Public or Private Responsibility? Early Childhood Education and Care, Inequality, and the Welfare State*

MARCIA K. MEYERS**
and
JANET C. GORNICK***

INTRODUCTION

Public investments in early childhood education and care (ECEC) have grown substantially during recent decades in most of the industrialized welfare states. Although ECEC provision is increasing everywhere, institutional arrangements for providing and financing services still vary substantially across countries at similar levels of economic development. This policy variation reflects variation in several interlocking public decisions about the financing and delivery of care services. By socializing the care of children to a greater or lesser degree, these policy choices have implications for the reduction of inequalities in the modern welfare state, in both family income and in labor market outcomes. In this paper we examine variation in the institutional arrangements for ECEC in fourteen industrialized countries. We then examine the consequences of these arrangements for the availability and affordability of care and the implications for the reduction of various forms of social inequality.

BACKGROUND

A substantial literature has compared the consequences of welfare state provisions for income, employment, and other indicators of individual and family well-being. Inequality has received particularly sustained attention in this literature. Scholars have documented large cross-national disparities in market-generated income inequality (e.g., Atkinson, Rainwater and Smeeding, 1995; Gottschalk and Joyce, 1995) and in the extent to which tax and transfer policies reduce within-country inequality (e.g., Bradbury and Jantti, 1999; Kilkey and Bradshaw, 1999; Smeeding, Danziger and Rainwater, 1997). The majority of cross-national studies on inequality have focused on the equalizing effects of cash provisions. By ignoring other forms of state assistance, most notably direct care services, this research has failed to capture other consequences of welfare state provisions for inequality. Public provision of early childhood education and care (ECEC) is one of the most critical omissions in this research. Scholars have compared expenditures and institutional arrangements for ECEC

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** Associate Professor of Social Work and Public Affairs, University of Washington, 4101-15 Avenue NE, Seattle, WA 98105, USA Email: mkm36@u.washington.edu

*** Associate Professor of Political Science, Baruch College and The Graduate Center, City University of New York, USA
ECEC is provided by modern welfare states for a variety of reasons. In the Nordic countries, an explicit rationale for the expansion of public ECEC has been the reduction of gender inequalities in both paid work and unpaid work. In many continental European countries, ECEC is one of several family policies that were initially pro-natalist in orientation. Public provision of ECEC in the English-speaking countries has been promoted primarily as a form of compensatory education for disadvantaged children or as a work incentive for low-skilled mothers. Whether as an explicit goal or as an unintended byproduct, however, public ECEC has significant but largely overlooked implications for several forms of inequality, both across families and between women and men.

**ECEC and Inequality**

ECEC has implications for several dimensions of gender equality. As the primary caregivers for children in all industrialized countries, women with young children often pay a "child penalty" in the form of reduced labor force participation relative to otherwise similar women without young children (Gornick, Meyers and Ross, 1998). Due at least partly to interruptions in their employment histories, many mothers also pay a "family penalty" in the form of lower wages (relative to non-mothers), and that persists beyond their years of intensive caregiving (Budig and England, 2001; Korenman and Neumark, 1994; Waldfogel, 1997). With weaker labor market attachments and more hours spent in the home, women across the industrialized countries also assume a disproportionate share of unpaid household labor — including both carework and housework — relative to men (Gershuny, 2000; Goldschmidt-Clermont and Pagnossin-Aligisakis, 2001).

By providing an alternative to full-time maternal caregiving in the home, ECEC has the potential to reduce several of these forms of gender inequality. A substantial body of research, both single-country and comparative, has found that public financing or provision of ECEC is associated with greater labor force attachment among mothers with young children (Berger and Black, 1992; Michalopoulos, Robins and Garfinkel, 1992; U.S. General Accounting Office 1994; Bussemaker and van Kersbergen, 1999; O'Connor, 1999; Whitehouse, 1992; Gornick, Meyers and Ross, 1998). By reducing labor force reductions and withdrawals associated with the care of young children, public ECEC may also help close the wage gap between adults with and without caregiving responsibilities.

ECEC has other implications for inequality in family income. Most directly, out-of-pocket expenditures on ECEC reduce the disposable income, net of work expenses, of families with young children. The extent to which these expenses reduce disposable income depends on both the cost of producing care services and on the degree to which these costs are a public (government) or private (family) responsibility.

The loss of disposable family income to child care expenses has at least two implications for inequality in the short term. Because child care expenses fall only on families with children,
out-of-pocket expenses increase horizontal inequality in disposable income between families with and without children. And because private child care expenditures are generally similar for families at all income levels, privately incurred expenses exacerbate existing vertical inequality in disposable income between families with higher and lower incomes. By subsidizing child care costs, public ECEC has the potential to reduce both forms of income inequality.

Empirical study of the role of ECEC in income inequality in the short-term has been limited. A small number of studies in the U.S. have documented the disproportionate burden that child care expenses impose on lower-income families (Hofferth, 1995; Giannarelli and Barsimantov, 2000; Meyers and Heintze, 1999). Kilkey and Bradshaw (1999) provide some estimates of cross-national variation in these cost burdens. In Denmark and Sweden, for example, where public care is widely available, the post-tax-and-transfer income of an employed lone mother is nearly the same before and after accounting for child care expenses; in the UK, where care is predominately privately financed, the disposable income of a similar mother drops from the third to the ninth highest (among 15 countries) when child care expenses are considered.

In the longer term, access to high quality ECEC may also have consequences for inequality in the human capital and future earning potential of children. The role of ECEC in the socio-emotional and cognitive development of more-and less-affluent children has received particular attention in the English-speaking countries that provide means-tested ECEC as a form of compensatory education. A substantial body of experimental and non-experimental research in the US has documented the salutary effects of high quality ECEC on children’s cognitive skills in the short term (see Vandell 2000 for recent review). A handful of these studies also suggest that these early gains translate into longer-term improvements in education and earnings. But the production of such high quality ECEC is costly and, if provided through private markets, well beyond the purchasing power of low-income families. By equalizing access to developmentally enriching care, public ECEC has the potential to reduce human capital inequalities between more- and less-advantaged children.

The extent to which ECEC reduces inequality on these outcomes depends largely on the extent to which care for young children is socialized, that is, shifted from a private to a public responsibility. In recent decades, ECEC has become a larger and more important component of the package of in-kind assistance in most of the western welfare states (Daly, 1997; European Commission, 1998; Heikkila et al., 1999; Kamerman 2000; Tietze and Cryer, 1999). Yet ECEC provisions remain highly variable across countries at similar levels of economic development and with similar levels of maternal employment.

Cross-national variation in ECEC is pronounced not only in levels of national spending, but also in the structures for oversight, financing and provision. These institutional arrangements reflect interlocking choices about the division of responsibility between government and the family, the assignment of responsibility across levels of government, and the allocation of responsibility between social, educational or other divisions of government.
Welfare State Regimes

It has become commonplace in comparative research to compare countries' institutions and outcomes across welfare state regime types, that is, across groups of countries that share a common logic of social provision. The tripartite typology of Danish sociologist Gosta Esping-Andersen (1990) has been particularly influential. Esping-Andersen distinguishes among three welfare state regimes largely on the basis of social provisions that "de-commodify" citizens by providing alternatives to market income when labor market connections are weak or non-existent, e.g., during sickness, unemployment, or retirement.

In Esping-Andersen's social democratic welfare states (primarily the Nordic countries), entitlements draw on the principle of the universal rights of social citizenship. Social welfare policies have as an explicit goal the reduction of market-generated income inequalities, and the promotion of labor market equality between men and women. In the conservative welfare state cluster (comprising most of the continental European countries), entitlements are linked to earnings and occupation, and public provisions tend to replicate market-generated inequalities. Welfare state provisions in the conservative countries have also been shaped by the principle of subsidiarity, which stresses the primacy of the family and community for providing dependent care and other social supports. The liberal welfare states (typified by the English-speaking countries of the U.K. and its former colonies) define a residual role for the state in promoting social welfare. Entitlements are typically need-based and many benefits are means-tested. Higher levels of income inequality are tolerated as inevitable byproducts of the market and the residual role defined for the state justifies little in the way of public interventions to reduce market-generated inequalities.

One of Esping-Andersen's central claims is that welfare states are fundamentally systems of stratification, and that each of the three regimes is associated with a distinct set of distributional outcomes. A large body of empirical research, much of it based on data from the Luxembourg Income Study, lends support to this claim. This literature reveals rates of relative poverty and of income inequality that are lowest in the social democratic countries, moderate in the continental countries, and highest in the liberal countries (see, for example, Gottschalk and Smeeding, 1999, and Jantii and Danziger, 1999).

On the basis of Esping-Andersen's typology, we might expect parallel variation in ECEC policies, with the most extensive equalizing efforts in the social democratic welfare states, more ambivalence about the role of the state in the status-preserving conservative welfare states, and the most minimal efforts among the liberal welfare states. These regime types have been criticized, however, for their reliance on de-commodification as a central axis of variation and consequent neglect of policies that disproportionately benefit women in their roles as the primary caregivers for children (e.g., O'Connor, 1992; Orloff, 1993, 1996). When scholars have compared policies that assist families with caregiving — such as family leave and child care — they identify country groupings that correspond only partially to the typology based on models of de-commodification (Anttonen and Sipila, 1996; Bruning and Plantenga, 1999; Gornick, Meyers and Ross, 1997; Gustaffson, 1994; Kilkey and Bradshaw, 1999.) In his subsequent work, Esping-Andersen himself addressed the neglect of gender and care-related policies and outcomes in the de-commodification framework (see, e.g., Esping-Andersen, 1999).
Paper Overview

In this paper we consider variation across fourteen industrialized countries in the institutional structures for ECEC and the implications of this variation for the reduction of inequality. We also consider the correspondence of this variation with the Esping-Andersen welfare state typology using more detailed measures of ECEC policies than have been employed in earlier studies.

We begin by comparing ECEC institutional and financing arrangements across and within the social democratic, conservative, and liberal regimes, considering the extent to which care for young children is primarily a public or private responsibility. We then consider the relationship of those institutional choices to two aspects of ECEC that are particularly relevant to the reduction of inequality: the availability of public ECEC and the allocation of ECEC spending between the public (government) and private (family) sectors. We conclude by considering the extent to which variation in these aspects of ECEC policy corresponds to the traditional Esping-Andersen typology and the implications of cross-national variation in ECEC for gender and income inequalities.

DATA AND METHODS

This paper analyzes ECEC provisions in fourteen industrialized countries included in the Luxembourg Income Study (LIS)\(^1\). The social democratic countries are represented by Denmark, Finland, Norway and Sweden; the conservative countries by Belgium, France, (West) Germany, Italy, Luxembourg, and the Netherlands\(^2\); and the liberal countries, by Australia, Canada, the UK, and the US\(^3\). Our timeframe, the middle 1990s, corresponds to the most recent micro-datasets in the LIS archive.

We examine the financing and delivery of public school and early childhood education and care (ECEC) services for children from birth to age six. In this, we depart from commonly used classifications in some important respects. First, we restrict our attention to social care services - i.e., to direct, non-familial services. We do not consider maternity and parental leave schemes, or child allowances, which provide cash benefits to support parents' provision of care for their children at home. Second, we do not consider services that are privately purchased from market sources (e.g., proprietary child care centers), arranged through the "gray market" of informal community providers, or provided by the extended family. Although these represent a large and important share of actual care provisions in many countries, we

\(^1\) Because this assessment of ECEC variation is part of a larger study that requires micro-data, we coordinated our policy analyses with LIS data availability.

\(^2\) In Esping-Andersen's work, the placement of the Netherlands was problematic, as it incorporates features of both social democratic and conservative/corporatist welfare states. Many analysts of Esping-Andersen's work (e.g., Buusemaker and van Kersbergen 1999) have placed the Netherlands in the conservative cluster, and we follow their lead.

\(^3\) These countries are abbreviated as follows throughout our tables and figures: Australia (AS), Belgium (BE), Canada (CN), Denmark (DK), Finland (FI), France (FR), (West) Germany (GE), Italy (IT), Luxembourg (LX), the Netherlands (NL), Norway (NW), Sweden (SW), the United Kingdom (UK), and the United States (US). Because the organization and levels of ECEC provision were still substantially different between former East and West Germany, as of the mid-1990s, we restrict our analysis to policies in the former West Germany.
concern ourselves here with the policies and institutions that governments have adopted for public provision. (Note that we do include government subsidies that finance care provided by private child care centers, child minders, etc.) Third, we consider the full range of public social care provisions for children from birth to age six, including both child day care and pre-primary (or early childhood) education, and, where relevant, the early years of primary education. This broader conceptualization provides useful insights into the distribution of institutional responsibility for the care of young children, and also allows us to capture with greater accuracy the level of services available to families with young children in each country.

Our data sources for this paper include public databases (e.g., those compiled and distributed by the Organization for Economic Cooperation and Development [OECD] and Eurydice), cross-national comparative reports (e.g., reports by the European Commission Network on Childcare and other Measures to Reconcile Employment and Family Responsibilities, and the Nordic Social Statistical Committee), volumes of country case studies (e.g., Kamerman and Kahn, 1997, Rostgaard and Fridberg, 1998) and various single-country studies. In addition, family policy experts in each of the countries were contacted to review and verify information. Specific sources for data included in tables and cited in the text are noted on each table.

To compare provisions across families with children of different ages, we consider most institutional arrangements and measures of provision separately for children in two age groups: from birth until their third birthday and from age three until the sixth birthday or the beginning of compulsory school (which ever is younger). To facilitate comparison of data that vary in the year of collection and in the national currency, all references to currency amounts are presented in 1996 US dollars, adjusted for purchasing power parity (PPP). Conversions are based on country-specific inflation factors and PPP conversion rates, available through the OECD.

INSTITUTIONS AND EXPENDITURES

Organization of Direct ECEC Provision

The most direct form of government assistance for ECEC is provision in public centers or publicly-financed and regulated private providers. As shown in Table 1, the pattern of direct ECEC provision varies substantially across and, to a lesser extent, within the Esping-Andersen regimes.

The social democratic countries provide care until the start of school through a single public system, usually under the authority of the social welfare system. Care is provided primarily through child care centers and, to a lesser extent, organized family day care schemes

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4 Care that is privately-provided but largely publicly-funded is often termed a supply side subsidy. In this paper we refer to this as direct public provision, reserving the term subsidy for demand-side subsidies that are provided to parents to purchase private care directly.

5 Sweden has recently departed from this tradition by consolidating all early care under the authority of the National Ministry of Education and Science.
<table>
<thead>
<tr>
<th>Opening Hours</th>
<th>Ages Served</th>
<th>Institutional Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Democratic Countries</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>DK</strong> Vuggestuer: open full-day, all year; Bornenover: open full-day, all year; Aldersintegreide: open full-day, all year; Bornenaveklaas: open during term time, 3-4 hours a day</td>
<td>Vuggestuer: for children age 0-36 months; Bornenover: for children age 3-6 years; Aldersintegreide: for children 0-6 years; Bornenaveklaas: for small number of 5 year olds and nearly all 6 year olds.</td>
<td>Vuggestuer, Bornenover and Aldersintegreide: national Ministry of Social Services; Bornenaveklaas: national Ministry of Education</td>
</tr>
<tr>
<td><strong>FI</strong> Paivahoi: open full-day, all year; some are 24 hours</td>
<td>Paivahoi: for children age 0-6</td>
<td>Paivakoti: national Ministry of Social Affairs and Health and municipalities</td>
</tr>
<tr>
<td><strong>NW</strong> Barneage: usually open at least 41 hours per week</td>
<td>Barneage children age 0-5</td>
<td>Barneage, national Ministry of Children and Family Affairs and municipalities</td>
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<tr>
<td><strong>SW</strong> Forskola: open full-day, all year; Forskoleklaas: open at least 525 hours per year.</td>
<td>Forskola: for children age 0-5; Forskoleklaas: voluntary preschool through school system for children age 6.</td>
<td>Forskola: national Ministry of Education and Science and local authorities</td>
</tr>
<tr>
<td>Opening Hours</td>
<td>Ages Served</td>
<td>Institutional Responsibility</td>
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<tr>
<td><strong>BE</strong></td>
<td>Kinderdagverblijf (Flemish) and Creche (French) for children age 0-36 months; Kleuterschool (Flemish) and Ecole Maternelle (French): for children age 2-5.</td>
<td>Kinderdagverblijf (Flemish) and Creche (French): Communities' Social Welfare Ministries and local authorities; Kluterschool (Flemish) and Ecole Maternelle (French): Communities’ Education Ministries, provinces and local authorities.</td>
</tr>
<tr>
<td></td>
<td>Creche: for children age 0-36 months; Ecole Maternelle: for children 2-5 years.</td>
<td>Creche: national Ministry for Social Affairs and municipal social services; Ecole Maternelle national Ministry of Education.</td>
</tr>
<tr>
<td></td>
<td>Krippe: for children 0-36 months; Kindergarten: for children age 3-5 years.</td>
<td>Krippe local authorities; Kindergarten: Lander Ministries of Social Affairs Vorklassen (for 5 year olds); Lander Ministry of Education.</td>
</tr>
<tr>
<td><strong>FR</strong></td>
<td>Asilo Nido for children 3-36 months; Scuola Materna: for children 3-5 years</td>
<td>Asilo Nido, local authorities’ welfare system; Scuola Materna: national Ministry of Education and local authorities.</td>
</tr>
<tr>
<td></td>
<td>Foyer de Jour includes creche (0-3 years), jardin d’enfants (4-12 years); Enseignement Prescolaire: compulsory preprimary school for children age 4 and 5.</td>
<td>Foyer de Jour: national Ministry of Family and Solidarity and local authorities, Enseignement Prescolaire: national Ministry of Education and communes.</td>
</tr>
<tr>
<td>Opening Hours</td>
<td>Ages Served</td>
<td>Institutional Responsibility</td>
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<tr>
<td><strong>AS</strong> Market-based care usually open full-day (although some centers are part-day), all year, (Public) Pre-School open part-year.</td>
<td>Market-based care main option for children below age 5, (Public) Pre-School for 4 year olds (and some 3 year olds)</td>
<td>Market-based care targeted subsidies through national (Commonwealth) government, (Public) Pre-School State Education Minister.</td>
</tr>
<tr>
<td><strong>CN</strong> Market-based care usually open full-day, all year, (Public) Pre-Elementary (Kindergarten) classes usually part-day, part year.</td>
<td>Market-based care main option for children below age 5, (Public) Pre-Elementary (Kindergarten) available for 4 year olds in some provinces.</td>
<td>Market-based care targeted subsidies through Provincial governments, with national funds (not allocated specifically to child care as of 1996). (Public) Pre-elementary (Kindergarten) Provincial education authorities.</td>
</tr>
<tr>
<td><strong>UK</strong> Market-based care usually open full-day, all year, (Public) Pre-Primary (Nursery Education and Reception Class) nursery education usually part-day (2.5 hours/day) and part year, reception class usually full-day, part year.</td>
<td>Market-based care main option for children below age 5 (Public) Pre-Primary includes nursery education for 3 and 4 year olds, and reception class (the first year of primary school) attended on voluntary basis; sure start programs for birth to age 3 in some disadvantaged communities.</td>
<td>Some targeted subsidies through national Department of Health and local authorities' social services, sure start programs through national Department of Education and Employment, (Public) Pre-Primary: Local Education Authorities with national funding.</td>
</tr>
<tr>
<td><strong>US</strong> Market-based care usually open full-day, all year, (Public) Pre-K and Head Start classes usually part-day, part year.</td>
<td>Market-based care main option for children below age 5, (Public) Pre-K and Head Start for children age 4 (and some 3 year olds)</td>
<td>Market based targeted subsidies through state welfare systems with national contribution, (Public) Pre-K and Head Start state educational systems (Pre-K) or national Department of Health and Human Services (Head Start).</td>
</tr>
</tbody>
</table>

Notes 1- Age ranges are inclusive, e.g., "age 0-5" means birth until the sixth birthday, "age 0-6" means birth until the seventh birthday. 2- Data for Germany are for the former West Germany only.

and public preschool programs for older children. ECEC is generally provided as a right in the social democratic countries, although the extent and nature of the ECEC entitlement varies.

The conservative countries are more diverse in their organization of public care, and in the extent to which care for children of various ages is primarily a public or private responsibility. In Belgium, France, and Italy, public ECEC is provided through a dual system of child care centers (and some publicly-supervised family day care schemes) for younger children, and pre-primary schools for children from the age of two and one-half or three until the start of primary school. Care for the younger children is not universal, with priority given to working parents or children with special needs or disadvantages, but pre-primary services are universally available and take-up is nearly 100 percent for the older preschool children. ECEC provisions are more limited in other conservative countries. Germany, Luxembourg and the Netherlands provide a limited amount of public child care for children before the start of pre-primary or primary school, with priority given to children in socially deprived families. ECEC for older children is provided through part- or full-day educational programs: part-day kindergartens in Germany; compulsory, full-day pre-primary school in Luxembourg; and primary school from age four in the Netherlands. The universality of pre-primary services varies considerably across these countries. In Germany, for example, all children aged three to five are technically eligible for part-day kindergarten, but this entitlement has not been realized in all areas of the country. In Luxembourg, in contrast, compulsory, full-day primary school is provided from the age of four; beginning in 1998, services have been extended to 3-year-old children as well.

In the liberal countries, child care for the under-threes is provided through mostly private child care centers and family day care homes. Some parents receive subsidies to cover all or a portion of this private care. The majority of care remains private, however, in both the source of financing (families) and provision (market or private entities). None of these countries extend guarantees for public child care, and all heavily target and/or means-test public subsidies. There is also considerable sub-national variation. In Canada, for example, public provision ranges from nearly none in several provinces to as much as 33 percent of all center care in Quebec (Baker, 1995).

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6 The term child care centers (or centres) refers to care in organized centers that may be public, publicly-supported private organizations, or fully private in funding and service provision; family day care refers to care that is provided in home settings that are regulated and may be financed by the public sector. We use the term "child care" inclusively to refer to child care centers and day care homes, as distinct from pre-primary programs.

7 Since 1996, all children in Denmark from ages one through school age have a right to a place in public ECEC. Since 1995, all children in Sweden between the ages of one and 12 have an entitlement to public or private child care if their parents are either employed or in school; as of 2001, children of parents who are unemployed or on leave also have a right to some services. In Finland, local municipalities are required to provide a place in child care for children under school age. There is considerable disagreement about the shift of care for young children from the private family, however, and Finnish parents may choose instead to receive a Home Care Allowance for parental care. There is no universal entitlement for ECEC in Norway.

8 Pre-primary (or preschool) refers to care provided with public funds specifically as an educational service before the start of primary school education. Providers may be public or publicly-supported private organizations.

9 Subsidies refer to payments by the government for the purchase of private care, usually provided in the form of a voucher, a cash grant, or, more rarely, directly to the care provider.
Public provision in the liberal countries is more extensive for children from age four to the start of school, through various forms of (usually part-day) pre-primary programs under the auspices of national, regional or local educational authorities. Pre-primary programs are usually part-day and often targeted in some countries on low-income or otherwise disadvantaged families.\(^{10}\)

Although ECEC services are typically examined in isolation from the school system, public provisions for ECEC interact in important ways with policies governing the start of compulsory or universal public school.\(^{11}\) In the social democratic countries, children are cared for in a single, public ECEC system until the start of public school at the relatively late age of six or seven. Two patterns are characteristic of the conservative countries: a single system of public child care for young children and an early start of public pre-primary or primary school (in Germany, Luxembourg, and the Netherlands) or a combination of public child care and extensive public pre-primary school with a later start of public school (in Belgium, Italy and France). In the liberal countries, limited public child care and pre-primary services are combined with an early start for public school, usually at age five.

Other Forms of Public Financing

Direct provision of ECEC through child care services and public schools constitutes the bulk of government assistance with social care for young children in most of these countries. Governments also make use of other financing mechanisms, including subsidies to enable parents to purchase private care, incentives or supports for employer contributions, and tax relief. In comparison to direct funding and provision, these mechanisms represent greater privatization, i.e., reliance on private family or market sectors to absorb child care costs or to provide child care services. (See Table 2 for detailed country information.)

Subsidies

Subsidies to assist parents with the purchase of private care represent a direct alternative to the provision of public care. While they do not eliminate the public role in financing, they emphasize the private sector as a source of provision and parents' private choice of care arrangements.

Subsidies have historically played a minor role in ECEC in the social democratic countries. Subsidy use is growing, however, in Finland, which since 1997 has provided a Private Care Allowance for the purchase of private child care. Subsidy use is also limited among the conservative countries. In the liberal countries, in contrast, vouchers or cash grant subsidies

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\(^{10}\) A handful of U.S. states have committed to extending pre-primary education on a universal basis (through state "pre-kindergarten" programs), and in the U.K., the National Child Care strategy adopted in the late 1990s has extended part-day pre-primary to all four year old children and is expected to provide part-day programs for all three year old by 2004.

\(^{11}\) Public school refers to services provided through the education system for the primary grades. In some countries this may include a year of schooling that is designed to prepare children for regular academic programs (such as kindergarten in the U.S.). We do not distinguish these classes as "pre-primary" unless they are supervised and/or financed separately from regular primary school services.
<table>
<thead>
<tr>
<th>Subsidies for Purchase of Private Care</th>
<th>Government Incentives/Support for Employer Contributions</th>
<th>Tax Relief for Purchase of Private Care</th>
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</thead>
<tbody>
<tr>
<td><strong>Social Democratic Countries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DK</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Local authorities can give a cash grant to parents with a child 24 weeks - 3 years if they are unable to provide publicly-funded services; half the actual cost to a maximum of DK20,000 [US$2,372] annually.</td>
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<tr>
<td>FI</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Since 1997, Private Care Allowance for purchase of private day care; basic flat-rate payment of FIM700 [US$130] per child, per month, with earnings supplements.</td>
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<tr>
<td>NW</td>
<td>None</td>
<td>None</td>
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<tr>
<td>SW</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Documented child care expenses may be deducted from income of lowest earning spouse: maximum deduction (for 2 or more children) ECU2,817 [approximately US$3,541].</td>
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<tr>
<td>Subsidies for Purchase of Private Care</td>
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<tr>
<td><strong>Conservative Countries</strong></td>
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<td></td>
</tr>
<tr>
<td>BE None</td>
<td>Employers provide .5% of wage bill for development of services for children 0-3.</td>
<td>Deduction to reduce taxable income by 80% of actual costs to maximum of BF345 per day [US$9] (employed); by up to BF11,000 [US$299] per year (non-employed).</td>
</tr>
<tr>
<td>FR Subsidies for parents using registered family daycare providers of up to FF800 [US$134] per month (child under 3) and FF400 [US$67] per month (child 3-6), and for social security contribution for in-home providers up to FF4,297 [US$655].</td>
<td>Employers contribute to cost of service through compulsory contributions to the Family Allowance Funds (CAFs); employer contributions cover an estimated 25% of cost of services in social welfare system.</td>
<td>Tax reductions for employed parents of up to 25% of child care costs to a limit of FF3,750 [US$626] (per child) annually, and 50% of costs up to FF45,000 [US$7,514] annually for in home care.</td>
</tr>
<tr>
<td>GE Limited number of subsidies for low-income parents using private family day care services approved by local authorities, paid directly to the family daycare provider or the center.</td>
<td>None</td>
<td>Tax deduction available for working single parents and for married couples only if one parent is sick or disabled</td>
</tr>
<tr>
<td>IT None</td>
<td>Employers contribute 0.1% of wages for social services, which may be spent on nurseries for children under 3.</td>
<td>None</td>
</tr>
<tr>
<td>LX None</td>
<td>None</td>
<td>Tax relief for the costs of (public or private) services for children under 14; reduce taxable income by documented costs or maximum of LF24,000 [US$616] per child annually (with no documentation).</td>
</tr>
<tr>
<td>Subsidies for Purchase of Private Care</td>
<td>Government Incentives/Support for Employer Contributions</td>
<td>Tax Relief for Purchase of Private Care</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------------------------------------------------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td><strong>Conservative Countries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NL None</td>
<td>Stimulative Measure on Child Care to encourage employers to sponsor centers for younger children Estimate employers now subsidize 25% of costs.</td>
<td>Deduction of portion of actual amount of private arrangement to maximum of NFL20,000 [US$9,847] annually; employers can deduct employer-provided care from taxable earnings.</td>
</tr>
<tr>
<td>Subsidies for Purchase of Private Care</td>
<td>Government Incentives/Support for Employer Contributions</td>
<td>Tax Relief for Purchase of Private Care</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>--------------------------------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>AS</td>
<td>Child Assistance (low to middle income) up to AS$12 [US$90] per week; Child Care Cash Rebate (all families in registered care) up to 30% of costs to max of AS$29 [US$23] (per child) per week.</td>
<td>Employers who sponsor child care are eligible for tax deduction from state.</td>
</tr>
<tr>
<td>CN</td>
<td>Limited number of subsidies for low-income families, paid directly to providers; subsidy for low-income parents in training program of CN$20 [US$17] per child to maximum of CN$65 [US$54] per diem.</td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>[US$54] per week per child can be deducted from earnings when calculating the income-tested benefit.</td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>Limited number of subsidies for low-income parents in welfare employment programs or employment, maximum amount varies by state.</td>
<td>Employers can deduct portion of costs of child care from taxable payroll.</td>
</tr>
</tbody>
</table>

Notes: Currencies are expressed in national currency units, followed, in square brackets, by the equivalent amount in 1996 US dollars, PPP-adjusted. Data for Germany are for the former West Germany only.

for private care are the dominant form of government assistance. In Australia, Canada and the US, a limited number of means-tested child care subsidies are available for low-income parents who purchase private care during employment or (to a more limited extent) school hours.

**Regulated Employer Contributions**

Some countries also require private employers to share the costs of ECEC, while others use tax incentives to stimulate employer contributions. Reliance on employer contributions is particularly notable in the conservative countries. In Belgium, employers pay .05 percent of their wage bill for child care for children under age three; in Italy, employers contribute .1 percent of their wage bill for social services (which may be targeted for child care services); in France, compulsory employer contributions to the Caisse d’Allocation Familiales (CAF) pay about one quarter of the costs for services in the social welfare system (providing child care for children under three). The most aggressive scheme for encouraging employer involvement has been adopted in the Netherlands. The 1990 Stimulative Measure on Child Care encouraged employers to subsidize care for children under three, and employers now subsidize an estimated 25 percent of the costs of child care for this age group (Rostgaard and Fridberg 1998).

**Tax Relief**

Tax relief represents a third mechanism through which government offsets the cost of child care. Like subsidies, tax benefits represent a form of public spending, but one that emphasizes private provision and private familial decision making.

Over half of these 14 countries provide some form of tax relief for parents who purchase private child care. Among the social democratic countries, only Norway offers tax relief for the purchase of private care. Tax relief is available in most of the conservative countries, although it is usually limited in application. Reliance on tax benefits is greatest in two liberal regime countries, the US and Canada, where families in which parents are employed and incur child care expenses can deduct a portion of their child care expenses from their tax liability. The availability of tax benefits is limited, however, by reliance on non-refundable credits, which cannot be used by low-income families that do not have tax liability.

**ECEC Expenditures**

Public expenditures provide a useful yardstick for comparing the public commitment to ECEC across countries. Because ECEC services are provided through various government agencies and levels of government, it is difficult to obtain comparable cross-national figures on total expenditures. For our 14 countries, we were able to secure comparable expenditure data for only seven.\(^\text{12}\) Table 3 presents data on total public investments through tax relief and direct spending (subsidies and provision) as of approximately 1996. In order to standardize expenditure levels, spending is converted to 1996 US dollars and is reported per child in the population from birth to the usual start of public primary school.

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\(^{12}\) The majority of expenditure data for five of the seven were collected by Rostgaard and Fridberg (1998), Table 1. Data for Canada and the U.S. were obtained by the authors from various country-specific sources.
### TABLE 3:

**Spending on Early Childhood Education and Care, Per Child, in 1996 US$, PPP-adjusted (middle 1990s)**

<table>
<thead>
<tr>
<th></th>
<th>Spending on Tax Relief$^1$</th>
<th>Spending on Services and Subsidies$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Democratic Countries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DK</td>
<td>$0</td>
<td>$4,050</td>
</tr>
<tr>
<td>FI</td>
<td>$0</td>
<td>$3,189</td>
</tr>
<tr>
<td>SW</td>
<td>$0</td>
<td>$4,950</td>
</tr>
<tr>
<td><strong>Conservative Countries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FR</td>
<td>*</td>
<td>$3,161</td>
</tr>
<tr>
<td>NL</td>
<td>$23</td>
<td>$1,369</td>
</tr>
<tr>
<td><strong>Liberal Countries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK$^4</td>
<td>$0</td>
<td>$780</td>
</tr>
<tr>
<td>US$^5</td>
<td>$100</td>
<td>$548</td>
</tr>
</tbody>
</table>

$^*$ data Missing

Notes:

1. Calculated per child under the age of 7, assuming the majority of tax relief is used for the care of young children.

2. Total spending calculated per child of relevant ages given country-specific institutions and available data day care, nursery and pre-primary education for children 0-4 in UK, US (including Head Start and state Pre-K in US), creche and ecole maternelle for children 0-5 in France; public child care for children 0-4 in the Netherlands; public care for children 0-6 in Sweden, Finland, and Denmark.

3. Does not include Private Care Allowance, received by an estimate 2% of 0-6 year old children.

4. Does not include expansions of public pre-primary school and sure start program after mid 1990s.

5. Does not include expansion of means-tested subsidies after 1996; in 2000, U.S. spending was approximately $679 per child.


As of the middle 1990s, three of the seven countries provided tax relief through deductions or credits to cover part of the expense of private child care. Data isolating expenditures through tax relief are available for only two, in which spending for tax-based benefits ranged from $23 in the Netherlands to $100 per child under the age of seven in the US.\(^{13}\)

\(^{13}\) The per child figure is calculated as the total tax expenditure relative to the total population of children under age seven, including those whose families did and did not make use of the credit. Actual benefits for those using the credit were obviously higher.
Direct spending for services or subsidies in the seven countries in the middle 1990s varied markedly across the regimes, and generally in the expected directions. Spending was highest in two social democratic countries in which care is largely public, totaling $4,050 per child in Denmark and $4,950 in Sweden. The conservative countries, with mixed public and private systems, form a middle tier, spending between $1,369 per child in the Netherlands and $3,161 in France. (Spending may be underestimated slightly in France due to the lack of data on tax expenditures.) The highly privatized liberal countries were the lowest spenders, ranging from $548 per child in the US to $780 in the U.K. Spending also varied within country clusters. Among the conservative countries, the difference between spending levels in the Netherlands and France is notable. Among the social democratic countries, while Sweden and Denmark were high spenders, Finland fell much closer to France in spending levels.

**AVAILABILITY AND AFFORDABILITY**

The fourteen countries in this study vary substantially in their institutional arrangements for the oversight, delivery and financing of ECEC. Public expenditures on children prior to the start of public school are equally diverse. These institutional and expenditure patterns set the boundaries for the socialization of care through their allocation of responsibility to government, families, and, to a much smaller extent, employers. They determine the availability of public care and the affordability of nonparental care, with implications for the extent to which ECEC may reduce various forms of social inequality.

**Availability**

To compare the availability of public ECEC, we consider the percentage of children from birth to age six enrolled in all forms of publicly provided or funded ECEC, as of the middle 1990s including primary school as appropriate (Table 4). In two of the social democratic countries with highly public systems, Sweden and Denmark, public ECEC was widely available in the years before the start of school at six or seven. Public ECEC was more limited in Finland and Norway. About one-fifth of the under-threes and one-half to two-thirds of children between age three and five were in public ECEC. Because the start of primary school is late in these countries, this left a relatively long period of time during which the availability of public care was limited.

Among the conservative countries, the diversity of institutional arrangements translated into considerable variation in availability. In the dual systems of Belgium and France, full-day child care services were provided for 23 to 30 percent of children under three, and full-day public pre-primary school was provided to nearly all children aged three to five. Italy

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14 Because spending for the direct provision of care is calculated per child of the relevant age group, per-child totals reflect both the cost of care and levels of enrollment. They will not correspond directly to the cost of providing specific forms of care. In a country such as France, for example, total expenditures are the average of the higher cost services in the écoles, provided to nearly all children aged three to five, and less expensive services in crèches that are provided to only about one-quarter of children under age three. Figures do not include expansions in some countries after the middle 1990s, for example the expansion of part-day pre-primary programs for 4-year-olds in the U.K.

15 We use enrollment rates as a proxy for the supply of public care because utilization rates are approximately 100 percent.
TABLE 4:

Availability of Publicly-Supported Early Childhood Education and Care (middle 1990s)

<table>
<thead>
<tr>
<th></th>
<th>Share of Children Served in Publicly-Financed Care, Ages 0,1,2 years</th>
<th>Share of Children Served in Publicly-Financed Care, Ages 3,4,5 years</th>
<th>Typical Schedule, Primary Form of Care for Children Ages 3,4,5</th>
<th>Age of Compulsory Schooling</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Democratic Countries</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DK</td>
<td>48%</td>
<td>82%</td>
<td>Full day</td>
<td>7</td>
</tr>
<tr>
<td>FI</td>
<td>21%</td>
<td>53%</td>
<td>Full day</td>
<td>7</td>
</tr>
<tr>
<td>NW</td>
<td>20%</td>
<td>63%</td>
<td>Full day</td>
<td>6</td>
</tr>
<tr>
<td>sw</td>
<td>33%</td>
<td>72%</td>
<td>Full day</td>
<td>7</td>
</tr>
<tr>
<td><strong>Conservative Countries</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BE</td>
<td>30%</td>
<td>95%</td>
<td>Full day</td>
<td>6</td>
</tr>
<tr>
<td>FR</td>
<td>23%</td>
<td>99%</td>
<td>Full day</td>
<td>6</td>
</tr>
<tr>
<td>GE</td>
<td>2%</td>
<td>78%</td>
<td>Part day</td>
<td>6</td>
</tr>
<tr>
<td>IT</td>
<td>6%</td>
<td>91%</td>
<td>Full day</td>
<td>6</td>
</tr>
<tr>
<td>LX</td>
<td>3%</td>
<td>67%</td>
<td>Full day</td>
<td>4</td>
</tr>
<tr>
<td>NL</td>
<td>8%</td>
<td>71%</td>
<td>Mixed(^2)</td>
<td>5</td>
</tr>
<tr>
<td><strong>Liberal Countries</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AS</td>
<td>5%</td>
<td>40%</td>
<td>Part day</td>
<td>6</td>
</tr>
<tr>
<td>CN</td>
<td>5%</td>
<td>53%</td>
<td>Part day</td>
<td>5-6</td>
</tr>
<tr>
<td>UK</td>
<td>2%</td>
<td>60%</td>
<td>Mixed(^2)</td>
<td>5</td>
</tr>
<tr>
<td>US</td>
<td>5%</td>
<td>54%</td>
<td>Part day</td>
<td>5-6</td>
</tr>
</tbody>
</table>

Notes:

1 Number includes 5 year olds in primary school only (pre-primary not included).

2 In the NL, varies by age group, in the UK, nursery education is usually part-day, reception class, usually full day Number includes 5 year olds in primary school only (pre-primary not included).

3 Averaged across French, Flemish, German communities.


provided full-day public care for nearly all children in the three to five group, but for only six percent of those under three.

In other conservative countries, availability of public ECEC was more limited before the start of public school. In Germany, Luxembourg and the Netherlands, public ECEC was provided to between only two and eight percent of children under age three, and between 67 and 78 percent of children aged three to five were in full-or part-day educational programs. Since the start of public school is usually early, particularly in Luxembourg and the
Netherlands, a large share of the children served in the latter age group were actually in public school settings.

In terms of the availability of publicly-financed or provided care, parents in the liberal countries consistently received the least from government — particularly when their children were young. Fewer than five percent of the under-threes were served in public child care (including those in public care and those in care with public subsidies other than tax credits). In the three to five year old age group, 40 to 60 percent were in some form of publicly-supported care, including child care, preschool or primary school. Due to the early start of public school, the liberal countries "catch up" to some of the European countries in availability of care for children aged three to five. Both pre-primary services and the first year of public school were often only part-day, however, leaving employed parents to arrange family or private child care during the remainder of their working hours.

Affordability

For ECEC to reduce inequality in the financial burden assumed by parents, and to achieve the goal of reducing employment inequalities, it must also be affordable for families. Given the substantial variation in both institutional arrangements and the availability of public care, it is difficult to characterize variation in the affordability of ECEC. One approach is to compare, across countries, the allocation of ECEC costs between the state and parents; a second is to compare shares of average wages or family income spent on ECEC. Equally important, from the standpoint of vertical equality, is the financial burden imposed on families of various income levels.

The allocation of costs between the state and families is a function of both the size of the co-payments required of parents who use public care and the availability of publicly-provided ECEC. While co-payments capture the share of parental spending for children in publicly-financed settings, they will underestimate total parental contributions if that care is very limited. Table 3 summarizes co-payment policies for public ECEC and the estimated shares of total ECEC costs assumed by parents (in a subset of 11 countries for which comparable data were available). In systems in which most ECEC is public — such as the integrated ECEC systems of the social democratic countries and the pre-primary programs in several conservative countries — the parental share of ECEC costs is assumed to be the co-payment rate. In largely private systems, such as those of the liberal countries, it is more difficult to estimate parent shares of costs since these include both the full cost of purchasing private care and the co-payments for public care. In the single example of the liberal countries included in table 5 (the US), we report an estimate of the parental share of the total cost of ECEC that includes both forms of parental expenditure. In both cases, these estimates fail to capture the impact of tax benefits that reduce out-of-pocket expenses for families in several countries.

In the integrated and largely public social democratic systems, parent fees are set as a portion of family income, with specific formulas varying by region and often by type of care. As a share of family income, co-payments are typically capped at around 10 to 15 percent, with exemptions or subsidies for low-income families and higher rates for more affluent
TABLE 5:
Co-Payment Policies and Estimated Share of ECEC Costs Assumed by Parents (middle 1990s)

<table>
<thead>
<tr>
<th>Co-Payment policies</th>
<th>Parental Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Younger Children</td>
</tr>
<tr>
<td>Social Democratic Countries</td>
<td></td>
</tr>
<tr>
<td>DK</td>
<td>Varies with income and type of provisions; part-day preschool free</td>
</tr>
<tr>
<td>FI</td>
<td>Varies with income and number of children; part-day preschool free</td>
</tr>
<tr>
<td>NW</td>
<td>Varies with income; part-day preschool free</td>
</tr>
<tr>
<td>SW</td>
<td>Varies with income and number of children; part-day preschool free</td>
</tr>
<tr>
<td>Conservative Countries</td>
<td></td>
</tr>
<tr>
<td>BE</td>
<td>Sliding scale based on income</td>
</tr>
<tr>
<td>FR</td>
<td>Varies with income and type of care.</td>
</tr>
<tr>
<td>LX</td>
<td>Varies with number of children and income.</td>
</tr>
<tr>
<td>NL</td>
<td>Varies with income</td>
</tr>
<tr>
<td>Liberal Countries</td>
<td></td>
</tr>
<tr>
<td>AS</td>
<td>Varies with income</td>
</tr>
<tr>
<td>UK</td>
<td>Varies by municipality; families on public assistance exempt</td>
</tr>
<tr>
<td>US</td>
<td>Varies with income; rates vary by state and program</td>
</tr>
</tbody>
</table>

*Missing Data Notes:
1. Co-Payments as share of cost of public ECEC; share costs varies by type of care
2. Estimated parental share of all ECEC (public and private)

families. Government funds cover approximately 70 to 85 percent of the costs of ECEC outside of Norway, where government funds only 66 percent of costs.

In the mixed system used in Belgium and France, parents pay a modest co-payment for public child care for younger children; care for children in the \textit{ecole} is free. For children under age three who are in public care, government (with employer contributions in France) assumes between 75 and 85 percent of the costs of care. Care outside of \textit{Ecole} hours, and for young children not in subsidized care, remains a private responsibility with some portion of the costs of purchasing private child care offset through tax benefits.

In the other \textit{conservative} countries, co-payments for public ECEC for young children are scaled to family income, ranging from 2 to 10 percent of income in Luxembourg and from 6 to 20 percent in the Netherlands, and care for older children in public pre-primary and primary school is free of charge. Considering only the allocation of costs for public care, government (and employers in the Netherlands) fund between one-quarter and one-half of ECEC for young children, and government covers the full cost of ECEC once children enter the primary school system at age four or five. Using this to estimate the parental share of ECEC costs is problematic, however, since provision of public ECEC before the start of school is low. Parents who do not have a place in the public system must either provide private family care or purchase private child care, the cost of which is only partly offset by tax benefits.

In the highly privatized \textit{liberal} countries, where public care is limited and largely mean-tested, parents assume a much larger share of the burden for ECEC costs. In public care settings, parental co-payments are income-adjusted and generally very low. These co-payments must be interpreted in the context of the largely private systems, in which parents either provide care themselves or absorb the full cost of purchasing private care. In the US, government funds only an estimated 41 percent of all ECEC for children outside of public school, leaving parents to pay 59 percent of all costs (O.E.C.D. 2001)

An alternative approach to estimating the financial burden of ECEC for parents has been utilized by researchers at the European Observatory on National Family Policies (Bradshaw et al., 1996). Using estimates of the “average costs of the most prevalent form of formal day care,” Bradshaw and his colleagues calculate child care costs as a percentage of the average earning for a lone parent with one child in each country (PPP-adjusted). This analysis yields results that are roughly consistent with the above analysis of the allocation of costs. In the \textit{social democratic} countries, child care costs are estimated to be between seven and 13 percent of average earnings. In France and Belgium, costs are estimated as zero for families with children in \textit{ecole}; they would be higher for parents of younger children using public care that requires a co-payment, and higher still for parents using private care for children before the start of \textit{ecole}. In the \textit{conservative} countries of Germany and the Netherlands, costs are estimated to be between 3 and 12 percent of earnings, if the family utilizes public ECEC. As above, however, this estimate does not capture the cost of private care for children outside the limited system of public ECEC. In the UK and US, representing the more privatized \textit{liberal} countries, child care costs are estimated to be a strikingly higher 28 and 22 percent respectively.

The affordability of ECEC depends not only on average share of costs assumed by
parents, but also on the distribution of these costs across income levels and the relief provided to the lowest income families. In the extensive public systems of Sweden and Denmark, in which most children attend public ECEC, parental co-payments scaled to family income relieve low-income families of financial burden. In the free public pre-primary programs developed in France, Belgium and Italy, all families are relieved of the burden of purchasing private care. The distribution of costs is radically different in the systems in which most care is private, most notably in the liberal countries. In private systems, the costs of ECEC are distributed quite unequally across families, with lower income families assuming a particularly heavy financial burden. In the US, for example, working families paying for child care spend an average of nine percent of family earnings on care. But the poorer the family, the greater the cost burden: while high-earning families spend an average of six percent of their earnings on child care, low-earning families spend about 16 percent (Giannarelli and Barsimantov, 2000).

**ECEC, INEQUALITY, AND WELFARE STATE REGIMES**

**ECEC Provisions and the Socialization of Care**

Figure 1 summarizes variation in ECEC across the fourteen countries in terms of availability and affordability. When arrayed as a two-by-two table, the diagonal axis corresponds to the extent to which care is socialized, with the most highly privatized systems in the lower left corner and those that do the most to provide public alternatives in the upper right corner. Defined in terms of state efforts to promote availability and affordability, this matrix also corresponds to the likely equalizing effects of ECEC policy, with countries with the most equalizing policies in the upper right corner.

The systems that are the most public and equalizing are the integrated systems of Sweden and Denmark for children from birth to school-age, the public preschools of France, Belgium and Italy for children aged three to five, and the public pre-primary and early primary programs in Luxembourg and the Netherlands. Availability is high because these systems provide extensive or universal full-day public ECEC. Affordability is high because services are either free to parents or adjusted to relieve the financial burden on low-income families.

Systems that are moderate in the socialization of child care responsibilities and promotion of income and gender equality occupy the middle row of the figure; these systems represent various combinations of public provision and private responsibility. In Norway and Finland, and for the youngest children in Belgium and France, the cost of full-day public ECEC is scaled to family income. However, availability is far from universal and parental co-payments appear to deter use of public care by lower income families (Tietze and Cryer, 1999). Families outside the system either provide parental care or face the cost of purchasing private care.

Also identified as medium, in both availability and affordability, are the systems that combine public preschool with means-tested subsidies for children from approximately age three to school age in Germany, Australia, Canada, the UK and the US. Although services are usually free or provided with a modest co-payment, they are limited in availability and often targeted on families with economic or other forms of disadvantage. Even when co-payments
are scaled to income, they may remain too steep for the poorest families; Tietze and Cryer (1999), for example, report that kindergarten participation in Germany correlates with family income. And most of these pre-primary services are provided only part-day, leaving parents to cover the remaining hours of the work week with private arrangements. Although both the US and Canada provide some assistance with costs through the tax system, tax benefits usually exclude the lowest income families.

The most highly private and least equalizing systems are those with low levels of public care for the youngest children in many of the conservative and liberal countries. Before the start of pre-primary school in Italy, Germany, Luxembourg and the Netherlands, public ECEC is extremely limited. Although public care is heavily subsidized and therefore affordable for participating families, the paucity of supply does little to reduce the private family responsibility
for care. Even more limited is the provision of public ECEC for families with young children in the liberal countries of Australia, Canada, the US and UK. Means-tested subsidies relieve the financial burden for a limited number of the most highly disadvantaged families. The large majority of families relies on parental care or privately purchased care, placing a significant financial burden on most families and a very heavy burden on the poorest.

ECEC Provisions, Welfare State Regimes, and Inequality

This ECEC typology corresponds reasonably well to the traditional welfare regime types proposed by Esping-Andersen, with the most potentially equalizing ECEC regimes in social democratic countries and the least equalizing in liberal countries. The homogeneity of the country clusters breaks down, however, in both the social democratic welfare states, in which Sweden and Denmark stand out with more extensive public ECEC systems, and in the conservative countries, where Belgium and France are distinguished by more equalizing provisions. Variation between the age groups within many countries is also striking. In all of the fourteen countries, provisions for the under-threes are less fully socialized than those for older preschool children. But the gap is considerably wider in some. Among the liberal countries, care is overwhelmingly a private responsibility but public options are somewhat more expansive for children in the last year before the start of primary school. In France and Belgium, older and younger children also have access to markedly different levels of public care. This pattern is even more striking in Italy, Luxembourg and the Netherlands, where children aged three and four have an entitlement to services through pre-primary or primary schools, but fewer than 10 percent of children under age three receive any public care.

The ECEC typology in Figure 1 also corresponds closely with empirical measures of social inequality in each country. We have argued that by increasing the availability and affordability of care, ECEC policies may reduce within-country inequality in employment and income outcomes. To consider this association, Table 6 compares the ECEC typology to two published measures of within-country inequality estimated with Luxembourg Income Study microdata.

For a measure of gender-related employment inequality we use our own estimates of “child penalties” (see Gornick, Meyers, Ross, 1998). This measure is the estimated percentage point reduction in the maternal employment rates, within each country, associated with the presence of a young child (either age 0-2 or age 3-5). It is calculated by estimating the likelihood that a married mother with a young child will be employed, compared to an otherwise similar mother in the same country whose children are all older (aged 12-17). Table 4 reveals a close correspondence between levels of ECEC availability/affordability (in Figure 2) and the severity of the penalty associated with caring for young children. With only one exception (Norway), we observe no reduction in rates of maternal employment associated directly with the presence of young children in those countries that are “high/high” or “medium/high” in availability/affordability (respectively). In the five countries that are “low/low” and “medium/medium” in the socialization of care for children of different age groups, in contrast, employment rates are estimated to be 15 to 45 percentage points lower among mothers with

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16 Each country / age group penalty is estimated separately, with controls for mothers’ age and education, total number of children, and level of other household income.
### TABLE 6:

Socialization of ECEC and Inequality in Maternal Labor Force Participation and Family Income

<table>
<thead>
<tr>
<th>Socialization of ECEC (Availability/Affordability From Figure 1)</th>
<th>Child Penalty in Maternal Employment(^1)</th>
<th>Social Distance in Income(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage Point Reduction in Maternal Employment with 1 Child Age 0-2</td>
<td>Percentage Point Reduction in Maternal Employment with 1 Child Age 3-5</td>
</tr>
<tr>
<td>Younger Children</td>
<td>Older Children</td>
<td></td>
</tr>
<tr>
<td>DK High/High</td>
<td>High/High</td>
<td>0%</td>
</tr>
<tr>
<td>FI Medium/High</td>
<td>Medium/High</td>
<td>0%</td>
</tr>
<tr>
<td>NW Medium/High</td>
<td>Medium/High</td>
<td>-29%</td>
</tr>
<tr>
<td>SW High/High</td>
<td>High/High</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Social Democratic Countries**

- **BE** Medium/High High/High 0% 0% 2.89
- **FR** Medium/High High/High 0% 0% 3.11
- **GE** Low/Low Medium/Medium -25% -117% 3.03
- **IT** Low/Low High/High n.a. n.a. n.a.
- **LX** Low/Low High/High 0% 0% n.a.
- **NL** Low/Low High/High -25% -21% 2.62

**Conservative Countries**

- **AS** Low/Low Medium/Medium -35% -15% 3.44
- **CN** Low/Low Medium/Medium -15% -10% 3.55
- **UK** Low/Low Medium/Medium -45% -31% 4.10
- **US** Low/Low Medium/Medium -22% -15% 5.11

**Liberal Countries**

Notes:

1. Predicted percentage point reduction in employment rates among married mothers due to the presence of young children, controlling for marital status, number of children, mother's age, education and other household income. Penalties are relative to otherwise similar mothers in the same country show children are age 12-17. Source: Gornick, Meyers and Ross (1998).

2. Distance between high and low income individuals; Ratio of post-tax-and-transfer income at the 90\(^{th}\) percentile to the 10\(^{th}\) percentile. Source: Smeeding and Rainwater (2001).
children aged birth to two, and 15 to 31 percentage points lower among mothers with children aged three to five. This suggests that higher levels of ECEC provision may reduce the downward pressure that young children exert on the labor market attachment of mothers. This has implications for reducing inequality among women (with children of varying ages), across dual-parent families (with children of varying ages), and — because most men have no child penalties at all — between women and men.

A similar correspondence is observed between ECEC provisions and income inequality among children within each country. For a measure of income inequality we make use of "social distance" estimates reported by Smeeding and Rainwater (2001). This measure estimates the difference in adjusted disposable income between children with high and low incomes in the same country. It is computed as the ratio of the income of children in families at the 90th and the 10th percentiles of income within each country (the decile ratio); a higher ratio indicates greater distance between high- and low-income children or greater income inequality. Income inequality is observed to be considerably lower in countries that have more extensively socialized care. Incomes of high-income children range from two to just over three times those of low-income children in five of the six countries with "high/high" or "medium/high" ECEC provisions; incomes are three to more than five times greater in countries with "low/low" and "medium/medium" levels of availability and affordability. This may simply reflect within-country correlations in national policies governing income transfers, taxes, and ECEC. But it may also reflect the role of public ECEC policies in facilitating continuous maternal employment — and contributions to families' earned income — during child-rearing years. And because this income measure does not reflect families' out-of-pocket expenditures for child care, which are much higher in countries where ECEC is minimally socialized, it underestimates the contribution of ECEC to the reduction of income inequalities across families with and without children, and across more- and less-advantaged families who rely on child care.

CONCLUSION

These comparisons highlight the substantial variation in ECEC institutions and provisions across welfare states at similar levels of economic development. The extent to which ECEC is a public or private responsibility provides a useful axis for comparing these diverse systems. At one extreme are the public systems that serve children of all ages in the social democratic countries, and the preschool provision for toddlers in some of the conservative countries. Not surprisingly, these countries make substantial financial investments in ECEC. At the opposite extreme are the predominately private systems in the liberal countries, and the limited systems of public care for the under-threes in many of the conservative countries. In these systems, parents are largely responsible for providing or purchasing care for their children. Even considering tax benefits, these countries — most notably the liberal countries — make very meager investments in ECEC.

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Disposable income includes all earned income and private cash transfers, public transfer benefits, near cash benefits (Food Stamps in the U.S. and housing allowances in the U.K. and Sweden), and direct tax subsidies (such as the Earned Income Tax Credit in the U.S.), minus the personal income taxes and mandatory contributions to social insurance funds. Per capita income is calculated using an equivalence scale that adjusts for family size and composition.
As noted earlier, the motivations underlying the expansion of public ECEC have varied both across countries and over time. The pattern of variation in the socialization of ECEC suggests that the rationale for state intervention may set the boundaries for expansion. The well-developed ECEC systems in most of the social democratic countries are consistent with the explicit goals of reducing income inequality and promoting full employment among men and women. The ECEC systems in the liberal countries, which have expanded state provisions primarily to increase the human capital of poor children or the labor force participation of poor parents, are far more uneven in both availability and affordability. The highly privatized ECEC provisions in these countries — which place a heavy financial burden on lower income families and a high effective tax on earnings for women — are likely to exacerbate rather than reduce income and gender equality.

The least homogeneous provisions are seen in the conservative countries. Limited provisions for children under age three are consistent with the principle of subsidiarity that has shaped these welfare states, leaving the primary responsibility for dependent care with mothers. Public ECEC has expanded unevenly for older preschool children, at least in part because it has been motivated, historically, for reasons other than social equality. Components of ECEC development have been stimulated by, for example, concerns with preserving national culture in France, an emphasis on early learning and language acquisition in multi-lingual Luxembourg, and a strong focus on the value of group and cooperative learning for children in Italy. As a result, the ECEC systems of the conservative welfare states vary widely and may embody fundamental tensions between the traditional, conservative state role in preserving the private family and more recent demands to socialize early care responsibilities.

Comparative scholars have extensively documented the role of the welfare states in reducing inequality within countries. Substantial theoretical and empirical literature has characterized and estimated the effects of various income transfers and tax policies on several forms of inequality. In-kind welfare state benefits, such as ECEC, have received less attention in this literature. Given the potential of ECEC to reduce both income and employment inequalities, researchers would do well to more fully consider the equalizing effects of these in-kind welfare state provisions. Given the particular relevance of ECEC to women, greater attention to these issues is particularly critical for our understanding of the gendered nature of welfare state provisions.

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