namely the importance of affordable, quality child care on the work life trajectory of female workers, as well as the lives of their children. My paper will review briefly the state of knowledge concerning the heterogeneity of child care choices, including differences by various demographic factors, and it will relate these choices, as well as child care prices, to employment decisions. Then, I will describe child care disruptions and the role that these disruptions can play in dampening mothers' wage growth. Finally, I discuss the role that child care can play in facilitating the work and family balance, thereby improving the retention of female workers and facilitating regional economic growth.

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ECONOMIC STUDIES OF CHILD CARE

Speaking broadly, the economics of child care literature can be stratified into two distinct strands. The descriptive literature outlines parents' choices regarding the type of child care (referred to as modal choices¹) and expenditures, relating both to demographics such as ethnicity, education, and income. The second strand is the econometric studies of the role of child care prices and subsidies on child care modal choice, employment, and welfare receipt. These two strands are clearly linked as it is likely that parents consider their employment options jointly with child care considerations, including modal options as well as affordability. However, the bulk of the modal choice literature focuses on this consideration distinct from employment choices, so I begin with a description of that literature.

By focusing solely on the modal choice first, the reader may glean a better understanding of how child care demand varies by family income, age of the child, and ethnicity. An understanding of the role that these factors play in modal choices lays the groundwork for the employment models that follow. Additionally, policy-makers in regional economic development will need this modal choice snapshot to inform their workforce development policies that improve mothers' workforce retention via the provision of child care support. Once this snapshot is complete, I move on to describe the studies that examine the importance of prices on employment choices, and I conclude this second subsection with mention of studies that combine both literature strands.

Descriptive Overview of Child Care Expenditures and Modal Choices

A variety of national data sources contains detailed information regarding the types of child care arrangements that parents use for their children and the portion of the family budget devoted to child care. Probably the two most well-known sources of data are two national surveys: the recently instituted National Survey of America's Families (NSAF), run by the Urban Institute, and the Survey of Income and Program Participation (SIPP), a series of short panel surveys conducted by the Census Bureau.² In the descriptive literature relying on these data, the focus is on pre-school children (i.e., ages 0 to 5 years), but as all parents know, care for school-aged children (i.e., ages 6 through 12) creates its own unique problems. Thus, I will describe school-age care as well.

Child Care Modal Choices

Researchers in child care often categorize different child care choices into five composite modes of care: parent and other care; relative care; nanny and babysitter care; family child care (care by a non-relative in a home other than the child's home); and center-based care. For pre-kindergarten children, parental choices among these modes of care are known to vary by the age of the child, marital status of the mother, family income, parental education, and ethnicity.

Table 1 presents data from the 2002 NSAF survey and shows the arrangements for primary child care for children with employed mothers, broken down by child's age and family income level. Families are stratified into two family income groups: poor and non-poor, where the dividing line is 200% of the federal poverty level. For all children under the age of 5, we can see that the most noticeable difference in modal choice by income level lies with relative and parent care. Poor families more likely to choose both (compared to higher income families). Non-poor children are more likely to be in center-based care. The finding of less utilization of center-based care by lower income families is common, with important decision factors including the ability to afford center-based care and the intensity of workforce participation. Parents with both lower and higher income levels more often choose relative and parent care

for younger children. However, parents more often choose center-based care for older children, reflecting their greater concern for the educational component of care for older children. Given these patterns, knowledge of a local population's average income and typical age distribution of children can be useful to community developers when developing targeted child care policies.

Finally, Table 1 shows the breakdown of child care modes for school-aged children (i.e., children ages 6 through 12). For school-age children, the formal care arrangement is before/after school programs, and a sixth category, self care, is added. Non-poor school-aged children are more likely to participate in before/after school programs and to be in self care (17 and 11 %) than poor school-aged children are likely to participate (11 and 8 %).

Little is known about care for school-aged children during the summer months, but recent research using the NSAF provides some insight. Capizzano, Adelman, and Stagner (2004) use the 1999 NSAF data to describe the type and costs of summer care arrangements used by working parents. These researchers find that fully a third of school-aged children is cared for primarily by relatives in the summer, and roughly, another third is in formal programs (such as camps) or summer school. While the incidence of self care does not increase in the summer (about 11 % of children ages 6 to 12 are in self-care both during the school year and during the summer), the number of hours per day spent in such care is twice as large during the summer. If we look at income, poor families are more likely to rely on relative care (45%) and considerably less likely to rely on self care compared to non-poor families. Finally, although non-poor families report an increase in monthly child care expenditures for school age children during the summer, poor families report lower monthly expenditures. The implication for policy-makers seeking to satisfy demands for summer child care is that formal summer care programs are not suitable for low income communities unless generous subsidies are provided.

Table 1. Primary Child Care Utilization Patterns by Income Level for Children of Employed Mothers

	Center-Based Care*	Family Care	Nanny/Sitter	Relative Care	Parent Care	Self Care
1. Child < 5 Poor Family	24.9%	10.7%	3.5%	29.5%	31.3%	-
2. Child < 5 Non-Poor	31.2%	14.2%	5.3%	23.9%	25.4%	-
3. Child < 3 Poor	16.2%	11.0%	3.3%	31.7%	37.7%	-
4. Child < 3 Non-Poor	20.6%	14.7%	6.5%	25.8%	32.4%	-
5. Child 3-4 Poor	36.4%	10.3%	3.8%	26.5%	23.0%	-
6. Child 3-4 Non-Poor	45.5%	13.6%	3.7%	21.3%	15.9%	-
7. Child 6-12 Poor	11.0%	6.0%	4.0%	21.0%	44.0%	8.0%
8. Child 6-12 Non-Poor	17.0%	7.0%	4.0%	21.0%	40.0%	11.0%

* For school-age children, this category is before/after school care programs. These data are from the National Survey of America's Families, 2002 survey year.

Table 2. Distribution of Children Ages 0-4 Primary Care Arrangements

	Mother Employed				Mother Not Employed			
	Parent	Relative	Non-Relative	Center	Parent	Relative	Non-relative	Center
Caucasian	26.5	23.7	23.4	26.3	70	12.5	5.7	11.7
African American	16.7	36.2	13.4	33.6	46.7	25.4	10.7	17.2
Hispanic	26.2	38.4	20	15.3	76.2	14	1.9	7.9
Urban	25.8	28.9	26.7	24.6	68.5	13.5	6	12
Rural	19.8	28.9	26.7	24.6	68	20.4	2.7	8.9
Mother Works Full Time	17.5	30.1	24.1	28.3	-	-	-	-
Mother Works Part Time	38.2	26.9	15.7	19.2	-	-	-	-

Data are drawn from wave 10 of the 1996 SIPP panel and acquired from Table 1 & 2, Blau and Currie (2006).

Data presented by Blau and Currie (2006) provide further detail concerning differences in child care modal choices by ethnicity, rural and urban residence, and mother’s work hours. As presented in Table 2, the placement of caucasian children is spread fairly even across four modes (parent, relative, non-relative, and center), although African American children are more concentrated in relative care (36.2 %) and center-based care (33.6 %). About a third of Latino/a or Hispanic children is placed in relative care, with only 15.3% in center-based care. Regarding urban versus rural residence, there is little difference in placement rates in relative or center-based care, but only a fifth of rural children is placed in parent care. Although one-fourth of urban children has the same placement, the percentages are reversed for non-relative care. Finally, there are clear differences in modal choices based on the mother’s work intensity. Only 17.5% of children of mothers working fulltime in the paid workforce is in parent care, versus 38.2% of the children of mothers working part-time. Additionally, non-relative care and center-based care are both more common choices for children of fulltime, employed mothers. Clearly, workforce intensity plays a big role in child care demand, and community developers would be well-advised to incorporate knowledge of local work patterns in their policy-making process.

The bulk of the information regarding child care modal choice is limited to children up through the age of 12; thus, researchers may disregard issues surrounding supervision of older children. This neglect is unfortunate because lack of supervision for older children can lead to bad choices that carry lifetime consequences, such as criminal activity and early sexual activity. M. A. Lucas, Director of Army Child and Youth Services, discusses youth supervision programs for children ages 13 to 18, together with child care concerns for younger children, stating that enlisted soldier parents often lose work time because of problems associated with adolescent misconduct (2003, p. 1). Fortunately, the U.S. military has devoted considerable resources to address child care problems for children of all ages.

Much of the information regarding modal choices is widely discussed in the child care literature. The greater part of the descriptive evidence regarding heterogeneity in child care choices is demand-focused, meaning that choices are described as resulting from differences in individual preferences and income (See Meyers & Jordan 2006 for a complete discussion

of this issue). There is a newer literature, however, that recognizes the role that supply factors play in the observed utilization patterns of child care, in which these patterns reflect differences in costs across regions and the relative thickness of the local market.

Investigating state variation in care choices, Sonenstein et al. (2002) report differences among thirteen states in formal care use for children of employed low income parents (defined as family income less than 200% of the poverty line) for preschool and school-aged children.³ Sonenstein et al. show that, for preschool children in families with a low-income employed parent, only 10% is in center care in Michigan, 14% in New York, but 37% in Alabama. Use of before- or after-school care by school-age children with like parents ranges from just 6% in Wisconsin, to 11% in Michigan, 15% in New York, and 17% in California and New Jersey.

What might be the source(s) of this dramatic spatial variation in observed child care choices and affordability? Because child care regulations are established at the state level, and there is substantial variation across states in these regulations, it is logical to think that the regulations might impose costs differentially across states. For example, states with child care center regulations that establish relatively low caregiver/child ratios are likely exhibit higher average prices of center care. Additionally, in states with large rural populations, thus with workers facing longer commute times, large centers might be replaced with numerous smaller family daycare providers. Davis and Weber (2001) studied rural child care markets in Oregon in the late 1990s and confirmed that rural and urban markets differ in fundamental ways. Mothers living in rural areas face fewer modal choices per capita; they travel farther on average to providers; and state child care subsidies are lower in rural areas (reflecting presumed lower prices of care).

One source of spatial differences (state differences as well as rural versus urban differences) is the relative thickness of the local child care market. In highly dense urban centers with a large demand for non-parental child care, sufficient competition exists to produce much variation in child care modes. Additionally, the thickness of the market has implications for the nonprofit/for profit mix, and therefore the availability of quality care. Cleveland and Krashinsky (2005) examine the role that nonprofits play in the child care market and conclude that, ignoring market density, nonprofit centers provide minimally improved quality, if any improvement exists at all. But once market thickness is controlled, then the authors observe a clear quality advantage for nonprofits in thick markets. Thus, community developers must realize that state and local policies designed to affect the quantity and quality of care ought to differ by the region's population density. Specifically, it cannot be assumed that nonprofit centers will provide enhanced quality in rural areas.

Davis and Connelly (2005) study the importance of local child care price and availability in Minnesota on parents' choices of child care mode. They also discuss the role of policy, explaining that one would expect to observe differences in child care choices across the state because of public policy variation in mandated child: staff ratios and child care subsidy expenditures. They focus on county-level exogenous differences in child care availability and prices on child care choices, and find that neither is of great importance to those choices. Specifically, child care availability appears to be important only to mothers' choice of family daycare, because of their observed preference for relative care. Additionally, prices were important for the choice of family daycare but not for centers. As Davis and Connelly describe (p. 326), the policy implications of their findings are two-fold. First, states that wish to support child care centers ought to provide funds to improve centers' flexibility; and second, support for family daycare ought to emphasize the educational component of such care.

Child care choices may also vary temporally. To what extent have parents' child care choices for their children evolved over time? The answer to this question is not clear. Sonenstein et al. report changes over time from 1997 to 1999 in modal choices by income

and marital status. As they report, for preschool children, low income two-parent families shifted away from center-based care (22% to 16%) towards parent/other care (37% to 43%) while higher income two-parent families shifted away from center-based care (35% to 29%) towards relative care (19% to 25%). There were no statistically significant changes observed for single-parent families, perhaps reflecting no change in the availability of choices for such families. Data for school-aged children indicate a somewhat different picture. For two-parent families, the only statistically significant difference was observed in self care, which fell from 15% to 11%. For single-parent families, those living with low family incomes displayed a reduction in the reliance on before- or after-school programs (21% to 15%) and an increase in relative care (from 26% to 36%). Higher income single parent families also displayed increased use of relative care (from 20% to 30%). Trend data reported by Blau and Currie (2006), however, do not indicate a clear time trend in modal choices, except for a small decline in non-relative care from 1985 to 1999. Despite the data inconsistency, there is sufficient evidence pointing to the importance of considering time and state of residence in observed utilization patterns of child care when policy-makers formulate local policy options.

Child Care Expenditures

Probably the most important “news flash” is that child care is expensive and constitutes an important percentage of family budgets, for low-income as well as middle-income families. These costs vary by the type of care utilized. Employed mothers spend on average per week per child \$92.30 for formal daycare arrangements, \$66.18 for relative care (for those paying for such care), and \$56.12 for family daycare (Boushey, 2004). These payments represent 9.0% of family income for those purchasing formal daycare and 7.4% of family income for family care. On average, higher income families spend more per week on child care, but these expenditures comprise a smaller percentage of their family budgets compared to the family budgets for lower income families. According to Boushey, although high income families (those in the highest 20% of family earnings) devoted 6.1% to formal day care expenditures, low income families (those in the lower 40%) devoted 18.4% of total household income to formal day care. For both income groups, these percentages are lower for other modes of care. For example, low income families devoted 11.8% of total household income to relative care expenditures, and 12.7% to family daycare. Finally, the percentage of family income devoted to child care expenses (for all families) has risen steadily over time, from 6.6% of family income in fall 1987 to 7.5% of family income in spring 1999, and the percentage of employed mothers paying anything for child care has increased over the same time period from 33.3% to 43% (Blau & Currie, 2006). As these data suggest, concerns about child care affordability extend well beyond the lowest income families. Once taxes and housing are paid, child care expenses strain even budgets of middle income families.

In addition, there are differences among states in the percentage of family income devoted to child care expenses. Focusing on the same thirteen states, Sonenstein et al. (2002), found that the percentage of lower income families paying for care ranged from a low of 35% in California to 49% in Alabama, although the comparable percentages for higher income states range from 48% in Washington and Wisconsin, to 61% in Minnesota. The percentage of family income devoted to child care expenses varies somewhat for lower income families (from a low of 12% in Washington to a high of 17% in New Jersey), but the percentage varies less for higher income families, ranging from 7 to 9% for all thirteen states surveyed. Further research is needed to learn the source of such wide variation across states in child care utilization and expenditure patterns. However, local policy-makers must be well aware of the strain that child care expenses impose on working families.

The Importance of Child Care Prices in Modal Choices, Employment, and Welfare Receipt

Child care prices reflect local costs and market forces. There is an extensive econometric literature establishing the strong role that child care prices play in the choices parents make concerning the types of child care arrangements in which to place their children, and in their own employment and welfare receipt. This strong role is no surprise to child care researchers, because the need for non-parental child care is tied so closely to parental employment and welfare choices, all related choices are highly responsive to the prices of various modes of care.

The most common approach used to gauge the employment responsiveness to child care prices relies on a discrete employment status model, usually estimated via the nonlinear probit method. The employment probit model requires measures of wages and child care prices for all mothers in the sample, including mothers not observed working or paying for care. Both the wage and price measures are instrumented via preliminary regressions. This multi-step empirical methodology can be implemented with various permutations in the model or equation specifications, both of which, according to Kimmel (1998), are responsible for producing variability in the estimated responsiveness of employment to child care prices. Researchers have estimated that the child care price elasticity of employment for mothers ranges from approximately 20% to 80%, implying that a 1% increase in the price of child care would cause a 0.2 to 0.8% reduction in maternal employment probabilities. Both single and married mothers exhibit employment responsiveness within this broad range. While these elasticity estimates are not suggestive of substantial individual responsiveness to child care prices, considering the economy-wide implications leads to a different conclusion. Subsidizing child care, particularly for lower income mothers, can play a dramatic role in increasing their employment rates and reducing their welfare participation rates. According to Connelly and Kimmel (2003b), controlling for welfare participation does not reduce the strong responsiveness of single mothers' employment to child care price changes, and welfare participation itself is strongly responsive to child care prices, with the child care price elasticity of welfare reciprocity ranging from 1.0 to 1.9.

In addition, there is a substantial literature that examines the role that child care prices, wages, and demographic characteristics play in employment and modal choices. One example is the literature that focuses on the choice between full-time and part-time employment or the choice between standard and nonstandard employment (i.e., shift work). This literature relies on models known as multinomial logit models because they permit numerous choices that combine modes with employment types. For example, one choice might be nonstandard employment and parent care. As might be expected, increases in child care prices cause a switch to less formal modes of care, although child care subsidies cause a movement in the opposite direction (Kimmel & Powell, 2006a; 2006b). Additionally, mothers employed part-time or in nonstandard work hours are more responsive to child care prices than other mothers (Connelly & Kimmel, 2003a). Finally, as noted previously, Davis and Connelly (2005) find that prices are important in the choice of family daycare but not center care.

It is important to recognize that the empirical models used in the above-described research do not incorporate the market reality of supply shortages. As described later in this paper, child care shortages exist in some localized markets and for specific types of care. Additionally, because of low wages, many lower or even middle income families cannot fit child care expenses into the weekly family budget.

PROBLEMS WITH CHILD CARE THAT AFFECT PARENTS' EMPLOYMENT

To what extent do problems associated with availability, affordability, and reliability affect parents' ability to combine work and family? This section focuses on two related problems: child care reliability and instability, and the link between these problems and lost work days.

As described earlier, child care can be very expensive, and it comprises a substantial proportion of family budgets even in non-poor families. But child care also presents other problems to families to the extent that it may be in short supply or unreliable. Regarding shortages, there is some discussion in the literature of shortages of care for infants (children ages 0-2), off-hours care (care outside the standard hours of 7 a.m. to 6 p.m.), after-school and summer care, and care of children who are mildly sick. Additionally, the recent welfare-to-work literature has begun to address work readiness problems that are particularly acute in rural areas, suggesting that state policy-makers need to consider rural versus urban population composition when designing child care policies.

The problem of child care stability and possible linkages with parental employment is not well-established in the child care literature. In fact, there is no clear consensus regarding the measurement of stability in child care arrangements. Weber (2005) surveys the literature on child care stability and examines stability in Oregon. While her focus is on the relationship between child care stability and child development, she does document a substantial turnover in child care arrangements for pre-kindergarten children. Boushey (2003) analyzes 1999 SIPP data that includes mothers' self-reports concerning days lost at work because of child care problems. She reports that 8.8% of working mothers report losing work hours because of child care problems, with the percentages higher for mothers using non-institutional care. Specifically, 11.8% of working mothers of children in family day care report losing work days because of child care problems and 14.2% of those relying on sitter care report such problems. Even working mothers, whose children are in formal daycare settings, report workplace disruptions because of child care problems, with 8.5% reporting such problems. To the extent that reliable child care facilitates fulltime year-round employment, these self-reports of child care disruptions suggest fairly substantial holes in the child care system. Although the data do not reveal precise causes of such disruptions, it is likely that provider illness (or personal errand) or child illness are the likely causes. Contingency options for community-wide child care would be useful in resolving these problems.

Data from Ohio report a much higher incidence of lost work because of child care woes. According to a survey conducted in March 1998 by the Kunz Center for the Study of Work & Family, one-fifth of working parents reports work disruptions because of child care. More specifically, one-fifth reports that they or their spouse had arrived late for work, left work early, or missed work entirely because of a problem with child care (Kunz Center Press Release, 1998). Additionally, working parents with young children report missing an average of 4.2 work days each year because of an ill child and 1.1 additional days per year for other unexpected child care needs (See also Kirby 1998). Additionally, the survey findings reveal substantial concern about the potential career disruption costs associated with family interference with the workplace. Given that parents select child care providers with priority for reliability, it is surprising still to find such disruptions in care. On the other hand, with such a need for reliability, parents are likely to make this concern a priority in their provider selection, thereby lessening the importance placed on more important socialization factors such as child development. Were centers more flexible (i.e., open more hours and providing care for mildly ill children), parents could select reliable care that provides high quality care for their children (Davis & Connelly, 2005).

Hofferth and Collins (2000) describe 1990 data from the National Child Care Survey. They examine the linkages between child care availability (measured as the number of providers per 1,000 children) and mothers' employment exits and find that greater availability is linked to lower exits. They find that all mothers face higher labor force exit probabilities associated with child care disruption and that the availability of substitute arrangements is important. Not all researchers agree, however, that child care disruptions are associated with job turnover. Miller (2005) finds little evidence that child care instability causes employment instability, concluding instead that other underlying factors, such as low education and family instability, cause both child care and employment disruption. In fact, if there is any causation, the direction is *from* employment instability *to* child care instability. This is an interesting finding particularly given Miller's focus on the welfare-to-work population, in which child care disruptions might be expected to be most severe.

Although estimates of the private and public costs associated with diminished worker productivity arising from child care problems may vary across computation methodologies, still it is clear that the costs are high. According to Shellenback (2004), breakdown in child care that causes workplace disruption costs business \$3 billion each year in the United States (p. 1). One need only recall the media panic at last year's shortage of flu shots and the discussions of employer costs to realize that even the loss of a handful of work days by a fraction of one's workers imposes substantial costs on an employer.

MOTHERS, WORK, AND THE MOTHERHOOD WAGE PENALTY

As described above, a sick child, unavailability or unaffordability of quality care, and provider disruption can disturb parental employment. Additionally, a mother's temporary withdrawal from employment can be attributed partially to child care concerns. As Boots (2004) describes, the "burdens of navigating 21st century work and family life have been left for parents to figure out on their own." Despite the growing influx of mothers into the working world, they remain the primary caretakers in the family. Thus, child care disruptions fall disproportionately on a mother's shoulders. The consequence of this responsibility (and the anticipation of family responsibility) is substantial, in terms of occupational choices, schooling choices, and same employer tenure, all of which have implications for lifetime real wage growth. Crittendon (2001) describes in detail the incompatibility of conventional career patterns with motherhood, and Hewlett et al. (2005) describe the effect of family responsibilities on a woman's entire lifetime career trajectory. Child care problems play a major role in the work and family conflict, and to the extent that they are responsible for lost work days, the choice to give up paid work temporarily, or job loss, child care is implicated in reduced wages for mothers.

Full-time, year-round uninterrupted lifetime employment is critical in achieving strong wage growth throughout one's lifetime. Because of intermittent work, females experience restricted real wage growth throughout their working careers compared with males (Kaufman & Hotchkiss, 2003). As Jacobsen and Levin (1995) explain, periods out of the labor force may decrease wages because of skill depreciation, loss of seniority, and less post-leave on-the-job training because employers interpret the leave-taking as a signal of an increased chance of future leave-taking. Jacobsen and Levin study women who have taken leaves to determine if their wages returned to levels the wages might have been, had the women remained in the paid workforce. The authors determined that women's wages failed to rebound completely, even twenty years after they returned from a period of non-employment (p.18).

In examining the disparity within female wage earners more broadly, there is a substantial literature that describes the gap in wages between mothers and female non-mothers. In fact, over the past thirty years, although the gender wage gap has narrowed, the

percentage of that gap attributable to motherhood and its resulting family responsibilities is growing (Waldfogel, 1998b). According to Crittenden (2001), “[M]otherhood is now the single greatest obstacle left in the path to economic equality for women.” Estimates of the range in the motherhood wage penalty are from approximately 0% up to 15%, depending on the data set, estimation strategy, and education level of the mothers included in estimation.⁴ The most common estimate is nearly 5%, implying that mothers earn 5% less per hour than women who are not mothers earn, once productivity factors are controlled. Waldfogel (1998a) and Kimmel and Amuedo-Dorantes (2004) have found that the provision of paid maternity leave can mitigate the motherhood wage gap, and Amuedo-Dorantes and Kimmel (2005) show that fertility delay can have the same effect.

THE CURRENT ROLE OF GOVERNMENT IN CHILD CARE

The federal, state, and local government is involved with child care in myriad and substantive ways. Reasons for this involvement (discussed by manuscripts in this conference volume) include concerns about market efficiency (i.e., market failures), equity, and a desire to encourage maternal employment (See Blau & Currie, 2006, pp. 27-32). Speaking broadly, the government is involved in this market via the provision of child care subsidies (largely financed by the federal government) in addition to regulations (established by the states). Blau (2003) describes child care subsidy programs in detail, and as he outlines, there are three major federal child care subsidy programs, all based on employment: The Dependent Care Tax Credit (DCTC), the Exclusion of Employer-Provided Dependent Care Expenses (EEDPCE, also known as flexible spending accounts), and the Child Care and Development Fund (CCDF).⁵ The first two programs largely benefit the middle class, while the CCDF, funded by the federal government but administered by the states, is designed to benefit very low income working families. However, CCDF’s reach is limited because only four states set income eligibility limits at the maximum permissible limit set by federal law, and fourteen states set the limit at less than 50% of this limit.⁶

A fourth important government-sponsored child care program is Head Start. Although Head Start is not focused on care giving, instead it is focused on child development and school readiness, still Head Start provides a place for children to go during the day, thereby facilitating maternal employment. Total federal and state child care expenditures can be hard to compute given that some funds are transferred across programs. According to Blau and Currie (2006), the total expenditure on child care for the three programs they describe was approximately \$13 billion in 1999, of which \$9 billion were funds from CCDF and TANF. Recently, the 2004 Green Book reports that in fiscal year 2003, \$2.8 billion was devoted to the dependent care credit, approximately \$4 billion to the CCDF, and over \$5 billion to Head Start (2004).⁷ Overall, the most significant concern with government child care subsidies is that those available for lower income families fail to reach eligible families. Affordability is still a problem for middle income families; there is very little government involvement on the supply side, a factor that could be useful in alleviating some key shortages.

The regulation of the child care industry is left largely to the states. These regulations represent minimum standards for features in child care services such as child: staff ratios, staff training, and facility characteristics. The standards vary by child’s age and child care mode so that ratios, for example, will differ by child care mode and child’s age. Blau and Currie (2006, pp. 39-44) describe a variety of state child care regulations and summarize the literature examining the effect of child care regulations on child well-being and maternal employment. Overall, they find that regulations do not succeed in pushing up standards beyond the bare minimum required by law, but regulations do alter the supply of care as

providers seek to provide the least regulated, least expensive mode of care. Additionally, to the extent that child care regulations raise the price of care to parents, parents may avoid the higher priced regulated care by seeking care for their children in the unregulated sector.

However, Blau and Currie are not the final word on the advisability of strengthening state child care regulations. For example, there is some evidence that child care quality is enhanced by teacher training, particularly that training beyond one-day workshops. Specifically, researchers have established some link between formal child development training and enhanced child care quality and improved retention of child care workers (Vandell & Wolfe, 2000). For a detailed discussion of policy issues, see Stoney et al. (2006).

CHILD CARE AS ECONOMIC GROWTH POLICY

From the standpoint of regional economic policy, child care lies at the nexus of economic development and workforce development policies. The availability of affordable, high quality, and reliable child care enhances the work readiness of a region's working age population, particularly its female potential workers, and as a result, enhances economic growth in regional communities. After all, workforce development means more than simply developing skills and training for workers. It encompasses the goal of improving the work and family balance, thereby attracting and retaining workers who are also parents. Any region that improves the ability of parents to make the transition smoothly between work and family will enhance its pool of ready and willing fulltime workers, thereby gaining a competitive edge. This connection between child care issues and policies concerned with regional economic growth is not an original notion, as regional economists and others have been involved with this discussion in recent years. For example, Shellenback (2004) presents a strong argument for child care supports as policy designed specifically to enhance parent workplace productivity. Additionally, the editors of this conference volume have been heavily involved in advocating and advancing this effort (See for example, Warner, 2006; Pratt & Kay, 2006).

Maternal Employment Trends

As researchers, policy-makers, and planners look to the future, understanding the complex linkages between work and family will be important in developing strategies to enhance workforce development. Employment plays a significant role in family life as 90.3% of families with children had at least one employed parent in 2003 (BLS report, 2004). It is well known that many working parents are women. We all are aware of the dramatic increases in female employment and particularly the employment of mothers in the previous century. Currently, approximately 60.3% of all females aged 20 and older is in the workforce (BLS, 2006). Focusing on mothers reveals a decline in recent years, however. In the year 2003, 71.3% of mothers with children under the age 18 was in the labor force, which represents 0.7 percentage points lower than the previous year. Additionally, the labor force participation (LFP) rate for married mothers fell as well, from 69% to 68.6%. Perhaps in the most dramatic and convincing trend, mothers with children under age 1 have reduced their LFP rates each year since 1998, falling from 57.9% that year to 53.7% in 2003. The LFP rate has fallen for both married and single mothers, the latter falling by 4.7 percentage points in the past year to 56.2%. This rate is striking given that 2003 occurred well after the end of the most recent recession and well into the new welfare reform era. Although employment growth remained weak for the period immediately following the most recent recession, still one would have expected the employment rates of mothers to increase rather than to decrease. Although these declines in employment for mothers are recent and represent only a tiny fraction of all working mothers, still the trends are a concern because of looming shortages in the labor force.

At the same time that maternal participation in the labor force is falling, the percentage of all college graduates that is female is rising. Although the representation of women still lags in the more technical majors, even this is evolving. Thus, females represent a significant proportion of the (potential) skilled work force, placing even more importance on improving female worker retention. Hewlett et al. (2005) describe an exodus from the work force by professional, highly skilled women and find that such career “off-ramping” is widespread.

Policies to Facilitate Female Employment

Regional policy-makers concerned with economic growth need to pay close attention to the employment trends of mothers who represent a substantial proportion of the potential worker pool. Despite the lack of empirical support for projections of substantial future labor shortages, employers need to prepare for tighter labor markets as the baby boom generation goes into retirement. As described by Hewlett et al. (2005), the peak of the economic expansion of the late 1990s created a talent shortage; i.e., a shortage of highly skilled workers. This shortage can be expected to worsen as baby boomers retire.

Although policies enhancing traditional regional workforce development focus on education and training, they must also focus on retention.⁸ Unfortunately, some retention goals require a long planning horizon precisely at a time when firms appear to be shortening their strategic planning time horizons. According to Emory Mulling (as quoted in Southerland 2003), “Strategic planning used to be five and seven years, but now it’s three years because of the rapidly changing work and business environment.” Long-term worker retention requires longer term strategic planning, implying that there might be room for public/private ventures in this area, even if the public component is purely advisory.⁹ The concern, however, is that regional government agencies are not recognizing this component of workforce development. The National Governor’s Association’s Center for Best Practices’ Website provides a list of objectives on which workforce development policies ought to focus their services. However, worker retention is only alluded to indirectly, and the retention of workers who are mothers is not mentioned (NGA, 2005).

The above-described retention policies are demand-focused; that is, they focus on efforts to assist parents directly. Successful local development policy should include supply-focused policy; namely, policy that improves the availability of affordable, quality care. One example of such assistance is the Rural Assistance Center, an online service that provides potential care providers with potential funding sources and other information to assist in the start of such ventures, particularly business/public ventures. For instance, a joint venture can offer tax breaks to subsidize employer provision of on-site child care. According to Connelly et al. (2002), under many circumstances, parents prefer on-site care, and its provision of stable child care can help reduce the number of lost work days as well as transportation time.

Regional policy-makers need to be cognizant of the spatial variations in local child care markets described earlier, as different conditions imply different policy solutions. For example, thin child care markets might require relatively extra governmental intervention to improve the competitive nature of new child care ventures. Additionally, local areas with disproportionately high numbers of rural or low-skilled workers, who typically are observed to engage in much nonstandard work or have irregular work schedules, need to provide subsidies for particularly flexible forms of child care, such as family day care homes. However, as explained by Davis and Connelly (2005), this form of child care is not known for a strong educational component, and policy-makers need to address concerns for quality. On-site child care could be particularly beneficial in rural areas where parents drive long distances from home to employment. They would appreciate not having to take their children to yet a third location for care (Connelly et al., 2002).

DISCUSSION

This paper describes the manner in which parents choose child care modes for their children, the role that child care prices, wages, family income, and age of the child play in these choices as well as employment choices, and concludes with a discussion of why these issues matter to policy-makers in regional economic development. Understanding both spatial and temporal differences in local child care markets would facilitate policy development.

As developed throughout the paper, there are three reasons to provide child care and encourage employment of mothers: 1) reducing welfare dependency by improving financial independence; 2) promoting equality of opportunity; and 3) advocating linkages between (1) and (2) and community developers' concern for regional economic development. Policy-makers focusing on workforce development ought to advance worker retention, and this effort must include efforts to facilitate the work/family balance. As described in the previous section, mothers hold part of the key to increased economic development because they comprise a significant portion of the skilled workforce. If employers hope to retain employees who are also mothers, employers need to address mothers' concerns regarding child care, most importantly quality, reliability, and affordability. There are numerous options for employers to pursue, ranging from simply providing market information on child care as a minimum and providing on-site childcare as perhaps the best option (at least for parents of young children). However, on-site child care is only cost-effective for very large employers (Warner et al., 2004). Knowledge of the particular workforce and how those individuals are likely to make their child care/employment choices is critical in producing feasible policy options.

As a final note, because of the strong link between child care stability, employment stability, and family and child well-being, there is justification for a broader coalition that focuses on the work/family balance, beyond the interests of employers and economic development policy-makers. The policies outlined in this article have broad implications beyond the planning horizon of businesses and developers because the policies are important to communities. Healthier families with stable workers imply healthier communities, contributing to an environment amenable to both economic growth and a high quality standard of living.

NOTES

1 Child care modes include center care, family daycare homes, nanny care, relative care, and parent/other care.

2 So far, results from the 1997 and 1999 surveys of the NSAF are available to the public. The SIPP is an ongoing series of 24-36 month panels, originating with the 1984 panel.

3 The NSAF survey design assures sufficient sample sizes in thirteen states to conduct state comparative analyses. The thirteen states are Wisconsin, Mississippi, Alabama, Minnesota, Texas, Washington, Michigan, Colorado, New York, Massachusetts, Florida, California, and New Jersey.

4 See, for example, Waldfogel (1998b), Korenman & Neumark, Anderson et al. (2003), and Amuedo-Dorantes and Kimmel (2005), and Kimmel and Amuedo-Dorantes (2004).

5 The DCTC is a federal non-refundable income tax credit; the EEPCDE permits employees to set aside pre-tax income to reimburse dependent care expenses. The CCDF was established by the 1996 federal reform of welfare, creating block grants for states to administer largely as they please, subject to some federal limitations.

6 The maximum income limit set by federal law is 85 percent of the state's median income.

7 The CCDF figure is understated because of a transfer of funds at the state level from TANF funds to CCDF.

8 Retention is the focus of numerous recent articles and reports, including several produced by the Families and Work Institute.

9 One example of such collaboration is a report prepared by James E. Van Horn for the Pennsylvania State University College of Agricultural Sciences, Cooperative Extension office titled, *Employer Options for Child Care: Effective Strategies for Recruitment and Retention*. This report explains the link between reliable child care and worker productivity and offers advice to employers on improving their workers' access to such care.

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