Public Policies and the Employment of Mothers: A Cross-National Study*

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Objective. This research analyzes the effect of public child care and parental leave policy on the employment patterns of mothers with young children. *Methods.* The research design uses measurable variation in both policy and maternal employment patterns across fourteen industrialized countries. The independent variable is national policy performance, as captured in two composite indexes of policy indicators. The dependent variable is the magnitude of each country's "child penalty": the regression-adjusted estimate of the decrease in mothers' employment probability given the presence of young children at home. Each country's child penalty is estimated using microdata from the Luxembourg Income Study (LIS). *Results.* The results demonstrate a strong association between policy configurations and the employment patterns of mothers. Child penalties are greatest in those countries with the least-developed public policies that are aimed at supporting the employment of mothers with young children. *Conclusions.* These findings suggest that government policies have influenced the employment decisions of married women with children, with particularly important consequences for the continuity of labor force attachments. The results have implications for further research and for current public policy debates.

Introduction

Many labor economists describe the influx of women into paid work as the single most influential change in the labor markets of industrialized countries in the postwar period. Between 1960 and 1990, women's labor force participation increased in every OECD (Organization for Economic

Cooperation and Development) country; in some countries, women's participation rates more than doubled. Since male participation rates fell steadily during the same period, the female share of the labor force rose even more rapidly. By 1990, the female share was between 40 and 45 percent in most OECD countries and nearly 50 percent in Sweden and Finland (OECD, 1992). For a growing number of families, economic security now depends on women's earnings. Other aspects of individual and family well-being, such as health and psychosocial adjustment, may also be positively affected by women's involvement in paid work (see Spitze, 1988, for a review).

Increased maternal employment has also created new challenges, especially for mothers with young children. Many mothers have responded to the competing demands of employment and childrearing by loosening their attachment to paid work—for example, by engaging in intermittent employment or reduced-hour and contingent work. Although they may help women accommodate multiple role demands in the short term, these employment choices can exert downward pressure on their wages and benefits in both the short and the long term (Callaghan and Hartmann, 1991; Gornick and Jacobs, 1996.)

All advanced industrialized countries now have some package of public child care and maternity leave policies that help reduce employment–family conflicts and decrease the probability that childrearing responsibilities will force mothers to withdraw from paid work. Microeconomic theory provides a framework for analyzing the impact of these policies on women's employment decisions in terms of their allocation of time between paid work and other activities (including child caregiving). By extending the basic microeconomic consumption model, labor supply is viewed as a consumption choice between two commodities—market income (hours of paid work) and time spent outside of paid work (nonmarket time). A large body of empirical literature demonstrates that the labor supply (participation and hours worked) of individual women is influenced by personal, market, and policy factors (Killingsworth and Heckman, 1986; Berndt, 1991). For women, labor supply is particularly sensitive to the presence of dependent children and to government policies that offset the associated caregiving demands.

The labor supply model predicts that the *presence of children* in the home will have an impact on women's employment decisions by changing the value they place on their time outside of paid work. The cost of child care arrangements will also lower women's effective market wages. The empirical literature confirms that the more a woman's childrearing responsibilities increase, the less likely it is that she will choose to participate in paid work; for women who are labor force participants, greater childrearing responsibilities reduce hours in paid work (Connelly, 1991; Leibowitz, Klerman, and Waite, 1992).

Labor supply theory suggests two approaches to understanding the effects of *child care* on women's employment. The first depicts child care conditions as affecting the value that a woman places on her time at home (Blau and Ferber, 1992). In the second approach, the cost of child care is viewed as a tax levied on mothers' wages so that higher-priced care would have the same effect as lower net wages; that is, it would decrease employment and hours of paid work (Connelly, 1992; Michalopoulos, Robins, and Garfinkel, 1992). Both approaches predict that improvements in women's child care options will be associated with increases in their labor supply, and a large body of empirical work supports this prediction (Blau and Robins, 1991; Connelly, 1991, 1992; Leibowitz, Klerman, and Waite, 1992; Michalopoulos, Robins, and Garfinkel, 1992).

The relationship between maternal employment and *parental leave* policies is understood differently by economists. Generous maternity leave provisions are generally believed to increase women's attachment to paid work in the short term. In addition to offering income support, many maternity policies are explicitly designed to prevent women from exiting employment following childbirth. A small empirical literature has examined the impact of maternity leave in the short term. Joesch (1995) and O'Connell (1990) report that the availability of leave increases labor force attachment and the likelihood of an early return to work after first childbirth. Klerman and Leibowitz (1995) find only weak evidence of a relationship between state maternity leave statutes and employment, but Waldfogel (1996) reports an increase in job-guaranteed leaves and a small positive net employment effect after the passage of the U.S. Family and Medical Leave Act. More research is needed to establish the longer-term impact of leave policies on employment and earnings.

Cross-National Comparative Research. Cross-national differences in the provision of child care and maternity leave benefits are dramatic (Kamerman, 1991; Kamerman and Kahn, 1991; Hofferth and Deich, 1994). Rates of maternal employment also vary markedly across the industrialized countries (OECD, 1994).

While there is a rich literature describing cross-national variation in policy and employment patterns, comparative scholars have yet to fully specify the association between the two. Empirical studies using cross-national data to link variations in child care and maternity leave to patterns of maternal employment are also very limited. A handful of recent studies suggest that this is a fruitful direction for research (Schmidt, 1993; Gornick, 1994; Ruhm and Teague, 1995; Bradshaw et al., 1996). Progress has been limited, however, by the lack of a model that specifies the association between the "package" of national policies affecting women's employment decisions and the country-specific pattern of maternal employment and, even more important, by the lack of comparable cross-national data.

Cross-national, comparative study could make a particularly important contribution to research and policy for the United States. On nearly all employment-supporting policies, the United States provides fewer benefits than comparably developed countries (Gornick, Meyers, and Ross, 1997). Although the female employment rate is relatively high in the United States, it still lags behind that of many other industrialized countries, and there is evidence of considerable employment disruptions among women with young children (OECD, 1994). Capitalizing on cross-national variations to estimate the impact of government policies on the level and continuity of maternal employment may help explain this pattern. Understanding the government's potential to facilitate maternal employment also has immediate relevance for evaluating policies to promote gender equity, reduce poverty, and increase economic productivity. These policy issues take on even greater importance in the wake of recent federal welfare changes that emphasize employment for parents of very young children.

Methods and Data

Drawing on existing policy variation across fourteen industrialized countries during the middle to late 1980s, this study examines the effect of child care policy and public parental leave provisions on the employment patterns of married mothers. Our central hypothesis is that cross-national variation in policy explains a portion of the intercountry variation in the effect of having young children on mothers' likelihood of being employed.

Data on both the independent variables (macrolevel measures of policy) and the dependent variables (microlevel estimates of employment outcomes) were obtained from the Luxembourg Income Study (LIS). LIS is an archive of datasets gathered from a large number of industrialized countries. Microdata sets available for each country include demographic, labor market, and detailed income data at the household and individual levels. LIS also provides a policy database that contains country-level (or macrolevel) data on major income tax and cash transfer programs. Eighteen child care and parental leave policy variables were recently added to the country-level policy database.

LIS country-level data are used to construct the independent variables: two indexes that measure the generosity of child care and parental leave policy in each country. The dependent variables—estimates of mothers' employment outcomes—are derived using the household-level LIS microdata. Datasets were selected for the fourteen countries that included all needed variables: Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Norway, Sweden, the United Kingdom, and the United States. The years for which LIS microdata are available for each country dictated the selection of the analysis period: 1984–1987.

The Independent Variable: Policies That Support Maternal Employment. Women's labor force participation decisions are hypothesized to respond to the form and intensity of a number of different policies that, functioning as complements and/or substitutes, constitute a distinctive "employment-supporting policy package" in each country. These policies also differ for families with children of varying ages. To capture the interactions among multiple policies and to disaggregate policy performance by the age of the child, this analysis uses two composite indexes of national policy effort.[1]

We used four criteria to select individual indicators for the composite indexes. First, the indicator measured an aspect of policy reasonably assumed to be under government control; that is, it constituted *public* policy. Second, it captured a policy feature that labor supply theory predicts has an effect on mothers' decisions about entering or remaining in paid work. Third, the indicator was exogenous to individual mothers' short-term labor supply decisions.[2] Finally, reliable and comparable data were available for the fourteen countries.

The content and operationalization of measures are summarized in the notes to Table 1. The first index is the weighted sum of eight indicators of policies affecting mothers with children under three ("infants"): five indicators measure the coverage, length, and generosity of short-term parental leave; two measure support for child care through tax relief and national guarantees of access to public child care; one measures the availability of public child care using enrollments in public or publicly subsidized child care. The second index is the weighted sum of four indicators of government policies affecting mothers with children from age three until school enrollment ("preschoolers"): two indicators measure public support for child care through tax relief for private child care and guaranteed access to public child care: one measures the supply of public child care as the enrollment of children between three and five in public or publicly subsidized care; the other measures the impact of the age of compulsory or universal public school through the enrollment of children aged five in public child care, preprimary, or primary school.[3]

We standardized data for the separate policy indicators as proportions of variable-specific maximum values. The two age-specific indexes were

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[1] See Gornick, Meyers, and Ross (1996a) for the raw policy data and a more complete discussion of the index construction.

[2] In the long term, women's employment choices are likely to influence public policy. In the short term, however, policies represent a fixed set of conditions for individual decision makers.

[3] This study uses enrollments as a proxy for child care supply. Although this utilization measure is arguably responsive to female employment and demand for care, spaces in public programs at a point in time will depend on past government decisions rather than on current demand and can therefore be considered exogenous to individual employment decisions. OECD (1990) also notes that enrollments are a reliable proxy for available spaces because utilization rates are approximately 100 percent.

TABLE 1

Policy Indexes: Index Values and Country Ranks

Country	Index Value		Country Rank	
	Children under 3	Children Aged 3–School–Age	Children under 3	Children Aged 3–School–Age
Finland	65.84	55.85	1	5
Denmark	63.87	63.50	2	3
Sweden	62.29	61.60	3	4
Belgium	59.99	51.29	4	6
France	53.19	76.57	5	1
Norway	41.42	20.94	6	12
Luxembourg	36.27	34.06	7	7
Germany	36.20	31.90	8	8
Italy	36.04	65.20	9	2
Canada	34.69	30.12	10	9
Netherlands	33.97	30.08	11	10
United Kingdom	21.98	21.25	12	11
Australia	21.25	16.80	13	14
United States	13.59	20.65	14	13

NOTE: Index scores were calculated using weighted combinations of the relevant indicators according to the following formulas. Each index score was then converted into a final score of 0 to 100, with 100 representing 100% of the maximum achievable score for this index. These final values are presented in this table.

Formula 1: Index of Policies that Support Employment for Mothers with Children under Three:

0.50[*Legislated job protection* + (*Coverage*)*(*Paid maternity leave*) + *Wage replacement rate* + *Coverage* + 0.50(*Paternity benefits*)] + *Tax relief for child care* + *Guaranteed child care coverage (0–2)* + *Percent children in publicly funded child care (0–2)*

Formula 2: Index of Policies that Support Employment for Mothers with Children Aged Three to School-Age:

Tax relief for child care + *Guaranteed child care coverage (3–5)* + *Percent children in publicly funded child care (3–school–age)* + 0.33(*Percent children in preprimary or school (age 5)*)

Indicators were measured in the following units:

Legislated job protection	yes/no
Paid maternity leave	weeks
Wage replacement rate	% of wages
Coverage	% of employed women
Paternity benefits	yes/no
Tax relief for child care	1987 $U.S.
Guaranteed child care coverage (0–2)	% of children 0–2
Percent children in publicly funded child care (0–2)	% of children 0–2
Guaranteed child care coverage (3–5)	% of children 3–5
Percent children (3–school–age) in publicly funded child care	% of children 3–school–age
Percent children in preprimary or school (age 5)	% of children age 5

constructed as weighted sums of the standardized measures; the weighting scheme is presented in the notes to Table 1.

A second standardization converted index scores to a percentage of the theoretical maximum per index, so that scores range from 0 to 100. Although results for the indexes are presented in comparable units, numeric scores are very sensitive to the selection, coding, and standardization of individual items in the index. Therefore, numeric scores are not comparable *across indexes*. Cross-national rankings (Table 1) facilitate comparisons of national performance for the different age groups.

The Dependent Variable: Maternal Employment Behavior

Measuring Maternal Employment. This study considers cross-national variation in two indicators of maternal employment: (1) the unadjusted employment rate of women with children under eighteen; and (2) the differences in employment rates between mothers of young children and otherwise identical mothers whose children are all older.

The second measure, the "child penalty," is the regression-adjusted estimate of the effect of having young children on mothers' employment probability. We estimated child penalties using a standard labor supply model and reduced-form logistic regression (described below).

There are several benefits associated with using the child penalty measure. First, by focusing on the difference in employment between mothers with and without young children, it isolates an employment outcome that may be *specifically* tied to childrearing responsibilities. Second, by using regression techniques to control for individual human capital and household characteristics, it allows cross-national comparisons of employment outcomes that are net of intercountry variation in demographic variables; the penalty captures within-country employment differences among women who differ only (or primarily) in the age of their youngest child. Finally, by first estimating the impact of having young children on employment outcomes for mothers *within* the same country and then comparing these estimates *across* countries, the child penalty captures cross-national variation in employment outcomes that is largely independent of intercountry differences in labor market conditions. In regression terms, both overall maternal employment rates and factors that affect those overall employment rates (such as demand-side factors) are captured in the constant term while the impact of childrearing responsibilities is captured in the regression coefficients.

We limited the final analysis sample for each country to married women aged fifteen to sixty-four, with at least one child under age eighteen living in the household; we coded cohabiting couples as married.[4] Single mothers

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[4] In the data sets from Italy and the United States, women who are cohabiting but not legally married could not be coded as married. This may introduce a selection bias if the characteristics or employment choices of cohabiting women are distinctive.

were excluded because research indicates that their labor supply behavior is markedly different from that of married women and, in particular, less elastic with respect to child-related factors (Michalopoulos, Robins, and Garfinkel, 1992; Gornick, 1994). Correctly estimating effects for single mothers would require a different model specification, and so the following results cannot be reliably extended to them.

Mothers were coded as either "employed" or "not employed"; the latter category includes the unemployed as well as those not in the labor force. This construction of the employment measure has several characteristics that are important for interpreting results. First, while women's labor supply would be more accurately captured by labor force participation (which includes employed and unemployed women), participation could not be comparably measured across countries. Because female unemployment rates were relatively low and varied little across countries during this period, however, the *employment* rates used in this study closely parallel the female *labor force participation* rates in each country (OECD, 1994). Second, the coding does not distinguish between part- and full-time employment; the implications are discussed in the presentation of multivariate results. Third, women who were employed and on family leave were coded as employed. This captures the extent to which mothers were attached to the labor force regardless of whether they were temporarily absent from work due to childbirth. This is consistent with the central questions of this study, which concern mothers' employment status.

Labor Supply Estimations. In order to estimate country-specific child penalties, we specified standard reduced-form logistic regression models to predict a mother's employment probability $[p(emp_i)]$, where

$$p(emp_i) = 1 / (1 + exp[-Z_i])$$

and

$$Z_i = \alpha + \beta X_i.$$

In these models, the explanatory variables of primary interest are two dummy variables that capture childrearing responsibilities: one indicates that the youngest child in the household is under age three and the other indicates that the youngest is between the ages of three and five. Controls include (1) the presence of a youngest child age six to twelve and the total number of children in the household under the age of eighteen;[5] (2)human-

5 This model disregards possible endogeneity between female labor supply and child-related (fertility) variables. Lehrer (1992) notes that the consensus in the labor supply literature is that no adequate empirical solution to the problem exists; instrumenting fertility is virtually impossible because of incomplete theoretical specifications and data limitations. Given these limitations, analyses of short-run female labor supply typically treat the number and ages of children as predetermined variables.

capital variables (mother's age[6] and education) as a proxy for the market wage; and (3) total other income in the household (primarily husband's earnings) as an indicator of economic need.[7] We estimated identically specified employment equations for mothers separately by country.

Simulations. Logistic regression coefficients are not easy to interpret; they indicate the change in the log of the odds (the ratio of the probability that the dependent variable is positive to the probability that it is negative) for a unit change in the independent variable.[8] Simulations are provided (Table 2) to assist in the interpretation of the child penalty coefficients. We created a hypothetical married mother with all characteristics set at or near each country's mean and used the logistic regression results to calculate her predicted probability of being employed ($p(\text{emp}_i)$) in each country. Our hypothetical woman is a thirty-five-year-old married mother with two children, both over age twelve; she completed her country's "medium" level of education, and her other household income is set at her country's mean.

An employment probability is predicted for the base mother in each country and then two changes of interest are simulated. First, a youngest child under three is "added"; next, the age of the youngest child is changed to between three and five. New employment probabilities are generated corresponding to the addition of each child when other characteristics are held constant.

Linking Policy with Employment Behavior. The final step in the analysis assesses the central hypothesis that cross-national variation in policy will explain a substantial portion of the intercountry variation in the child penalties. Using weighted least-squares (WLS) regressions, each set of country-specific child penalties is regressed on the corresponding national policy index. In these regressions, the child penalty coefficients are weighted by the inverse of their standard errors to take into account varying levels of precision in the child penalty estimates.

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[6] To capture potential market wage, labor economists often use a measure of "potential experience," calculated as current age minus years of education minus the age of compulsory schooling. We rejected that formulation here because education data in several countries cannot be measured as a continuous variable.

[7] "Other income" refers to all household income minus the mother's own market earnings. For married women, other income is primarily husbands' earnings. The assumption of the exogeneity of other income is somewhat problematic, since couples' work decisions may be jointly determined. Many labor economists, however, argue that married women's labor supply may still be viewed as a function of their other income, as if their other income were independent of their work patterns (Mallier and Rosser, 1987; Berndt, 1991), since husbands are very likely to work full time regardless of their wives' earnings (Blau and Ferber, 1992). In fact, very high rates of full-time work are the norm among married men in all of the included countries (authors' calculations, LIS data.)

[8] One standard technique for interpreting results converts logistic regression coefficients to partial derivatives. We rejected that technique because partial derivatives work poorly when the independent variables are dummy variables.

Results

Cross-National Policy Variation. Table 1 reveals that five countries form a cluster of high performers with respect to policy provision for mothers with children in either age group. These countries include three Nordic countries (Finland, Denmark, and Sweden) and two continental European countries (Belgium and France). These countries generally provided universal provisions for maternity leave with full, or nearly full, wage replacement lasting for several months up to a year. In addition, space was available in publicly supported child care for a third to a half of all infants and nearly all preschool-aged children. Several of these countries had also adopted national legislation that guaranteed parents access to child care (Gornick, Meyers, and Ross, 1997).

Three English-speaking countries (Australia, the United Kingdom, and the United States) form a cluster of low policy performers vis-à-vis families with children in either age group. These countries provided limited or no paid leave. None had adopted policies that guaranteed access to child care, and levels of public care were correspondingly low. In the United States, only 25 percent of women had access to any publicly supported leave (through mandated private insurance); only one percent of infants and 14 percent of preschoolers were in publicly supported child care (Gornick, Meyers, and Ross, 1997). The contrast between the low and the high performers is sharp. The remaining countries form a cluster of moderate performers.

For most countries, movement in ranking is modest between the two indexes. Countries with more extensive provisions on policies aimed at families with infants were generally also high performers with respect to policies aimed at preschoolers. There is, however, considerable re-ranking *within* the loose clusters, and policies in some countries, for example, Italy and Norway, were markedly different with respect to the two groups of children.

Cross-National Variation in Employment Patterns. Overall maternal employment rates and logistic regression coefficients (the child penalties) are presented in Table 2.[9] Several important conclusions can be drawn. First, employment rates of mothers varied dramatically across these fourteen countries, from a low of 25 percent in the Netherlands to a high of 89 percent in Finland. Moderate rates are seen in most English-speaking countries, including 57 percent in the United States.

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[9] The names of the individual surveys, country-specific sample sizes, complete regression results, and sample means for all independent variables are available in Gornick, Meyers, and Ross (1996b).

Second, the effects of the presence of young children on employment also varied markedly across these countries.[10] Significant negative child effects ("penalties") are seen in seven of the fourteen countries. In the remaining seven, mothers of young children were not significantly less likely to be employed than were similar mothers whose children were all twelve years old or older. Italy alone produced a surprising and inexplicable result: significantly positive coefficients on both young children variables.

The largest child penalties were found in the United Kingdom, where the presence of an infant decreased the hypothetical mother's employment probability from 82 to 37 percent, a remarkable 45 percentage point decrease; the presence of a preschooler diminished the mother's employment probability from 82 to 51 percent, a 31 percentage point decrease. In the United States, the probability of employment also declined sharply for women with infants (by 22 percentage points) and preschoolers (by 15 percentage points). Child penalties of similar magnitude were also found in Australia, Canada, Germany, the Netherlands, and Norway; penalties for women with infants were consistently larger than those for women with preschool-aged children.

Third, there was surprisingly little relationship between the maternal employment rates and the presence or magnitude of the child penalties. We observed child penalties both in relatively low employment countries (such as the Netherlands and Germany) and in moderately high employment countries (including the United States). While none of the three highest-employment countries had child penalties, some of the low-employment countries also had no child penalties. Correlation results confirm the weak association; the correlation coefficients between maternal employment rates and child penalty magnitudes are .28 and .27 for infants and preschoolers, respectively. This suggests that the *level* and the *continuity* of maternal employment are distinct and only weakly correlated phenomena.

A note about part-time employment is important. Because of data limitations, we coded both part-time and full-time workers as "employed" for this analysis. This would be problematic if the policy effects differed between the two groups of workers. Complete data necessary to distinguish between part- and full-time workers were available for only eight countries; estimates (not shown) of the effects of having young children on the likelihood that mothers were employed full time in these countries reveal a cross-national pattern that is very similar to the pattern for all workers. This suggests that the inclusion of part-time workers in this study does not substantially affect the results.

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[10] In Table 2, changes in employment probabilities are simulated only for countries in which the child penalty coefficients are significantly negative ($p < .05$). The simulations are provided to interpret the magnitude of effects; because the characteristics of the hypothetical mother fall close to the mean in each country, the simulated changes are scale transformations of the coefficients themselves.

TABLE 2
Child Penalties: Logistic Regression and Simulation Results

Country/Year	Employment Rate (%)	Logistic Regression Coefficient		Predicted Employment Rate		
		(Age 0–2) (S.E.)	(Age 3–5) (S.E.)	(1) Base Case (%)	(2) Add 1 Child Age 0–2 (%)	(3) Add 1 Child Age 3–5 (%)
Australia 1985	48	**-1.5401** *0.2091*	**-0.7586** *0.2066*	76	41	61
Belgium 1985	50	0.4637 *0.3572*	0.4800 *0.3447*	41	—	—
Canada 1987	62	**-0.6944** *0.1837*	**-0.4920** *0.1759*	72	57	62
Denmark 1987	81	-0.2020 *0.2640*	-0.0434 *0.2578*	91	—	—
Finland 1987	89	-0.3271 *0.2306*	-0.1497 *0.2270*	87	—	—
France 1984	57	0.2959 *0.1532*	0.1796 *0.1422*	53	—	—
Germany 1984	39	**-1.1102** *0.2360*	**-0.7743** *0.2148*	53	28	36
Italy 1986	39	0.8574 *0.1987*	0.5366 *0.1795*	34	—	—

Luxembourg 1985	29	−0.4154 *0.4439*	−0.4772 *0.4307*	33	—	—
Netherlands 1987	25	**−1.1138** *0.3139*	**−0.9182** *0.3065*	60	35	39
Norway 1986	60	**−1.3458** *0.2786*	**−1.2524** *0.2859*	81	52	54
Sweden 1987	88	0.0359 *0.2762*	−0.3255 *0.2559*	96	—	—
United Kingdom 1986	56	**−2.0584** *0.2454*	**−1.4723** *0.2401*	82	37	51
United States 1986	57	**−0.9418** *0.1786*	**−0.6752** *0.1748*	72	50	57

Policy Variation and Child Penalties. The associations between the child penalties and the policy indexes are presented in Figures 1 and 2. R^2 values are provided for the WLS regressions.

The tightly clustered distributions along upward-sloping lines in Figures 1 and 2 demonstrate strong positive associations across countries between these public policies and mothers' attachment to employment. The WLS results indicate that the first index of employment-supporting policy explains 36 percent of the variation in the penalties associated with having an infant (Figure 1); the second policy index explains a more substantial 52 percent of the variation in penalties associated with having a preschooler (Figure 2).

These findings are consistent with the conclusion that these policies influence maternal employment behavior. This cross-sectional association does not allow an unambiguous inference about the direction of causality for several reasons. First, in the long term, the same social, cultural, and economic factors that shape women's attachment to paid employment may also have motivated the adoption of more generous policies. In several Nordic countries, for example, cultural norms of gender equality may have contributed to both generous policy packages and continuous female employment. Second, in countries where mothers of young children tend to choose employment, there may have been consumer demand and political pressure to increase the availability of such policies. These alternative explanations cannot be tested with cross-sectional data; research is needed that would link the timing of policy initiation with employment results based on time-series microdata.

Although it is not possible to rule out these competing hypotheses, the case that policy influences employment behavior, especially in the short term, is strong. As noted earlier, labor supply theory and research have demonstrated that women's short-term labor supply decisions are sensitive to policy. Most of this research has been based on single-country studies that lack variation in both policy and employment outcomes. The central finding of this study—a strong association between cross-national variation in employment-supporting policies and the continuity of maternal employment—extends earlier research based on single-country studies. Our conclusions are strengthened by the construction of both the independent and the dependent variables. The employment-supporting policy indexes improve on earlier studies, most of which rely on a single policy indicator, by capturing the interactions and additive effects of policies and by disaggregating the effects for mothers who face substantially different caregiving demands because of the age of their children.

The child penalty, used here as a dependent variable, provides a measure of the employment effect of caring for young children that controls, first, for individual and household characteristics and, second, for cross-national differences in labor market and other factors—such as social norms about gender roles—that are likely to influence levels of maternal employment.

FIGURE 1

Policy Variation and Child Penalties, Mothers with Youngest Child under 3
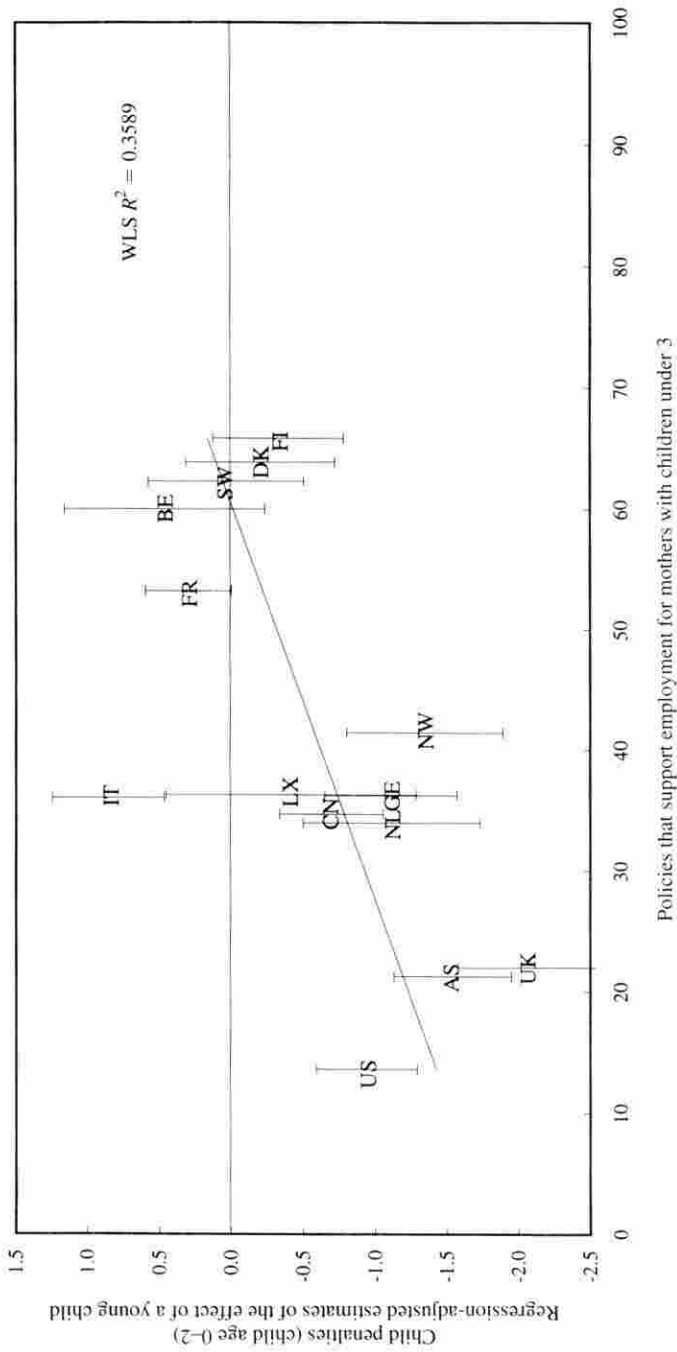
NOTE: The child penalties are indicated by the logistic regression coefficients. The vertical bars represent 95% confidence intervals for the child penalties based on the standard errors presented in Table 2.

FIGURE 2

Policy Variation and Child Penalties, Mothers with Youngest Child Age 3–5
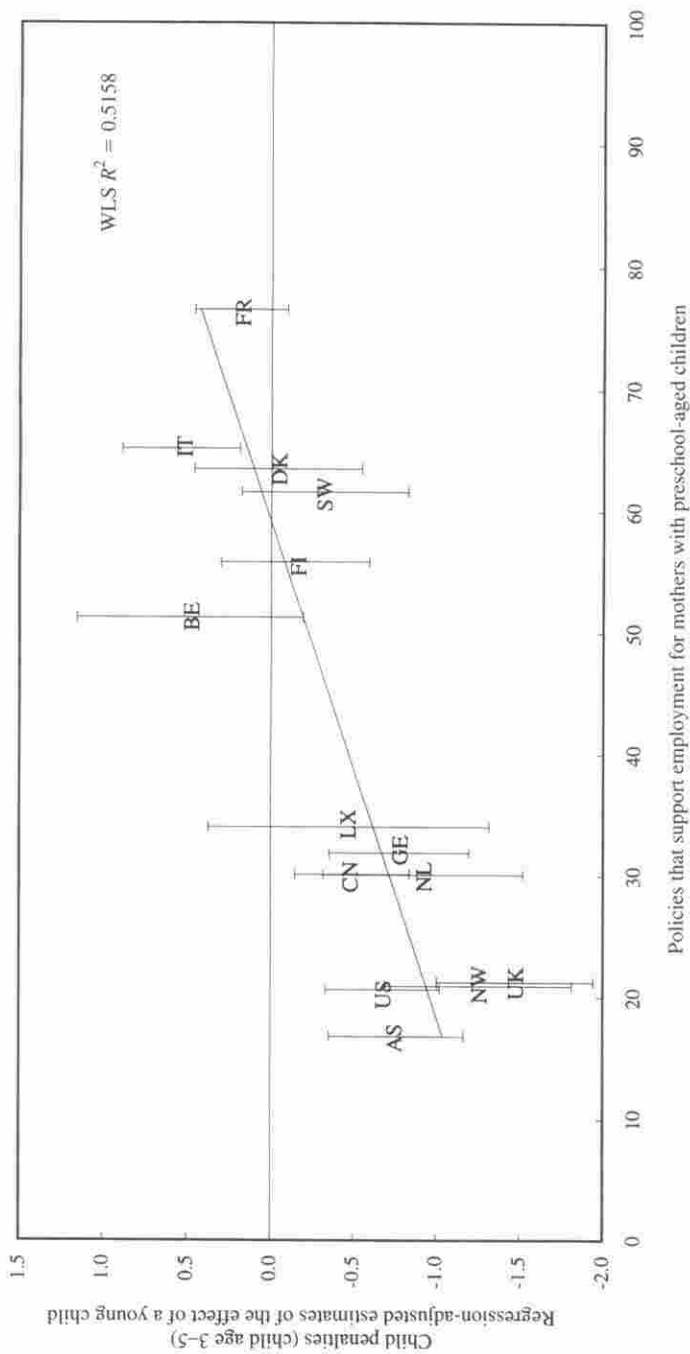
NOTE: The child penalties are indicated by the logistic regression coefficients. The vertical bars represent 95% confidence intervals for the child penalties based on the standard errors presented in Table 2.

Conclusions and Implications for Research and Policy

This analysis capitalizes on the natural experiment provided by cross-national variation in both policies and maternal employment patterns in industrialized countries in the 1980s. The association between policy and labor market outcomes is striking. Several countries were leaders in the provision of employment-supporting policy. Mothers in Belgium, Denmark, Finland, France, and Sweden had access to job protection and generous maternity benefits at childbirth and, as their children aged, to publicly supported child care. Similar employment rates between mothers with children *under* age six and those with children *over* age twelve, holding other factors constant, suggest that these mothers were able to combine employment and parenthood without extended labor force withdrawals when children were young.

The story was quite different in the countries that had the least-developed government policies. In the English-speaking countries of the United States, Australia, and the United Kingdom, parental leaves were limited in availability and generosity, legislation to guarantee child care access was absent, and levels of public child care provision were very low. Although employment rates were moderately high in these countries, very large reductions in employment were observed among women with young children, with the highest "child penalties" observed for mothers with infants under age three.

In general, the association between policy and employment outcomes was strongest for those countries that were the highest and lowest performers with respect to employment support. These findings are consistent with welfare state scholarship that identifies "regimes," or clusters, of countries that share policy arrangements and have similar economic and social outcomes. Other findings were unexpected and suggest areas for future research.

In a few countries, the association observed between policy performance and employment outcomes was weaker (i.e., these cases fell further from the WLS regression line). These results may reflect specification errors (in particular, left-out variables) in either the employment estimates (e.g., occupation measures) or the policy measures (e.g., hours of child care availability). In one case, Italy, an unexpected positive effect of young children on employment was found. Possible explanations for the Italy result include unusually poor correspondence between school schedules in Italy and mothers' employment hours and/or unique cultural pressures that call for more parental availability when children are older. Each of these possibilities suggests future research trajectories.

Other results were surprising because, although countries' policy performance and employment outcomes did correspond closely, the countries

diverged (on both measures) from the clusters usually observed in welfare state analyses. Canada, for example, had both more generous policies and smaller child penalties than did other English-speaking countries; Norway had weaker policy supports and larger penalties than did other Nordic countries. These findings are consistent with recent scholarship that has challenged traditional welfare state typologies. In particular, when researchers have considered policies with a disproportionate impact on women—such as those examined here—the familiar welfare state country clusters often fail to cohere. Our findings underscore the need for further research examining these gender-specific policy effects.

The findings from this study also have implications for U.S. policy. During the period of this study, the United States lagged significantly behind other industrialized countries in the adequacy of policies that reduce employment-family conflicts. Since the 1980s, limited maternity leave protections have been established through the Family and Medical Leave Act and public child care subsidies have been modestly expanded for low-income families. Even with these changes, U.S. policies are still markedly weaker than those in most industrialized countries.

The minimal provision of employment support in the United States is at odds with a pattern of increasing maternal employment across all income groups, and with the particularly strong emphasis on employment for welfare recipients. Many mothers in the United States appear to resolve conflicts between employment and family responsibilities by withdrawing from the labor market when their children are young. It is important to consider that, in the United States, this occurs in spite of other factors that serve to *discourage* labor market withdrawals—including the potential loss of health insurance and the recent sharp decline in male wages.

In the wake of profound secular changes in labor markets and family forms, the efficient use of female labor is increasingly important for a healthy labor market. Women's earnings have also become more crucial to the economic security of families. Women's preferences for time spent in waged work (versus time at home) vary both across individuals and across countries. But the association between weak policy provisions and intermittent maternal employment suggests that mothers are disadvantaged by the lack of supports for combining their dual roles. In the face of expanding employment opportunities and growing economic necessity, barriers to full labor force participation that are associated with women's traditional caregiving responsibilities become less and less defensible.

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