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**Economic Development and Time Devoted to
Direct Unpaid Care Activities:**

*- An Analysis of the Harmonized European Time Use Survey
(HETUS) –*

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A growing literature emphasizes the distinctive characteristics of care, its implications for the development of human capabilities, and its centrality to the process of social reproduction. Yet relatively little attention has been devoted to the impact of economic development on the demand for and supply of care. The advent of time-use diary surveys in a broad range of countries offers the opportunity to answer an important question: How do the institutional transformations and increases in per capita market income associated with economic development affect temporal demands for direct unpaid care of dependents such as children, the sick, and the elderly?

In this paper, we address this broad question in both theoretical and empirical terms, focusing on a cross-sectional analysis of fifteen European countries which vary considerably in terms of average levels of income and education, as well as child care policies. We begin with a summary of the many reasons why analysis of care for dependents is relevant to economic development. The conventional wisdom suggests that time devoted to unpaid work tends to decline in the course of economic development—a process often defined in terms of an increase in the relative importance of the market economy. Yet empirical evidence suggests that unpaid work devoted to the direct and indirect care of family members remains remarkably and persistently important within the advanced capitalist countries. (See Box 1 for definitions of unpaid and paid work, direct and indirect care). The composition of unpaid work seems to shift in the course of economic development, with a decline in the relative share of time devoted to housework and an increase in the relative importance of time devoted to direct care of children and other dependents.

We focus our attention on analysis of cross-sectional differences in unpaid direct care of children. Like other recent analyses of trends over time in a variety of European countries using the Multinational Time Use Survey (MTUS) (Bianchi et al., 2007, Ch. 9; Guryan et al., 2008) we find a positive association between level of Gross Domestic Product (GDP) per capita, the amount of time devoted to child care, and time devoted to child care as a percentage of all unpaid work. We also show that higher educational levels are associated with greater parental time devoted to child care. However, we devote less attention to individual-level differences than to analysis of factors that could help explain international differences, such as the structure of

employment, differences in household structure (particularly co-residence of adults other than parents who may provide care) and the impact of public policies such as child care provision.

We situate our analysis within a broad overview of the impact of economic development on the social organization of care. We call attention to conceptual and methodological problems that complicate comparative analysis of time-diary survey data. We provide an overview of the most important factors affecting the demand for and supply of care in the course of economic development. We also conduct a descriptive analysis of the relationship between GDP, women's paid employment, household structure, education, and time devoted to direct child care activities using the Harmonized European Time Use Surveys (HETUS) for fifteen European countries.

Why Care is Relevant to Economic Development

Mainstream development economists continue to define economic growth in terms of conventional measures such as paid labor force participation and income per capita. A new paradigm of feminist research, however, emphasizes the need for empirical analysis of time devoted to unpaid household work. The impact of unpaid work on household living standards can be treated either as a form of implicit income (an addition to household market income) or an increase in household consumption (an addition to market purchases).

Feminists protested the failure to measure and value women's unpaid work in the U.S. as early as 1878 (Folbre, 1991). Margaret Reid's classic *Economics of Household Production*, published in 1934, clearly explained the logic of valuation, and New Zealand activist Marilyn Waring (1988) effectively publicized its international relevance. Modern neoclassical theory acknowledges the theoretical importance of household production (Becker, 1965; Gronau, 1973). Within the Marxian literature, the so-called "domestic labor" debates revolved around this topic (Secombe, 1974; Harrison, 1973). Yet efforts to impute a value to unpaid work and include consideration of it within national income accounts remain intermittent and largely unnoticed (Eisner, 1989; Abraham and Mackie, 2004).

Conventional measures of growth in Gross Domestic Product (GDP) offer a biased and incomplete measure of improvements in living standards. When time is reallocated from non-market to market activities, the impact of possible reductions in the value of unpaid work is overlooked. For this reason, GDP growth can overstate growth in the production of total goods and services. On the other hand, improvements in household technology—such as microwave

ovens, vacuum cleaners, and online shopping can yield increases in productivity of unpaid work (Folbre and Wagman, 1993; Wagman and Folbre, 1996). For this reason, GDP growth can understate real growth in production. Failure to measure the value of goods and services produced outside the money economy distorts measures of inequality in living standards as well as levels and rates of economic growth (Folbre, 2008a).

Children represent one of the most important “outputs” of household production. Time devoted to direct activities of nurturance and care represents a contribution to the human capital that promotes economic development (Folbre, 2008b). The unpaid direct care devoted to nurturance and care of other dependents also represents an important dimension of social reproduction. As Diane Elson (1991) has persuasively argued, neoliberal development strategies often seek to offload the costs of social reproduction into the unpaid sector, assuming that the supply of unpaid labor is infinitely elastic. But in many advanced capitalist countries, including Italy, Spain, Japan, and Korea, birth rates have declined to far-below replacement levels. These declines seem more closely related to work-family policies and other economic variables than to women’s employment per se (McDonald, 2000; Bettio and Villa, 1998). As a recent OECD report (2006) emphasizes, levels of maternal employment in Europe are positively related to state policies that subsidize care provision, which, in turn, are positively related to birth rates.

Another important reason for careful attention to unpaid work in general and care work in particular lies in its implications for gender inequalities. Most efforts to assess the relative position of women, including the Gender Development Index and the Gender Empowerment Measure developed by the United Nations, focus on women’s participation in the market economy relative to men. Yet increases in women’s market income can be countervailed by increases in their responsibility for dependents (as with increases in the proportion of families with children maintained by women alone) or by an increase in their total working hours (Folbre, 2006a). Some recent international comparisons suggest that differences in the total working hours of men and women decline over the course of economic development (Burda et al. 2007). Such comparisons are strongly affected by both the definition and measurement of unpaid work, as well as cultural norms and public policies. A closer look at one category of unpaid work—the direct unpaid care of children--promises some insights into larger trends.

Conceptual and Measurement Problems

Care work means different things to different people. It can be defined in terms of who it benefits (dependents vs. others), the social relations in which it takes place (e.g. unpaid family labor vs. paid employment), or the nature of the labor process (involving personal interaction and emotional connection or not). Other papers commissioned by UNRISD have used the term “unpaid care work” to refer to unpaid direct and indirect care activities (care of family members and housework) (Razavi, 2007; Budlender, 2008b). In this paper, we focus more narrowly on “direct unpaid care activities” (such as feeding a person, bathing a person, reading aloud to a child, or teaching a child) and on *supervisory responsibility* for family members that constrains the time, attention, or availability of a caregiver.

We reserve the term “indirect unpaid care activities” for food preparation, housework, and shopping activities that represent an important input into care provision (termed “household maintenance” in Razavi, 2008:18). It is important to note that wage employment undertaken for the purpose of purchasing inputs into care also represents an indirect care activity, and that many direct care activities provided through the market (such as publicly provided child care or elder care) also fall under the rubric of care (Folbre, 2008c). These nomenclatural and definitional issues bear on the important issue of substitutability between market and non-market provision of services (Himmelweit, 2000).

Unlike unpaid indirect care provision, direct care activities often entail close personal relationships for which market-purchased services offer only a partial substitute. These activities are by their very nature labor-intensive and emotionally complex. Economic characteristics such as education, earnings, and family income seem to have different effects on these activities than on more impersonal forms of unpaid work. Econometric analysis of data from the American Time Use Survey shows that wages have a positive effect on time devoted to child care but a negative effect on time devoted to housework (Kimmel and Connelly, 2007). Almost equally surprising, econometric analysis of European time use data shows that wages seem to exert no significant effect on time devoted to child care (Hallberg and Klevmarken, 2003; Kalenkoski et al., 2005).

Neoclassical economists often define work as an activity conducted only for the purpose of producing goods and services or earning income. From this perspective, child care, which often yields direct satisfaction to the care provider, should not be considered “work.” Indeed,

Kimmel and Connelly (2007) argue that child care should be considered an activity somewhat intermediate between work and leisure. But studies of reported happiness combined with time use show that many activities, including paid work, generate happiness and satisfaction (Juster, 1985; Krueger, 2007). Subjective assessments of distinct time-use activities yield interesting results. However, they should not be used to define what is “work” and what is not.

Most time-use researchers rely on the “third-party criterion” developed long ago by Margaret Reid. If you can, in principle, pay someone to engage in an activity on your behalf, it represents work (regardless of whether you enjoy it or not). This criterion is not without problems of its own. Some activities, such as studying or exercising to improve one’s health, can’t be performed by someone else, but many people would decline to refer to these as leisure. Similarly, sleep and other forms of personal care seem to fall outside the standard work/leisure dichotomy.

An additional complication arises from the definition of “activities” that provides the basis for time-use surveys. The “primary activity” is typically designated in response to the question “what were you doing?” The “secondary activity” is typically designated as a response to the question “what else were you doing at the same time?” But child care is not merely an activity—it is also a *responsibility* that constrains adult allocation of time even when no direct care activity is being performed (Budig and Folbre, 2004). Many paid jobs, ranging from the dramatic task of firefighters to the mundane task of sales, pay workers “to be available” whether or not they are actively engaged in activities (such as fighting fires or interacting with customers).

This limitation of conventional time-use surveys raises a problem of construct validity-- “the extent to which an observed measure reflects the underlying theoretical construct that the investigator has intended to measure” (Andrews, 1989:393). Michael Bittman offers a particularly poignant example that emerged from a focus-group discussion with Australian respondents providing care for a sick or disabled family member: a mother who used a vacuum aspirator to suction mucus out of her daughter’s throat on a regular basis. The care activity itself required only about 5 minutes out of every hour. The responsibility to provide this care, however, made it virtually impossible for the mother to perform any activities outside the home, even shopping (Bittman, personal communication).

Most discussion of problems with care measurement focuses on the more mundane, though also significant problem of measuring secondary activities, those conducted simultaneously with primary activities. For instance, a mother might report that her primary activity is cooking dinner, but her secondary activity is talking with her children while she does so. As was observed in one of the first published cross-national comparisons of child care time, much child care takes the form of secondary activities, measurement of which is highly susceptible to differences in survey wording and administration (Stone, 1972). Duncan Ironmonger argues that primary activity measures may capture no more than about 25% of time devoted to children (Ironmonger, 2003, 2004).

The measurement of child care as a secondary activity seems most successful when, as in the Australian case, supervisory care or “looking after children” is included on an explicit activity list. National surveys are inconsistent on this issue, and not all include an explicit activity list. Yoon (2005) describes resulting problems with interpretation of Korean time use data. Budlender (2008b) and Charmes (2006:58) observe a number of difficulties with time use surveys in other developing countries. Budlender notes that questions on secondary and simultaneous activities in the Nicaraguan time use survey were so poorly answered that they were not included in official analysis (Budlender 2008b:6).

Both the U.S. and Canadian time use surveys have successfully added more stylized measures to time diary surveys, asking respondents specifically to consider during which activities they had children “in their care” (the U.S. wording) or “looking after children” (the Canadian wording).¹ While this is a promising approach, results seem sensitive to small differences in wording, limiting both international and longitudinal comparability (Folbre and Yoon, 2007; Allard et al., 2007). Yet another strategy entails analysis of time diary data regarding “who else was present” while an activity was being conducted (our later analysis of the HETUS will illustrate this strategy).

Additional problems arise from lack of consideration of the intensity or density of child care efforts. Time-use surveys are typically administered to care providers rather than to care recipients, making it difficult to ascertain total care time received (Folbre, et al. 2005). Even with excellent data, problems of interpretation remain. From the caregiver’s point of view, is it twice as much work to care for two dependents at the same time as for one? Obviously not, but the burden is probably somewhat greater. From the care recipient’s point of view, does care provided

by two adults at once represent twice as much care as by a single adult? Obviously not, but the net effect is unclear.

Similar problems apply to analysis of other forms of care. Many time-use surveys fail to distinguish between time caring for adults who are ill and those who are disabled or elderly (Budlender, 2007:10). It is often difficult to ascertain the ratio of caregivers to care recipients. Further, care for adult dependents is distributed far more unevenly throughout the year—and throughout the population than child care. As a result, time-use surveys conducted on a single day or week seldom yield a sufficiently large number of cases to provide the basis for statistical analysis.

Careful analysis of specific care activities within individual surveys can yield useful results (e.g. see Budlender's analysis of South Africa, 2008). But these measurement problems seriously constrain the cross-country comparisons relevant to the central theme of this paper-- the impact of economic development on the amount of time devoted to child care. Child-care activities may simply become more visible in the course of economic development because they take a more concentrated form. For instance, in a less-developed country a mother may perform domestic work or engage in work on a family farm or enterprise while overseeing her children's play, reporting very little time in direct care. In a more-developed country, a mother engaged in wage employment who has been away from her children all day may instead sit down with them for an hour at bedtime and read aloud to them, a more easily-remembered and more easily-measured care activity.

Similarly, in a less-developed country a family caregiver may engage in a combination of paid and unpaid work in the same room as a bed-ridden dependent, providing company and supervision at little additional temporal cost. In a more-developed country, a family caregiver may make an explicit trip to a hospital or nursing home for an explicit visit precisely because the spatial separation requires a different concentration of emotional care. More extensive qualitative and ethnographic research based on direct observation of care provision may be a prerequisite for improvements in survey design. On the other hand, analysis of existing survey data can help raise questions and concerns that could inform the design of observational studies.

Economic Development and Structural Change

The many aspects of economic development that could influence time devoted to unpaid direct care in the family and community fall into at least four categories: 1) the number of individuals who depend on unpaid care—aptly termed “dependents” 2) household size, composition, and mutual aid 3) the organization of productive work and 4) provision of care services through the market and the state.

It is easy to offer reasons why the share of time devoted to unpaid direct care activities might decline in the course of economic development. In the category of demographic shifts, fertility decline is associated with a reduction in the dependency burden imposed by young children. The growth of public education and health facilities provide substitutes for unpaid family labor, and might be expected to reduce demands upon it. High wage differentials between the more developed and less developed countries augment the flow of legal and illegal immigrants available to provide relatively inexpensive services as nannies, child care and elder care workers. Increases in women’s participation in paid employment increase the opportunity cost of their time and intensify the spatial separation between women and dependents. The same processes may increase women’s bargaining power in both the home, leading to some redistribution of care responsibilities from women to men.

Yet a number of countervailing factors are also obvious. Increases in life expectancy and growth of the elderly population, particularly the proportion over age 85, create a new kind of dependency burden. Further, the intensity of care demands per child may increase, along with a shifting emphasis from quantity to quality of child care. For instance, parents may be expected to devote considerable time to helping children with homework. Ethnographic studies in the U.S. suggest that educated parents devote substantial amounts of time and money to highly scheduled developmental activities for their children (Lareau, 2003). In truly poor countries, women may need to prioritize subsistence food production and food and fuel collection. As family income increases, the increase in discretionary time may lead to an increase in time devoted to direct care per dependent.

Both biological and ideological factors may limit substitutability between family care and purchased services (e.g. health desirability of breast-feeding). Furthermore, the effects of higher family income may outweigh the effects of higher opportunity costs on family decisions. Even in the advanced industrial countries, both the probability and duration of breastfeeding increase

with maternal education and family income. In economies characterized by family-based agricultural production and informal employment direct care activities may be so integrated with other productive activities as to become literally invisible. If direct care becomes easier to define and measure in the course of economic development, it will appear to increase over time. Changes in the supply of non-parental care of children may also have an impact. As one folk saying goes “it takes a village to raise a child.” A mother living in a village may receive more supervisory assistance from older children, elders, neighbors and friends than a mother living in an urban area.

Dependency. Measures of dependency are often simply based on a standard numerical definition—the ratio of the population under the age of 15 and over the age of 65 to that in the so-called “working ages” between 16 and 64. Worldwide, this ratio was about .59 in 2002. That is, for every person in the working age there were about .6 persons in an age group likely to be characterized by dependency. As can be seen from Figure 1, there are significant differences in the dependency ratio across major regions of the world. In Africa the number of total dependents per member of the working age population is almost twice as high as in Europe. As Figure 2 shows, dependency ratios based only on ratio of young dependents to those in the working ages follows a similar pattern—both Europe and North America carry a far smaller dependency burden than other regions.

The now affluent countries have clearly enjoyed a “demographic dividend” from the reduced care burden associated with fertility decline, albeit a dividend that will be reduced by increases in the proportion of the population over age 65. By 2025, increases in the share of the elderly population in Europe are projected to increase its total dependency burden over the world average, making it higher than that of any other region of the world other than Africa. As aforementioned, European policy makers are now quite concerned about the economic implications of below-replacement fertility rates.

Children and the elderly require very different types of care. The elderly typically enjoy higher levels of public spending on their income maintenance and health than do children. Medical technology for treatment of diseases of old age has advanced enormously over the past fifty years, but is quite costly. In many of the affluent countries, a large proportion of all health care expenditures are devoted to individuals in the last few months of their life. Elder care itself has been “medicalized.” The cost of public pensions is increasing along with life expectancy.

But the temporal demands of the elderly on family members are generally lower, on average, than the temporal demands imposed by young children for two reasons. Even those elderly who need assistance with activities of daily living (ADLs) such as shopping or eating can be left alone for extended periods of time. Indeed, many elderly people can and do help working-age adults provide supervisory care for children, even when their physical capacities are somewhat limited. While elderly persons with serious health problems such as dementia obviously require intense supervision, the incidence of such needs is unevenly distributed, with only a small percentage of families affected. Furthermore, in most affluent countries, elderly with serious health problems are likely to be either institutionalized or provided with other forms of public assistance. As a result, the demographic dividend may continue to pay off in terms of reduced demands for unpaid care, even if aging imposes new strains on public budgets.

The UNRISD project has suggested an important refinement of age-based dependency ratios, weighting groups most likely to make intense temporal demands (those under age 7 or over age 85) twice as heavily as others (7-12 year olds and 75-85 year-olds). This represents a constructive suggestion for detailed analysis of dependency, on the household as well as the national level. Definitions of dependency and dependency ratios based on age, however, can be misleading. Family illness is often a source of economic and temporal stress and tends to affect women's time use more than men's (for one empirical analysis, see Pitt and Rosenzweig, 1990). The potential impact of this form of dependency is exemplified by the uneven global effects of the HIV epidemic. In four Sub-Saharan countries, the percentage of adults suffering from HIV exceeds 30% (USAID 2002:89). High levels of HIV infection in South Africa probably account for relatively high level of care devoted to adults there.

Whatever its causes, dependency should be contextualized. The ages at which children become economically productive and, later, self-sufficient, vary considerably (as does the concept of childhood itself). In less-affluent countries, many children under the age of 15 contribute to household production and care provision, and some work on family farms or enterprises or participate in wage employment as well as entering paid employment and contributing to household income. In affluent countries, on the other hand, children typically remain financial dependents long past the age of 15, even when they engage in wage employment. Co-residence is also relevant. In some countries, notably Italy and Spain, young adults often continue living with their parents long after they have entered formal employment,

and elderly family members are also more likely to coreside with their children (Ogg and Renaut, 2006; Chiuri and Del Boca, 2008). Family provision of housing—and also basic housekeeping services—represents a significant subsidy to young adults

The expansion of schooling diminishes temporal demands of older children who spend a larger portion of their time under the supervision of teachers. It may, however increase the temporal burden of young children on parents, as older children become less available to act as playmates or provide supervisory care. Time and money are, to some extent, substitutes: parents may spend less time with children precisely because they are spending more money on them (e.g. purchasing child care services). School fees and other costs associated with schooling are often significant, even in countries that provide universal primary and secondary education. Mandatory public education limits children's ability to enter paid employment and contribute to family income.

Finally, it is important to note that dependency ratios may have a bigger impact on supervisory care than on unpaid direct care activities. Young children, the sick and the very old spend a large proportion of their time sleeping. Someone must be “on call” on their behalf—to bring them water, help them tend to personal needs, or simply to prevent them from getting into trouble. In developing countries, such “on call” time can often be used for performance of indirect care activities, such as housework and meal preparation. In developed countries, supervisory care often entails restrictions on paid employment and may therefore impose relatively higher costs. In some developing countries, higher amounts of time spent on care of persons (unpaid direct care) are reported where care dependency ratios are low (Budlender, 2008b:40). The fact that some dependents require far less in direct care activities than in unmeasured supervisory care may help account for this pattern. .

Household Structure, Composition, and Mutual Aid. Sheer demographics play a role in the supply of, as well as the demand for unpaid care. Nations have dependency ratios: so too do households. Shifts toward smaller household sizes are a concomitant of economic development in most countries, driven by declines in the number of coresident adults. An analysis of the decennial censuses between 1880 and 2000 in the U.S. reveals a significant reduction in the number of adult females (such as older daughters, unmarried siblings and mothers) co-residing with mothers of children ages 0-5. Further, the likelihood that such coresident females were

participating in education and formal employment increased over time, implying a significant reduction in their potential contributions to family care (Short et al., 2006).

Most equivalence scales used to adjust household income for household size and composition rely on the assumption of significant economies of scale. Declines in average household size may, in this respect, reduce the efficiency of care as well as the productivity of domestic labor: One mother raising three children can probably devote less time to care than three mothers each raising one child if only because it is not much harder to supervise three children than one. Older siblings often help entertain and distract, if not explicitly care for, younger children.

Increased internal and international migration also lead to changes in household structure. Working-age adults are pulled toward regions with better job opportunities, often leaving both their elderly parents and their young children behind. The incidence of single-person households, particularly where male migrants live independently of female family members, can have a significant impact on the gender division of labor, as men have little choice but to provide for their own maintenance (Budlender, 2008:21). International migration of young women seeking jobs in the care sector of the advanced industrial economies, including Latin American women moving into child care and elder care, and Filipina women moving into nursing in the U.S. seems increasingly common. Social researchers are only beginning to consider the implications of “global care chains” (Yeates, 2005; Misra and Merz, 2004). But availability of low-wage migrants almost certainly reduces care demands on family members.

Increases in geographic mobility may also reduce mutual aid among households. Such trends can be captured by time-use studies as well as by specific survey questions. For instance, the U.S. Survey of Income and Program Participation (SIPP) asks a representative survey of the U.S. population: If your household had a problem with which you needed help (for example, sickness or moving), how much help would you expect to get from family living nearby? Five possible responses could be given: All the help I/we need, most of the help I/we need, very little of the help I/we need, no help, or don’t know, not applicable. The question was then repeated for “help from friends” and “help from other people in the community besides family and friends, such as a social agency or a church.” An analysis of the 1992 survey showed that about 22% were confident of help from all three sources, and 18% were not confident of help from any

source (Cotter et al., 2003). Unfortunately few studies have defined mutual aid in consistent terms that could be tracked over time.

The Organization of Productive Activities. Another supply-side factor relevant to unpaid care is the organization of market work (both wage employment and family-based farms and businesses). The higher women's potential earnings outside the home, the higher the opportunity cost of her time to the household. Indeed, some scholars argue that patriarchal property rights evolved partly as a result of the ways in which they increased the supply of care services and lowered their costs to men and children (Folbre, 2006b). New opportunities for economic independence enhance women's bargaining power, and may allow them to challenge traditional social norms. Differences in the length of women's and men's total work days (unpaid and paid work combined) seem to be smaller in the affluent developed nations than in less developed countries (Burda et al., 2007).

The spatial location and interruptibility of work are also important. In a traditional agrarian household, women can combine productive and reproductive tasks, switching back and forth between child care and tasks such as weeding a garden, milking a cow, or weaving. Young children can begin assisting with these tasks at a relatively early age. Even where directly productive activities require women's full attention, a location close to home makes it easier for women to provide supervisory or background care. In non-agrarian economies, family-based enterprises and self-employment make it easier for parents to combine productive employment with supervision of dependents.

Wage employment, on the other hand, typically takes place under conditions that are not conducive to supervisory care. Even where use of mobile phones allows parents to literally remain "on call" they may risk job loss if they leave work to tend to a child's needs. The temporal structure of paid employment is also consequential. For instance, part-time or shift work makes it easier for mothers and fathers to stagger their child care responsibilities, an important option for many families in the U.S. (Presser, 2003). Perhaps as a result of these complexities, multivariate analysis of the cross-national differences in time allocated to direct and indirect unpaid care activities often fails to yield decisive results (Pacholok and Gauthier, 2004). However, some research suggests that increases in women's labor force involvement and the availability of parental leave for men increase men's unpaid work time (Hook, 2004).

Differences in survey methodology and public policy make it difficult to compare levels of female labor force participation across countries with differing levels of GDP per capita. Considerable evidence suggests that the relationship is non-linear, with women's participation in directly productive activities first falling, then rising as opportunities for wage employment increase (Schultz, 1990; Pampel and Tanaka, 1986). In most of the developed world, including Europe, women's labor force participation increased steadily over the last fifty years of the twentieth century (Rubery et al., 1999). This increase now seems to be leveling off. In the U.S. women in almost every category—with the small exception of single mothers—were no more likely to engage in paid employment in 2006 than in 1996 (Vanneman, 2007).

Provision of Care Services through the Market and the State. Social policies in much of Northern Europe now provide considerable support for family care through paid family leaves from employment, family allowances, universal child care, and community-based provision for the elderly. European countries can be grouped according to different public care provision regimes, which also have implications for gender equality (Esping-Anderson, 1990; Lewis, 1992; Bettio and Plantenga, 2004). The Nordic countries have pursued social democratic strategies with generous public support for family care. They have encouraged women's employment outside the home and sought to promote gender equality by encouraging paternal up-take of paid family leaves from work.

The countries of Northwestern Europe are more heterogeneous. France provides relative generous support, with less emphasis on gender equality than the Nordic countries. German and Belgian policies provide relative generous family subsidies, but discourage labor force participation of married mothers; at the other extreme, the United Kingdom provides less generous support and more encouragement for maternal employment. In Southern Europe, both public support for families and female employment are lower. The transitional economies once relied heavily on socialist policies that provided virtually universal childcare in order to increase female employment. These child care policies have been partially dismantled, but the more affluent transitional economies, such as Slovenia, continue to provide substantial child care (Sadar, 2005).

Many empirical studies explore the effect of public policies on women's labor force participation (Gornick and Meyers 2003; Lokshin, 1999; Deutsch, 1998). Studies of the impact of public policies on unpaid care to family members are subject to the many confounding factors

described above. Still, some important patterns emerge. Comparative analysis of Australia and Finland suggests that such policies can have contradictory effects on family time devoted to children: paid family leaves have a positive effect on time with infants, while public child care has a negative effect on time with toddlers (Bittman, 2004). Analysis of Australian data shows that utilization of paid child care services tends to have a larger negative effect on supervisory care than on child care activities with developmental implications (such as reading aloud to children) (Bittman et al. 2004). One study of nine countries (including six European countries) finds evidence that the negative impact of maternal employment on maternal child care time is bigger in the U.S. than in other countries, perhaps as a result of less supportive public policies (Sayer and Gornick, 2007).

Longitudinal Trends in Child Care.

Analysis of time-use diaries within a number of countries reveals a clear pattern of recent increases in time devoted to direct childcare. The U.S. case has received sustained attention. Bianchi et al. (2007) describe a dip in maternal primary child care time between 1965 and 1985 from about 10 hours to 8 hours per week, possibly reflecting a decline in number of children per family and a sharp increase in maternal employment. After 1985, however maternal time devoted to primary childcare increased, exceeding 1965 levels by the year 2000. Father's child care time showed little change between 1965 and 1985 but a sharp increase by the end of the 1990s (Bianchi et al., 2007: 63).

The composition of child care activities has also changed in the U.S, with increased time devoted to interactive child care including time helping or teaching children, talking or reading to them, and indoor or outdoor playtime has not been sacrificed due to the maternal employment or single parenthood, but doubled. Married fathers increased interactive child care time more than routine child care including baby or child care, medical care of children, travel associated with child care activities. Time devoted to primary child care activities increased more than time devoted to secondary child care activities. A broader measure of parental commitment, time reported in the presence of a child, also shows an increase for married fathers and mothers, though not for single mothers. In other words, both quantity and quality of time devoted to child care seem to have increased in the U.S., albeit in ways mediated by household structure.

The increase in direct child care time was achieved primarily through reductions of time devoted to housework and increased multitasking, combining child care and leisure. Changes in propensity to report multitasking as child care may also have played a role. Increases in paid employment were counterbalanced by declines in housework, and more housework is reported as a secondary activity than in the past. In 1975, only 23% of married mothers' child care time took place in conjunction with a leisure time activity; by 2002 that percentage had increased to 43%. What Bianchi et al term "pure free time" or free time unencumbered by secondary activities such as housework, child care, or personal grooming, declined fairly substantially—from about 33 to 26 hours a week for married mothers. Adult child-free time showed a significant decline as well. Free time alone with children increased (Bianchi et al 2007: 103). Personal care and sleep time remained largely unchanged. One note of caution: an increased cultural emphasis on childrearing may have increased social desirability bias—parents may have become more likely to report their child care activities.

Similar increases in time devoted to childcare have been documented for a number of European countries (Gauthier et al, 2004; Guryan et al. 2008). Increases in the amount of time British, Canadian, and Australian mothers devoted to children between the mid-1960s and the late 1990s have been well documented; French mothers represent an apparent exception, with declines in reported primary child care activity time (Bianchi et al, 2006:159). Other studies show that the association between increased education and increased child care time holds up across several countries (Sayer et al., 2004), as does an association between increased income and increased child care time (Guryan et al., 2008). These results should, however, be interpreted with caution, as they are based on the assumptions that surveys under comparison measure time devoted to child care in fully accurate and comparable ways.

Summary of Hypotheses

This review of the literature suggests a number of reasons why economic development is likely to affect the composition of unpaid care work. We hypothesize that higher levels of GDP per capita are likely to be associated with an increase in time devoted to direct care of children, particularly as a share of all unpaid work. Our ancillary hypotheses concern the factors driving this trend. Higher levels of female labor force participation may reduce total time available for unpaid work, but they give women more discretionary income and bargaining power in the

household, enabling them to reduce housework and increase child care. A high level of self-employment or family employment might make it easier for women to combine paid work with child care, also contributing to higher levels of child care time.

Differences in household structure are likely also relevant: all else equal, lower coresidence of extended family members should be associated with an increase in parental time devoted to child care. Higher maternal education should intensify the effect of female labor force participation described above, leading to higher levels of time in direct child care. Public policies should also play a role. All else equal, we would expect a higher level of utilization of publicly provided child care to lead to a reduction in parental child care time. Finally, increases in direct child care time could simply reflect a change in the organization of child care, such as a reduction in overall amounts of supervisory care or time spent in the company of children.

Empirical Findings

The Harmonized European Time Use Survey (HETUS) allows for on-line queries of a data base for 15 European countries (<https://www.testh2.scb.se/tus/tus/Default.htm>) including three Nordic countries (Finland, Norway, and Sweden), four countries of Northwestern Europe (Belgium, France, Germany, and United Kingdom), two countries of Southern Europe (Italy and Spain) and six transitional economies of Eastern Europe (Bulgaria, Estonia, Latvia, Lithuania, Poland, and Slovenia). Considerable variation within all categories is evident. GDP per capita is approximately the same in the Nordic and the Northwestern Europe categories, with Norway as an outlier among Nordic countries with the highest GDP (largely as a result of North Sea oil revenues). Among the transitional economies, Slovenia stands out with a level of GDP per capita almost as high as that of Spain.

All the surveys were conducted between 1999 and 2006 (for a description of the specific years, see Appendix Table 1). These countries represent a relatively wide range of GDP per capita (measured at purchasing power parity) ranging from \$9,705 in Bulgaria to \$37,357 in Norway in 2003-2004. As Table 1 shows, differences in dependency ratios across these countries are small compared to the regional differences described above.

Relationship between Time Devoted to Unpaid Care Work and GDP Per Capita

We begin with a simple descriptive analysis of the relationship between GDP per capita and average time devoted to work activities. In general, adult women devote about 58 % of their total work time to unpaid work (a non-weighted average for the 15 countries), ranging from about 46 % in Latvia to about 69 % in Italy (see Table 2). There is considerable variation within categories, but Italian and Spanish women average more unpaid work per day than women in other countries, and women in Nordic countries less. The share of unpaid work in total work is highest in Italy and Spain and lowest in Sweden. Among men, Swedes are tied with Slovenians for first place in average time devoted to unpaid work and Italian and Spaniards men come in last. Slovenian men work longer hours overall than others: the share of unpaid work in men's total work is highest in Belgium and Germany, with Sweden and Finland not far behind.

The heterogeneity of these countries, particularly the transitional economies, which have seldom been included in comparative analysis, mutes the impact of GDP per capita on women's average daily hours and minutes of unpaid work. The effect is only weakly negative, as illustrated by the scatter plot and trend line in Figure 3. The correlation coefficient between these two variables is negative and insignificant for women ($R=-.29$), positive and insignificant for men ($R=.08$). The signs of these coefficients are consistent with the literature reviewed above.

A basic overview of primary child care activities for all adults as measured by the HETUS is provided in Table 3. Marked differences among countries are apparent. Among adults ages 20-74 living in a household with at least one person under 17, both men and women in the Nordic countries, Germany, the United Kingdom, Spain, Italy, and Poland provide especially high levels of child care compared to other countries. Women in every country devote more than twice as much time to direct child care activities as men, but the ratios of care provided by women/ care provided by men are lowest in the Nordic countries.

The relative share of child care in unpaid work shows a stronger and more consistent relationship to GDP per capita than levels of unpaid work (See Table 3). This relative share is highest in the affluent Nordic countries as well as the United Kingdom and Germany. Despite significant institutional differences, the level of GDP per capita serves as a good predictor here—Figure 4 illustrates its strong positive relationship with the share of unpaid work time that women devote to child care, among those living in a household with at least one child under 17. The correlation is particularly strong and significant for women ($R= .70$), but it is also significant

for men ($R=.54$). While growing affluence may well enable a substitution away from housework towards more person-specific care activities, this pattern could also reflect changes in household size that reduce the number of adults living in households with children. Still, restricting the analysis to married or cohabiting parents living in a household with children under 17 and no other adults, the correlation remains positive and high, at $R=.52$.

Disaggregation of primary child care activities offers important potential clues into the effect of economic development. One might expect, for instance, a smaller role for physical care and supervision of children and a larger role for developmental activities such as teaching and reading aloud in more highly developed countries. However, analysis of the HETUS reveals no clear patterns, except for the smaller role of time transporting children in Finland, Norway, and the transitional economies (see Table 4). It should be noted that the HETUS categories remain fairly aggregated; a more fine-toothed measure might reveal more interesting variations.

Labor Force Participation and Structure. Women show more variable patterns of engagement in the formal labor force than men do, with more variation in full-time versus part-time employment, and, within these categories, in hours worked (See Table 5). Still, the percentage of women between the ages of 25 and 60 employed full-time provides a useful indicator of the demands of paid employment. As Table 5 illustrates, these percentages are highest among the transitional economies (above 49 % for all except Poland) and lowest among the countries of Northwestern and Southern Europe. The correlation between the percentage of work time devoted to unpaid work and the percentage of women in full-time employment is negative ($R= -.76$) and statistically significant.

Since female labor force participation typically increases along with GDP, one might expect high GDP per capita to be negatively associated with the percentage of women's time devoted to unpaid work. Previous studies have also found that the percentage of men's work time devoted to unpaid work tends to increase slightly over time. For this group of HETUS countries, however, both relationships are weakly positive and insignificant ($R=.28$ for women, and $.19$ for men) largely because the transitional economies heavily represented in the sample are characterized by both relatively low levels of economic development and relatively high levels of full-time female employment (Bulgaria has about the same level of female full-time employment as Sweden!).

The percentage of women who report that their primary labor force activity is fulfilling domestic tasks represents, in some respects, the mirror image of those in full-time paid employment. In both the United Kingdom and the U.S., this activity was once considered a formal occupation by at least one formal nineteenth-century census, and historical studies have provided a quantitative measure of changes in the number of women in this occupation over time (Folbre and Nelson, 2000). In the U.S. the Current Population Survey included a measure of the number of respondents “keeping house” until 1993 (Cohen, 2004).

In the HETUS, a similar question appears in the Individual Survey (item 27), worded as follows: Do you consider yourself mainly as...with 7 options for answers, including “carrying out a job or profession” and “fulfilling domestic tasks (housekeeping, taking care of children or other persons etc.)” This wording enshrines the modern consensus among international labor statistics experts that fulfilling domestic tasks is not a job or profession. Yet by acknowledging that fulfillment of such tasks reflects an important social identity, the wording provides a quantitative insight. In no country do as many of 1% of men place themselves in this category. Differences in the extent to which adult women place themselves in this category vary considerably. In Spain, almost a third of adult women identified themselves in this way, in France, more than 17%, in Poland, 11%, and in the United Kingdom, more than 14%. Not surprisingly, in countries where a large percentage of women report that they are primarily fulfilling domestic tasks, the percentage of work time they devote to unpaid work is high; the correlation is positive and significant, with $R=.73$.

The HETUS offers some opportunity to explore the impact of self- and family-employment on child care arrangements, a topic that has not been extensively explored in the literature.² On the one hand, such institutional forms give families more autonomy over their schedules; on the other hand, they may require long hours of work that are not necessarily compatible with family care responsibilities. The relatively high levels of self- and family-employment for both men and women in Italy and Spain stand out. Among the transitional economies, levels differ widely, with levels in Poland and Lithuania almost as high as in the southern European countries.

We hypothesized that self-employed and family workers might find it easier to combine market work with housework and child care; individuals in wage employment typically work away from home, and employers don’t typically let them take time out to prepare a meal or tend

to children. Interestingly, however, the correlation across countries between the percentage of time devoted to unpaid work and percent self-employed or family workers is negative and significant, at $-.51$. Two factors could explain this pattern: hours of work may be longer in self- and family employment, and reporting of work activities may take precedence over domestic responsibilities. That is, domestic responsibilities may represent secondary activities that are not fully reported.

Household Structure. Differences in household structure across countries at differing levels of development have implications for the organization of unpaid work, especially child care and elder care. Table 6 summarizes the percentages of men and women living in households with children, with particular attention to the number of other coresident adults. In most countries, more than a third of all men and women ages 20-74 live in a household with at least one child under 17. The percentages are consistently highest in the transitional economies, highest in Poland at about 45% for both men and women. Out-migration of young childless adults in search of improved job opportunities, combined with high coresidence of elderly probably explain this pattern.

The percentage of adults living with children who live in households with more than two other adults is a measure of coresidence of special relevance to child care provision. As Table 6 shows, this indicator of extended family structure is particularly high in the transitional economies. Indeed, in Bulgaria and Slovenia, almost 50% of men living with children are also living with at least two other adults—probably as a result of continued coresidence of grandparents and/or adult children.³ Germany and the Nordic countries are on the lower side here.

The significant number of households with children that include more than two adults in many countries highlights the need to examine all potential care-givers in the household rather than merely parents. Parents may spend less time on child care in extended households precisely because other family members are on hand to help out. Coresident women are particularly likely to help with child care—they provide more care relative to mothers than adult co-resident men do compared to fathers, as can be seen from Table 7. But adults co-residing with children who are not their own provide, on average, substantial amounts of child care—ranging from about 70% to about 90% of the care on average that parents living with their own children provide.⁴

Household sizes are generally larger in Southern Europe and the transitional economies, with higher ratios of adults to children (see Table 3 for average number of adults per child in household with children). This could help explain why average care per adult is lower in these countries—children are receiving care from a larger number of adults.

Education and Child Care. Economic development is associated with increases in average educational attainment, and studies reviewed above suggest this is associated with a higher percentage of unpaid work time devoted to child care. The HETUS measured education of parents using a standard classification known as the International Standard Classification of Education (ISCED).⁵ We used this classification to divide mothers into two groups: those whose highest educational attainment was no greater than level 3 (roughly the equivalent in the U.S. of a high school degree) and those with more education. As can be seen in Table 8, the differences between these two groups are marked. In all but 2 countries (Sweden and the UK), more educated mothers devote less time to unpaid work overall than less-educated mothers. In all but 3 countries (France, Germany, and Estonia), more educated mothers devote more time to child care. In all but 2 countries (Germany and Estonia) more educated mothers devote a larger share of their total unpaid work time to child care. The differences for the Nordic countries, France and Germany are smaller than for other countries, suggesting that the impact of education is bigger in the U.K., Southern Europe, and the transitional countries. More educated mothers in many of those countries are devoting almost half their unpaid work to childcare, more than 5 percentage points more than less educated mothers (with the exception of Estonia).

Public Provision of Child Care. The results described above are striking given that more affluent countries with higher levels of female education tend to provide the most extensive public child care services. The HETUS survey included three different questions regarding child care utilization. The first asked whether the household utilized formal care services (attending a kindergarten or crèche or cared for by someone outside the household for more than a month) for a child less than 10 years old.⁶ The second asked respondents who utilized formal care to designate whether it was public or a combination of public and private. Finally, in some countries, households could report if they “received help” with child care from someone who was not a member of their household at any time during the last 4 weeks. This could include formal care.

Table 9 tallies these results for households that include at least one child under the age of 7. Utilization of formal care is highest in Sweden and highest overall in the Nordic countries (though differences among those countries are notable). Except in Norway, more than 85% of households with child under 10 utilize only publicly provided formal care. Levels of child care utilization are also high in Northwestern Europe, but, consistent with the literature on comparative policy regimes reviewed above, the United Kingdom is an outlier. Only 18.2% of households with children under 10 reported utilization of formal care.

Among transitional economies, Slovenia is an outlier, with much higher levels of utilization of formal care than its less affluent counterparts (for a history of child care policies in that country see Sadar, 2005). Note, however, that average levels of time devoted to primary child care activities are not very different from those in neighboring countries, as indicated in Table 3. Utilization of child care outside the home probably reduces low-intensity or supervisory care more than active child care, a hypothesis supported by empirical analysis of Australian data (Bittman et al., 2007).

Table 9 also indicates that UK households also reported less help overall from non-household members than those in other Northwestern European or Nordic countries, not surprising, given its more individualistic, market-oriented tradition. The lower levels of informal assistance reported in transitional countries probably reflect the higher levels of assistance provided by adult relatives living with parents of young children. Some additional questions within the HETUS shed additional light on informal assistance to non-household members and we plan to explore these in greater detail at a future date.

Secondary and Supervisory Child Care. As aforementioned, primary child care activities provide an incomplete picture of the temporal demands of child care, and other measures typically suffer from incompleteness and/or serious comparability problems across countries. A comparison across the HETUS countries suggests that these measurement problems are indeed serious. As Table 10 shows, average reported time in secondary child care activities in the HETUS among adults living in a household with at least one child under 7 is typically lower than time in primary care activities, a pattern very different than that observed for Australia, where reporting of secondary time devoted to children is explicitly encouraged (Folbre and Yoon, 2007). In our opinion, the Australian survey provides the more accurate measure, against which other measures of secondary child care times should be assessed.

Another vantage point on child care is provided by a HETUS question regarding who else was present while an activity was being performed, coded to designate whether the person or persons present were under 10, other household members, other known people, or simply others. Time that an adult spends in the presence of a child can be construed as a measure of supervisory care, although it is important to note that adults are often constrained by responsibilities for children even when they are not in the same room. As Table 10 shows, time that men and women in a household including a child under 7 spent in the presence of a child was much larger than direct care time, exceeding 7 hours per day in Italy, Sweden, and the United Kingdom. In a rank ordering of countries by women’s primary child care time and time spent with a child present, Italy and the U.K. rank in the top 3 on both measures. Sweden, on the other hand, ranks relatively low on women’s primary child care time relative to time with children—perhaps because generous family leaves from work and possibilities for part-time work increase time spent with children present.

The HETUS asked men and women engaged in leisure, unpaid work, and meal consumption to report whether a child was present. As Table 10 indicates, the patterns are fairly consistent across countries: for all adults, about a third of this time with children took place during leisure activities, and almost one-half during unpaid work. Women are far more likely than men to report being with children while performing unpaid work, highlighting the importance of their multitasking. In the United Kingdom, Estonia, Slovenia, and Poland, over 70% of the time that women living with children under the age of 7 spent in the presence of a child was devoted to some form of unpaid work.

Are primary care activities and time with children substitutes or complements? To answer this question, we subtracted time spent in primary and secondary care from the measures of “time with children” to arrive at a measure of “time with children” that involved no specific care activities. Interestingly, not all time devoted to primary care involves the presence of children (examples include return trips from transporting children to activities, and organizational or managerial efforts on behalf of children, such as meeting with teachers). On average, in the 13 countries that collected data on both primary child care and time with children, children were present only about 90% of the time that adults (both men and women) in a household with a child under the age of 7 reported providing care.⁷ The comparable figure for secondary care was

about the same. For adults living in households with children under the age of 7, the overlaps were also about 90%.

Direct care activities and overall time with children increase or decrease in concert, indicating that they seldom represent substitutes for one another. Across the 13 countries for which the complete data were available, there was a significant positive correlation of .93 between primary care activities and time with children (in which no explicit care activity was taking place) for women living in a household with at least one child under 7. This finding is significant because it suggests that increases in time devoted to primary child care activities associated with higher levels of GDP per capita are not accompanied by a countervailing decline in “time with” children.

Conclusion

Analysis of the HETUS confirms the hypothesis that higher levels of GDP per capita are associated with a shift in the composition of unpaid work toward direct care of children in the fifteen European countries considered here. The correlations are not particularly strong, but given the level of aggregation and relatively small sample size, the significant positive correlation between GDP per capita and both the level of direct child care and its share in total unpaid work is notable.

The structure of female employment—particularly the percentage of women who report that they are “primarily fulfilling domestic tasks” affects average time devoted to child care. Contrary to expectations, self-employment or family employment seems to have a negative effect on time devoted to unpaid work. Many of the countries at the low end of GDP per capita are characterized by extended family structures with a relatively high ratio of adults to children within households. The demographic shift toward less coresidence of potential caregivers that is associated with economic development could potentially explain much of the trend toward increased child care time per adult.

Within most countries, higher levels of female education are associated with lower average levels of unpaid work and higher levels of time devoted to direct child care. A number of factors could explain this pattern. Educated women may place a higher value on time with children as an “investment” in their capabilities (Guryan et al. 2008). Alternatively, educated women may enjoy higher incomes that increase their purchasing power—and their bargaining

power in the household—enabling them to reduce housework activities in order to devote more time to child care activities that offer more intrinsic satisfaction. It is also possible that educated women are simply more likely than other women to report housework activities in which children are present as child care. Analysis of the effects of maternal education and family income on time devoted to child care could best be pursued with individual data that make it possible to control for the effect of maternal employment on both income and time available for direct and indirect care.

The results above help explain why the impact of public provision of childcare—which tends to be higher in high-income countries, does not reduce average time devoted to direct care of children. Increased public provision may be partially counterbalanced by a decline in coresidence of adult family members that increases parental responsibility for children. Furthermore, time spent in direct care activities may be more pleasant if children’s basic needs for physical and supervisory care have been largely met through formal child care programs.

Changes in the intensity and “measurability” of child care may also play a role. Because supervisory child care is so poorly measured, a decline in this category of care can easily go unrecorded. A shift towards more parental participation in direct care activities could lead to overstatement of an apparent increase in total child care. Nonetheless, the results reported above suggest that time devoted to direct child care activities is positively linked to overall time spent with children.

This descriptive picture of differences across 15 European countries holds important implications for future efforts to develop multivariate and multi-level analysis of the relationship between economic development and the composition of care activities. It reaffirms the importance of gender differences in unpaid work and highlights the significance of trends in direct child care. It calls attention to aspects of labor force structure above and beyond female wage employment, such as the percentage of women who report that they are full-time homemakers and the relative importance of self-employment. It emphasizes the impact of household structure, particularly coresidence of potential caregivers. It confirms the important impact of maternal education, but also warns of possible confounding effects of measurement problems and survey design limitations. Time-use researchers should make every effort to go beyond analysis of direct child care activities to include consideration of supervisory constraints.

Box 1: Definitions of Work and Care

Unpaid versus Paid Work

Unpaid work (also known as “non-market work”). Work that is not directly paid for and takes place outside the market, including production of goods and services for family consumption, care of family

Figure 1.

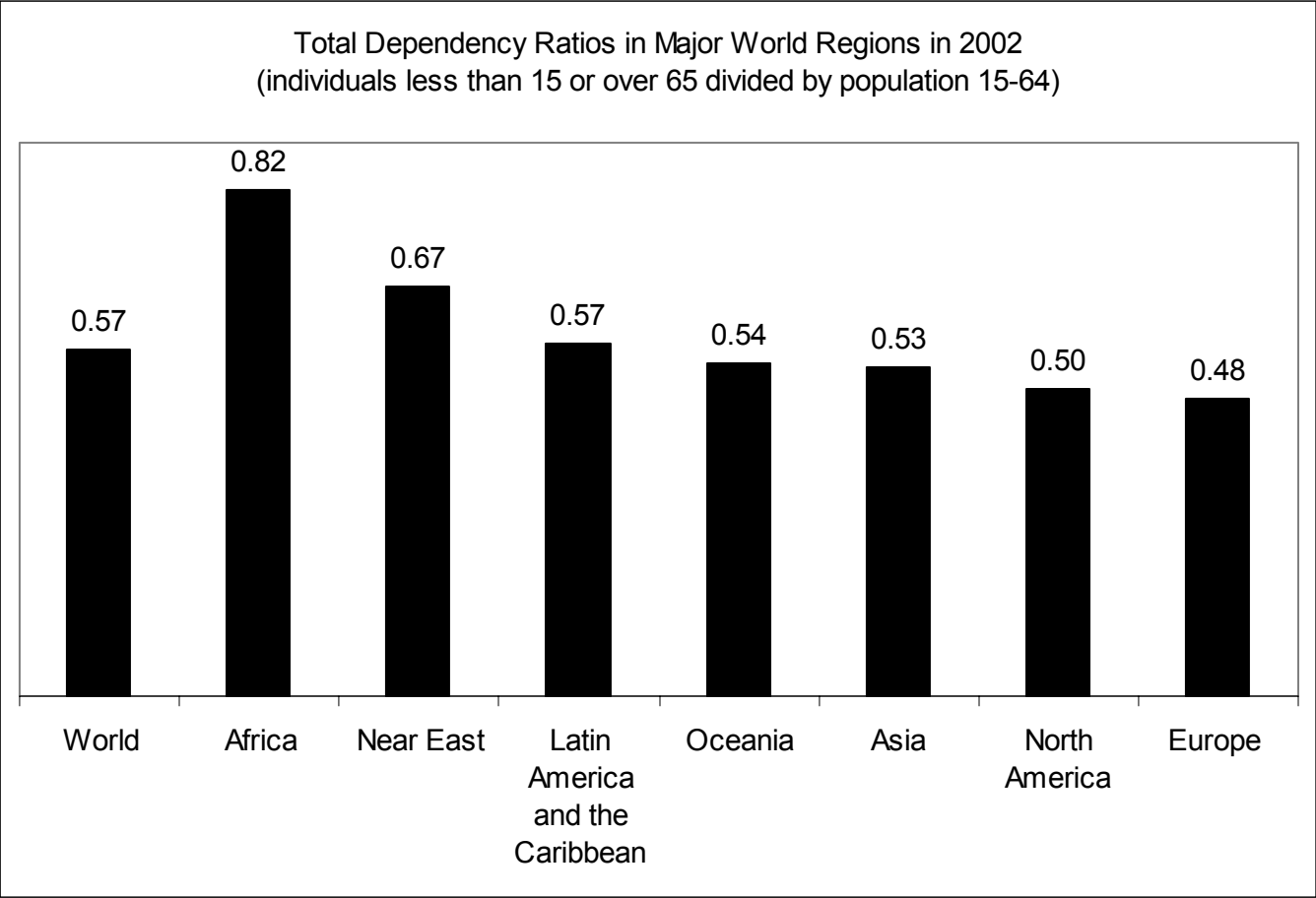


Figure 2.

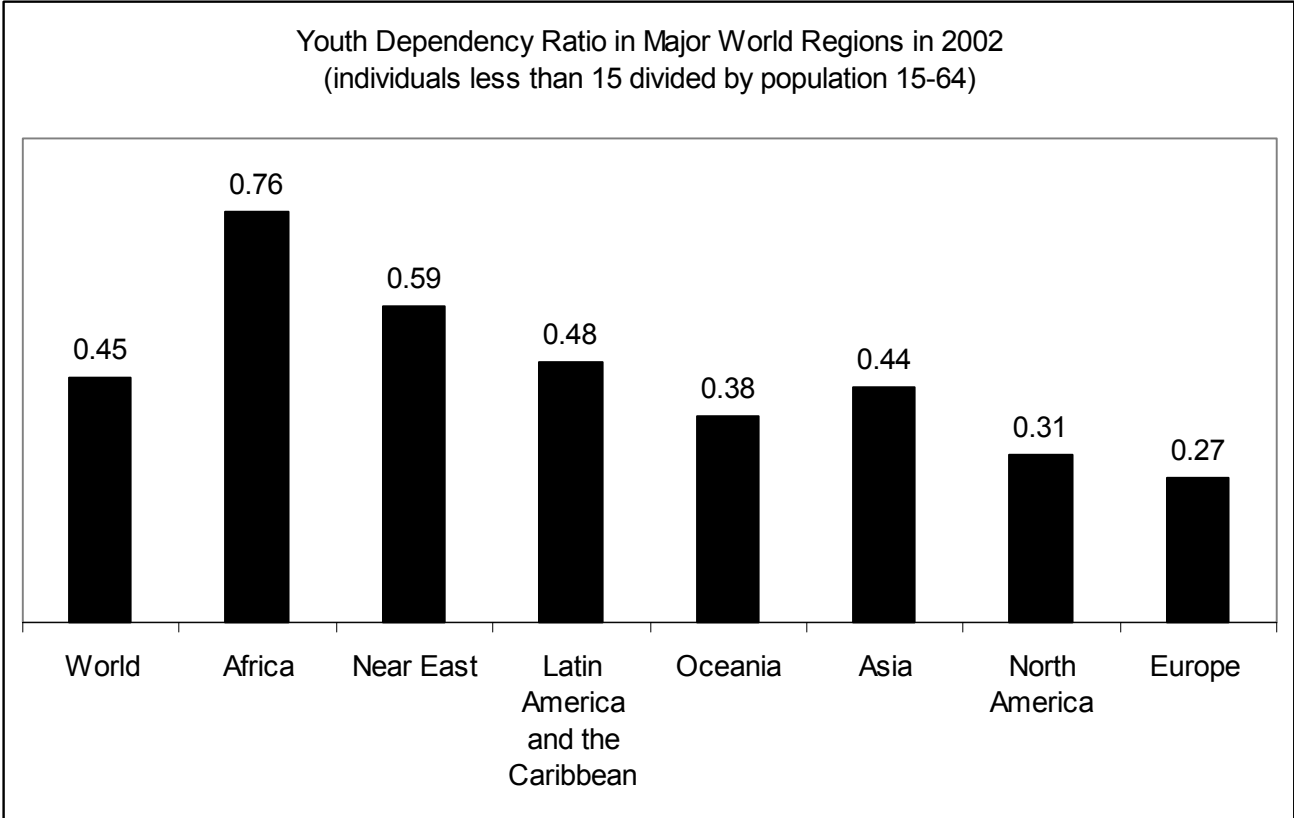


Figure 3.

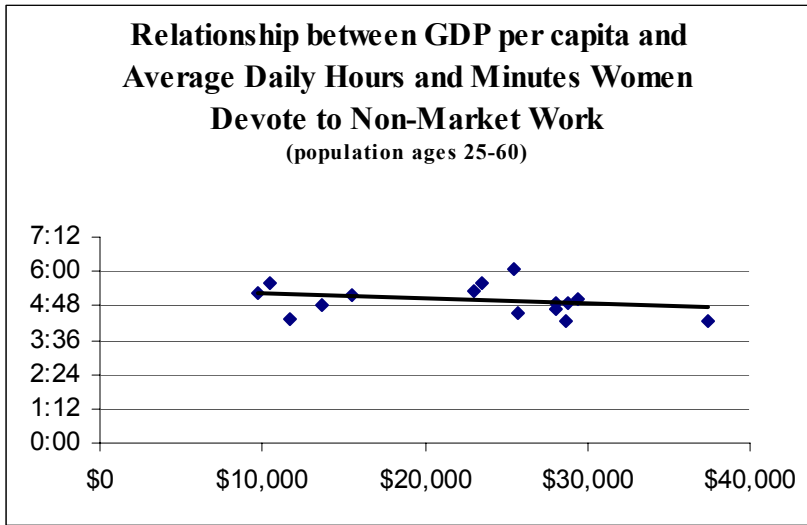


Figure 4.

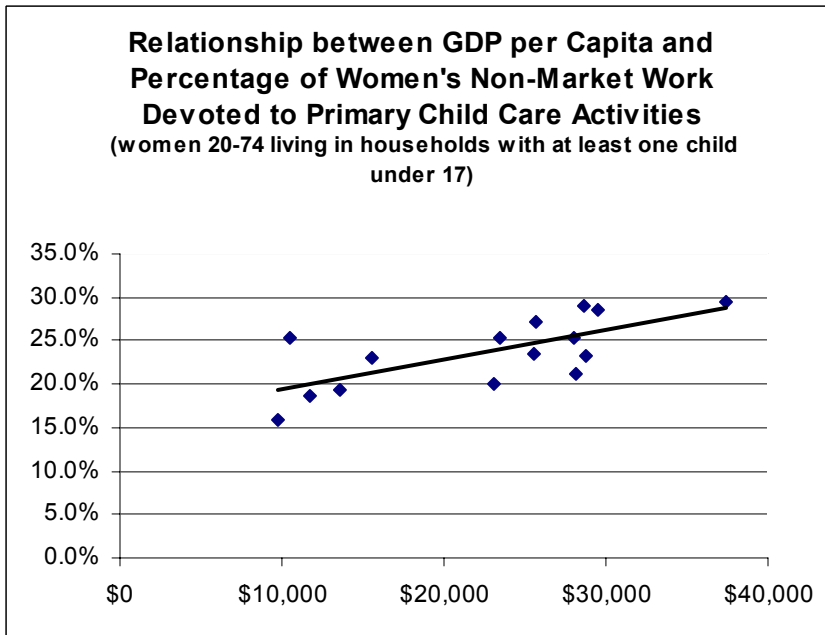


Table 1. Dependency Ratios in 15 European Countries, 2002

	Youth Dependency	Old Age Dependency	Total Dependency
Nordic Countries			
Finland	0.27	0.23	0.49
Norway	0.31	0.23	0.54
Sweden	0.28	0.27	0.54
Northwestern Europe			
France	0.29	0.25	0.54
Belgium	0.26	0.26	0.52
Germany	0.29	0.25	0.54
United Kingdom	0.28	0.24	0.52
Southern Europe			
Italy	0.21	0.27	0.48
Spain	0.21	0.26	0.47
Transitional Economics			
Bulgaria	0.24	0.22	0.46
Estonia	0.23	0.23	0.46
Latvia	0.27	0.20	0.47
Lithuania	0.26	0.18	0.44
Poland	0.22	0.21	0.43
Slovenia	0.27	0.23	0.49

Source: U.S. Census, 2004, Table A-7a

Youth dependency= population 0-15 as percentage of population 16-64;

Old age dependency=population ages 65+ as percentage of population 16-64

Total dependency=sum of youth and old age dependency

Table 2. GDP per Capita, Average Daily Hours and Minutes of Unpaid Work, and Unpaid Work as % of Total Work for Population Ages 25-60 in Fifteen European Countries

	GDP per capita	Average Amount of Time Devoted to Unpaid Work		Unpaid work as % of total work ¹	
		Men	Women	Men	Women
	2003-2004				
Nordic Countries					
Finland	\$25,736	2:41	4:34	35.3%	56.5%
Norway	\$37,357	2:45	4:16	34.8%	55.3%
Sweden	\$28,639	2:58	4:17	35.3%	52.9%
Northwestern Europe					
France	\$28,759	2:25	4:54	31.3%	60.0%
Belgium	\$28,094	2:46	4:40	37.3%	62.1%
Germany	\$28,074	2:49	4:53	36.6%	63.3%
United Kingdom	\$29,462	2:39	5:04	32.3%	61.5%
Southern Europe					
Italy	\$25,511	1:46	6:04	22.9%	68.9%
Spain	\$23,481	1:52	5:37	24.1%	65.4%
Transitional Economies					
Bulgaria	\$9,705	2:40	5:14	35.2%	58.4%
Estonia	\$15,495	2:55	5:12	34.0%	54.5%
Latvia	\$11,739	2:00	4:20	23.3%	46.2%
Lithuania	\$13,603	2:27	4:50	28.7%	49.7%
Poland	\$10,484	2:56	5:34	35.8%	64.1%
Slovenia	\$23,035	2:58	5:20	36.3%	58.5%

Source: HETUS

¹ Total work includes paid and unpaid work where paid work includes activities classified as main and second job, activities related to employment, and travel to/from work. Unpaid work includes activities classified as food preparation, dishwashing, cleaning dwelling, other household work, laundry, ironing, handcraft, gardening, tending domestic animals, caring for pets, walking the dog, construction and repairs, shopping and services, other domestic work, organization work, informal help to other household, travel related to shopping, physical care and supervision care, teaching and reading to children, transporting a child. Finland and Norway provides no information on “tending domestic animals”. France provides no information on “walking the dog” and “travel related to shopping”.

Table 3. Time Devoted to Primary Child Care Activities by Men and Women Living in a Household with at Least 1 Child Under 17

	Primary child care activity time (hours and minutes)		Ratio of women's to men's child care time	Average adults per child under 17 per household ¹	Primary child care time as % of unpaid work	
	Men	Women			Men	Women
Nordic Countries						
Finland	0:40	1:28	2.2	1.52	22.2%	27.2%
Norway	0:44	1:29	2.0	1.58	23.4%	29.6%
Sweden	0:54	1:30	1.7	1.45	25.2%	29.1%
Northwestern Europe						
France	0:26	1:16	2.9	1.69	17.3%	23.2%
Belgium	0:27	1:05	2.4	0.75	16.2%	21.2%
Germany	0:36	1:30	2.5	1.82	20.6%	25.4%
United Kingdom	0:41	1:41	2.5	1.71	23.6%	28.5%
Southern Europe						
Italy	0:38	1:38	2.6	2.43	33.0%	23.4%
Spain	0:38	1:37	2.6	2.68	30.4%	25.3%
Transitional Economies						
Bulgaria	0:18	0:53	2.9	2.86	11.3%	15.9%
Estonia	0:25	1:17	3.1	2.13	15.0%	23.0%
Latvia	0:12	0:52	4.3	2.62	9.4%	18.6%
Lithuania	0:19	1:01	3.2	2.23	14.1%	19.2%
Poland	0:37	1:32	2.5	2.37	21.4%	25.3%
Slovenia	0:27	1:08	2.5	3.09	15.2%	20.0%

Note: The HETUS does not provide direct information on the number of children <17 and the number of adults >18 as continuous variables. The categorical variables are top-coded at two children for children <7, at three children for children 7-12, and at four adults for adults.

Table 4. Composition of Time Devoted to Primary Child Care Activities, Adults living in a Household with at least One Child Under 7

	Average Amount of Time Adults Devote to Primary Child Care	Time Devoted to Physical Care and Supervision (as % of total)	Time Devoted to Teaching, Reading, or Talking to a Child (as % of total)	Time Devoted to Transporting a Child (as % of total)
Finland	1:45	67%	27%	7%
Norway	1:37	70%	23%	7%
Sweden	1:50	63%	26%	11%
France	1:26	65%	21%	13%
Belgium	1:22	65%	23%	12%
Germany	1:43	54%	33%	13%
United Kingdom	1:46	58%	27%	15%
Italy	1:43	53%	35%	12%
Spain	1:48	69%	19%	12%
Bulgaria	1:15	55%	40%	7%
Estonia	1:30	70%	22%	8%
Latvia	1:05	63%	26%	9%
Lithuania	1:25	61%	33%	6%
Poland	1:54	53%	42%	5%
Slovenia	1:21	57%	36%	7%

Table 5. Labor Force Participation of Population Ages 25-60 in Fifteen European Countries

	GDP per capita	% Employed full-time ¹		% Self-employed or family workers ²		% Primarily fulfilling domestic tasks ¹		Unpaid work as % of total work ³	
		Men	Women	Men	Women	Men	Women	Men	Women
	2003-2004								
Nordic Countries									
Finland	\$25,736	73.1%	59.3%	17.3%	10.0%	0.5%	7.1%	35.3%	56.5%
Norway	\$37,357	88.1%	52.5%	10.0%	3.4%	0.1%	5.2%	34.8%	55.3%
Sweden	\$28,639	87.8%	51.5%	10.7%	4.8%	0.4%	1.9%	35.3%	52.9%
Northwestern Europe									
France	\$28,759	65.5%	39.2%	15.8%	9.2%	0.1%	17.7%	31.3%	60.0%
Belgium	\$28,094	77.4%	37.8%	8.8%	4.0%	0.0%	15.3%	37.3%	62.1%
Germany	\$28,074	79.7%	38.3%	13.2%	9.0%	n/a	n/a	36.6%	63.3%
United Kingdom	\$29,462	78.6%	35.4%	16.3%	7.4%	1.0%	14.6%	32.3%	61.5%
Southern Europe									
Italy	\$25,511	75.5%	36.8%	30.2%	20.8%	n/a	32.0%	22.9%	68.9%
Spain	\$23,481	80.9%	44.6%	23.4%	17.8%	0.4%	33.8%	24.1%	65.4%
Transitional Economies									
Bulgaria	\$9,705	64.7%	55.1%	16.9%	12.2%	n/a	3.5%	35.2%	58.4%
Estonia	\$15,495	76.6%	62.4%	15.9%	5.9%	0.6%	5.1%	34.0%	54.5%
Latvia	\$11,739	77.4%	67.8%	15.5%	10.9%	0.0%	8.5%	23.3%	46.2%
Lithuania	\$13,603	75.8%	63.0%	20.2%	17.9%	0.0%	7.1%	28.7%	49.7%
Poland	\$10,484	68.5%	49.5%	27.3%	23.2%	0.5%	11.4%	35.8%	64.1%
Slovenia	\$23,035	80.4%	66.5%	13.4%	7.3%	0.2%	7.4%	36.3%	58.5%

Source: HETUS

Notes: ¹ Based on answers to a question on economic activity status including employed full time; employed part time; on leave; unemployed; pupil, student and further training, unpaid traineeship; in retirement; primarily fulfilling domestic task.

² . Responses from employed full-time, part-time or on leave. n.a. indicates low sample frequencies (n<=3).

³ Total work includes paid and unpaid work where paid work includes activities classified as main and second job, activities related to employment, and travel to/from work. Unpaid work includes activities classified as food preparation, dishwashing, cleaning dwelling, other household work, laundry, ironing, handcraft, gardening, tending domestic animals, caring for pets, walking the dog, construction and repairs, shopping and services, other domestic work, organization work, informal help to other household, travel related to shopping, physical care and supervision care, teaching and reading to children, transporting a child. Finland and Norway provides no information on “tending domestic animals”. France provides no information on “walking the dog” and “travel related to shopping”.

Table 6. Differences in Household Structure of Adults 20-74 in Fifteen Countries

Country	% adults living with at least 1 child under 17		of adults living with at least 1 child			
			% living with no other adult		% living with 2 or more other adults	
	Men	Women	Men	Women	Men	Women
Nordic Countries						
Finland	32.2%	35.5%	2.2%	12.2%	15.0%	12.1%
Norway	40.1%	41.2%	3.6%	10.7%	16.0%	12.7%
Sweden	34.4%	36.8%	9.2%	14.3%	14.7%	12.1%
Northwestern Europe			0.0%	0.0%	0.0%	0.0%
France	37.0%	38.1%	1.4%	8.6%	27.2%	24.5%
Belgium	28.5%	30.8%	4.2%	10.1%	29.4%	28.6%
Germany	29.7%	30.0%	1.0%	11.9%	19.4%	14.8%
United Kingdom	38.1%	40.9%	2.5%	16.1%	20.2%	18.4%
Southern Europe			0.0%	0.0%	0.0%	0.0%
Italy	33.6%	32.6%	0.7%	6.0%	26.1%	24.8%
Spain	36.5%	36.8%	0.3%	3.4%	40.3%	39.9%
Transitional Economies			0.0%	0.0%	0.0%	0.0%
Bulgaria	41.0%	42.5%	0.8%	3.8%	50.4%	49.4%
Estonia	44.2%	48.7%	2.2%	16.0%	30.2%	25.9%
Latvia	41.8%	44.7%	1.3%	7.5%	45.2%	43.0%
Lithuania	42.5%	42.9%	1.1%	11.9%	25.2%	20.7%
Poland	45.5%	45.3%	0.4%	4.3%	48.5%	47.6%
Slovenia	42.7%	42.1%	n.a.	1.8%	52.0%	50.1%

Note. "Adult" aged 18 could include older children living in the household.

**Table 7. Ratios of Parental Child Care Time to Co-resident Adult Child Care Time
(in households with at least one child under 17)**

	Fathers' Child Care Time/Co- Resident Adult Male Child Care Time	Mothers' Child Care time/Co- Resident Adult Female Child Care Time
Nordic Countries		
Finland	1.15	1.18
Norway	1.20	1.16
Sweden	1.09	1.17
Northwestern Europe		
France	1.19	1.25
Belgium	1.30	1.37
Germany	1.19	1.16
United Kingdom	1.22	1.19
Southern Europe		
Italy	1.29	1.28
Spain	1.45	1.41
Transitional Economies		
Bulgaria	1.33	1.17
Estonia	1.16	1.26
Latvia	1.50	1.21
Lithuania	1.21	1.23
Poland	1.35	1.24
Slovenia	1.56	1.40

Note. Mothers and fathers are in couple households.
Primary child care includes activities classified as “physical care and supervisory care”, “teaching and reading to children”, and “transporting a child”.

Table 8. Child Care Time of More Educated and Less Educated Mothers Living in a Couple Household with at least one Child Less than 7 and No Other Adults (hours and minutes)

	Time Devoted to Unpaid Work		Time Devoted to Child Care		Time Devoted to Child Care as a Percentage of Time Devoted to Unpaid Work	
	Less Educated	More Educated	Less Educated	More Educated	Less Educated	More Educated
Finland	6:46	6:39	2:40	2:55	39.4%	43.9%
Norway	6:02	5:53	2:26	2:35	40.3%	43.9%
Sweden	6:02	6:17	2:19	2:41	38.4%	42.7%
France	6:26	5:32	2:19	2:10	36.0%	39.2%
Germany	7:09	6:47	2:42	2:32	37.8%	37.3%
United Kingdom	7:03	7:04	2:41	3:14	38.1%	45.8%
Italy	8:01	7:06	2:50	3:06	35.3%	43.7%
Spain	7:41	6:51	3:04	3:17	39.9%	47.9%
Bulgaria	6:52	5:37	2:16	2:25	33.0%	43.0%
Estonia	7:16	6:40	2:51	2:36	39.2%	39.0%
Latvia	5:33	5:21	1:49	2:33	32.7%	47.7%
Lithuania	6:55	6:19	2:15	2:30	32.5%	39.6%
Poland	7:47	6:52	3:04	3:13	39.4%	46.8%
Slovenia	6:45	6:24	2:30	3:10	37.0%	49.5%

Note. The HETUS interface could not provide estimates for Belgium.

Table 9. Child Care Arrangements in Fifteen Countries for Households with At Least One Child under 7

	Using formal care ¹	Using publicly-provided care ²	Receiving some help with care
Nordic Countries			
Finland	53.9%	88.3%	69.3%
Norway	68.0%	68.9%	n.a.
Sweden	77.8%	86.6%	44.3%
Northwestern Europe			
France	58.3%	n.a.	35.3%
Belgium	52.0%	24.9%	25.2%
Germany	66.6%	n.a.	58.7%
United Kingdom	18.2%	n.a.	42.2%
Southern Europe			
Italy	50.0%	73.1%	n.a.
Spain	45.0%	16.0%	33.7%
Transitional Economies			
Bulgaria	37.7%	93.3%	13.1%
Estonia	43.3%	n.a.	23.5%
Latvia	n.a.	n.a.	n.a.
Lithuania	45.2%	79.7%	38.5%
Poland	n.a.	n.a.	15.9%
Slovenia	53.5%	64.9%	27.2%

Note: ¹ Whether long-term formal care was used was asked for households with any child under 10.

² What type of long-term formal care was asked for those who reported using formal care. n.a. indicates the question was not asked.

Table 10. Comparisons of Three Measures of Child Care Time, Adults 20-74 Living with at Least One Child under Seven, in Fifteen Countries

	Men				Women			
	Primary child care activities	Secondary child care activities	Sum of primary and secondary child care activities	Time in which children <10 are reported present	Primary child care activities	Secondary child care activities	Sum of primary and secondary child care activities	Time in which children <10 are reported present
Nordic Countries								
Finland	1:07	0:21	1:28	n/a	2:40	1:08	3:48	n/a
Norway	1:17	0:11	1:28	3:39	2:20	0:50	3:10	5:16
Sweden	1:17	0:26	1:43	4:53	2:20	1:05	3:25	7:32
Northwestern Europe								
France	0:44	0:02	0:46	n/a	2:12	0:07	2:19	n/a
Belgium	0:50	0:14	1:04	3:33	2:02	0:31	2:33	5:36
Germany	1:04	0:24	1:28	3:56	2:40	1:14	3:54	6:48
United Kingdom	1:06	0:34	1:40	4:20	2:43	1:32	4:15	7:46
Southern Europe								
Italy	1:02	0:16	1:18	4:12	2:49	0:42	3:31	7:58
Spain	1:07	n/a	n/a	3:54	2:51	n/a	n/a	6:39
Transitional Economies								
Bulgaria	0:36	0:16	0:52	2:46	1:56	0:50	2:46	5:27
Estonia	0:45	0:18	1:03	3:20	2:21	0:54	3:15	6:12
Latvia	0:26	0:14	0:40	2:33	1:49	0:43	2:32	4:52
Lithuania	0:42	0:10	0:52	3:27	2:16	0:28	2:44	6:11
Poland	1:08	0:09	1:17	3:24	2:47	0:32	3:19	6:31
Slovenia	0:50	0:17	1:07	2:40	2:05	0:44	2:49	4:52

Note: Information on secondary child care activities was not collected for Spain.

“With whom” information was not provided for the following main activities: personal activities, except meals; paid work and related activities; and study and related activities. “With whom” that distinguishes between children and

other household members is not available for France; in Finland this information was provided for only part of the sample.

Table 11. Percentage Distribution of Time with Children (Adults 20-74 Living with at least one Child Under 7).

	% of Time With Children During Leisure			% of Time with Children During Unpaid Work		
	All	Men	Women	All	Men	Women
Nordic Countries						
Finland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Norway	35.3%	47.0%	39.6%	57.6%	50.7%	64.9%
Sweden	32.1%	36.9%	30.5%	51.2%	44.4%	57.5%
Northwestern Europe						
France	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Belgium	34.4%	44.1%	29.8%	50.5%	37.6%	61.3%
Germany	28.5%	35.2%	25.7%	55.2%	41.5%	62.7%
United Kingdom	33.4%	49.2%	32.2%	61.7%	48.1%	70.4%
Southern Europe						
Italy	29.1%	42.9%	22.0%	54.9%	32.5%	67.8%
Spain	32.5%	45.3%	28.3%	54.3%	37.2%	69.2%
Transitional Economies						
Bulgaria	34.6%	53.6%	33.0%	42.9%	24.1%	63.0%
Estonia	35.4%	54.5%	30.1%	55.6%	36.0%	74.5%
Latvia	40.7%	62.7%	38.7%	48.9%	27.5%	66.8%
Lithuania	34.4%	48.8%	29.1%	51.7%	30.4%	63.6%
Poland	25.2%	41.2%	22.3%	59.8%	43.6%	75.2%
Slovenia	35.1%	53.1%	33.6%	56.6%	43.1%	76.4%

Note: The remaining category is % of time with children during meals

Appendix Table 1. HETUS Time Use Survey Dates

COUNTRIES	TIME USE SURVEY DATES
Finland	Mar1999/Feb2000
Norway	Feb2000/Feb2001
Sweden	Oct2000/Oct2001
France	Feb1998/Feb1999
Belgium	Jan2005/Jan2006
Germany	Apr2001/Mar2002
United Kingdom	Jun2000/Jul2001
Italy	Apr2002/Mar2003
Spain	Oct2002/Oct2003
Bulgaria	Oct2001/Oct2002
Estonia	Apr1999/Mar2000
Latvia	Feb2003/Nov2003
Lithuania	Jan2003/Dec2003
Poland	Jun2003/May2004
Slovenia	Apr2000/Mar2001

References

- Abraham, K. and C. Mackie. 2004. *Beyond the Market. Designing Nonmarket Accounts for the United States*. Washington, D.C.: The National Academies Press.
- Allard, Mary Dorinda, Suzanne Bianchi, Jay Stewart, and Vanessa R. Wight. 2007. "Comparing Childcare Measures in the ATUS and Earlier Time-Diary Studies," *Monthly Labor Review* (May) 27-36
- Andrews, Frank. 1989. "Construct Validity and Error Components of Surveys," 391-424 in *Survey Research Methods. A Reader*, ed. Eleanor Singer and Stanley Presser. Chicago: University of Chicago Press.
- Becker, G. 1965. A Theory of the Allocation of Time,' *Economic Journal* 75:493-517.
- Bettio, Francesca and P. Villa. 1998. "A Mediterranean Perspective on the Breakdown of the Relationship between Participation and Fertility," *Cambridge Journal of Economics* 22: 137-171.
- Bettio, Francesca, and Janneke Plantenga. 2004. "Comparing Care Regimes in Europe," *Feminist Economics* 10(1): 85-113.
- Bianchi, Suzanne. 2000. "Maternal Employment and Time With Children: Dramatic Change or Surprising Continuity?" *Demography* 37: 401-14.
- Bianchi, Suzanne, John Robinson, and Melissa Milkie. 2007. *Changing Rhythms of American Family Life*. New York: Russell Sage.
- Bittman, Michael. 2004. "Parenthood Without Penalty," in *Family Time: The Social Organization of Care*, ed. Nancy Folbre and Michael Bittman. New York: Routledge.
- Bittman, Michael, Paula England, Liana Sayer, George Matheson, and Nancy Folbre. 2003. "When Does Gender Trump Money? Bargaining and Time in Household Work," *American Journal of Sociology* (July): 109-130.
- Bittman, Michael, Nancy Folbre, and Lyn Craig. 2007. "Packaging Care: What Happens When Children Receive Non-Parental Care?" in *Family Time: The Social Organization of Care*, eds. Nancy Folbre and Michael Bittman. New York: Routledge.
- Brown, Lynn R. and Lawrence Haddad. 1995. "Time Allocation Patterns and Time Burdens: A Gendered Analysis of Seven Countries," International Food Policy Research Institute, Washington D.C.
- Budlender, Debbie. 2007. "A Critical Review of Selected Time Use Surveys," United Nations Research Institute for Social Development, Gender and Development, Paper No. 2.
- Budlender, Debbie. 2008a. "South Africa Research Report 2. Analysis of Time Use Data on Work/Care Regimes and Macro Data on the Care Diamond."

- Budlender, Debbie. 2008b. "The Statistical Evidence on Care and Non-Care Work Across Six Countries." UNRISD draft working paper.
- Budig, Michelle, and Nancy Folbre. 2004. "Activity, Proximity or Responsibility: Measuring Parental Childcare Time" in *Family Time, The Social Organization of Care*, eds. Nancy Folbre and Michael Bittman. New York: Routledge.
- Burda, Michael, Daniel S. Hamermesh, and Philippe Weil. 2007. "Total Work, Gender, and Social Norms," National Bureau of Economic Research Working Paper 13000.
- Charmes, Jacques. 2006. "A Review of Empirical Evidence on Time Use in Africa from UN-Sponsored Surveys," in C. Mark Blackden and Quentin Wodon, eds. *Gender, Time Use and Poverty in Sub-Saharan Africa*. World Bank Working Paper No. 73.
- Chiuri, Maria Concetta, and Daniela Del Boca. 2008. "Household Membership Decisions of Adult Children," IZA Discussion Paper No. 3546.
- Cohen, Phillip. 2004. "The Gender Division of Labor. Keeping House and Occupational Segregation in the U.S." *Gender and Society* 18:2, 239-252.
- Confidential. 2008. "Intra-household time allocation: gender differences in caring for children"
- Cotter, David A., Joan M. Hermsen, and Reeve Vanneman. 2003. "Where The Ends Don't Meet: Social Capital Effects on Economic Hardship," Paper presented at the meetings of the American Sociological Association, Atlanta, GA, 2003.
- Deutsch, Ruthanne. 1998. "Does Child Care Pay? Labor Force Participation and Earnings Effects of Access to Child Care in the Favelas of Rio de Janeiro," Working Paper 384, Inter-American Development Bank, Washington, D.C.
- Eisner, Robert. 1989. *The Total Income System of Accounts*. Chicago and London: The University of Chicago Press.
- Elson, Diane. 1991. *Male Bias in the Development Process*. Manchester, U.K.: Manchester University Press.
- Esping-Anderson, Gosta. 1990. *The Three Worlds of Welfare Capitalism* (Cambridge: Polity Press).
- Folbre, Nancy. 1991. "The Unproductive Housewife: Her Evolution in Nineteenth Century Economic Thought," *Signs: Journal of Women in Culture and Society* 16:3, 463-84.
- Folbre, Nancy. 2006a "Measuring Care: Gender, Empowerment, and the Care Economy," *Journal of Human Development* 7:2 (July): 183-200.

- Folbre, Nancy. 2006b. "Chicks, Hawks, and Patriarchal Institutions," *Handbook of Behavioral Economics*, ed. Morris Altman. Armonk, N.Y.: M.E. Sharpe.
- Folbre, Nancy, 2007. "Markets, Inequality, and Care in the U.S.," *Feministe Studien*.
- Folbre, Nancy, 2008a. "Inequality and Time Use in the Household," forthcoming in *Oxford Handbook of Economic Inequality*, ed., Timothy Smeeding et al.
- Folbre, Nancy. 2008b. *Valuing Children. Rethinking the Economics of the Family*. Cambridge: Harvard University Press.
- Folbre, Nancy. 2008c. "Conceptualizing Care," in *Frontiers in the Economics of Gender* edited by F. Bettio and A. Verashchagina, Routledge Siena Series in Political Economy, Routledge.
- Folbre, Nancy, Jayoung Yoon, Kade Finnoff, and Allison Fuligni. 2005. "By What Measure? Family Time Devoted to Children in the U.S." *Demography* 42:2 (May), 373-390.
- Folbre, Nancy and Michael Bittman, eds., 2004. *Family Time: The Social Organization of Care*. New York: Routledge.
- Folbre, Nancy, and Jayoung Yoon, 2007. "What is Child Care? Lessons from Time Use Surveys of Major English-Speaking Countries," *Review of the Economics of the Household*. 5: 3 (September): 223-248.
- Folbre, Nancy, and Barnet Wagman. 1993. "Counting Housework: New Estimates of Real Product in the U.S., 1800-1860," *The Journal of Economic History* 53:2, 275-88.
- Folbre, Nancy, and Julie Nelson, 2000. "For Love or Money?" *The Journal of Economic Perspectives*, 14:4, 123-140.
- Gauthier, Anne H., and Timothy Smeeding. 2001. Historical Trends in the Patterns of Time Use of Older Adults. June. <<http://www.oecd.org/dataoecd/21/52430978.pdf>>
- Gauthier, A. H., T. M. Smeeding, and F.F. Furstenberg .2004. "Are Parents Investing Less Time in Children: Trends in Selected Industrialized Countries," *Population and Development Review* 30/4 (December): 647-667.
- Gronau, R. 1973. "The Intrafamily Allocation of Time: The Value of the Housewife's Time," *American Economic Review* 63, 634-651.
- Guryan, Jonathan, Erik Hurst, and Melissa Schettini Kearney. 2008. "Parental Education and Parental Time with Children," National Bureau of Economic Research Working Paper 13993, available at <http://www.nber.org/papers/w13993>.
- Hallberg, Daniel, and Anders Klevmarcken. 2003. "Time for Children: a Study of Parents' Time Allocation," *Journal of Population Economics* 16(2):205-26.

Harrison, John. 1973. "The Political Economy of Housework," *Bulletin of the Conference of Socialist Economists* (Winter), 35-52.

Himmelweit, Susan. 2000. "The Discovery of 'Unpaid Work': The Social Consequences of the Expansion of 'Work,'" 102-119 in Susan Himmelweit, ed. *Inside the Household. From Labour to Care*. London: Macmillan.

Hook, Jennifer. 2006. "Care in Context: Men's Unpaid Work in 20 Countries, 1965-2003." *American Sociological Review* 71(4):639-660.

Ilahi, Nadeem. 2000. "The Intra-household Allocation of Time and Tasks: What Have We Learnt from the Empirical Literature," Policy Research Report on Gender and Development, Working Paper Series No. 13. Washington, D.C. The World Bank.

Ironmonger, Duncan. 2004. Bringing Up Bobby and Betty: The Input and Output Hours of Child Care," in *Family Time: The Social Organization of Care*, ed. Nancy Folbre and Michael Bittman. New York: Routledge.

Juster, Thomas. 1985. "Preferences for Work and Leisure," 333-51 in *Time, Goods, and Well-Being*, ed. Thomas Juster and Frank Stafford. Ann Arbor, MI: Institute for Social Research, University of Michigan.

Kalenkoski, Charlene, David Ribar, and Leslie Stratton. 2005. "Parental Childcare in Single Parent, Cohabiting, and Married Couple Families: Time Diary Evidence from the United Kingdom," *American Economic Review* 95:2, 194-8.

Kimmel, Jean, and Rachel Connelly. 2007. "Mother's Time Choices: Caregiving, Leisure, Home Production, and Paid Work," *Journal of Human Resources* 42(3): 643-81.

Krueger, Alan. B., Daniel Kahneman, David Schkade, Norbert Schwarz, and Arthur A. Stone. 2007, "National Time Accounting: The Currency of Life," working paper, Department of Economics, Princeton University.

Lareau, Annette. 2003. *Unequal Childhoods. Class, Race, and Family Life*. Berkeley, California: University of California Press.

Lewis, Jane. 1992. "Gender and the Development of Welfare Regimes," *Journal of European Social Policy* 2, 159-73.

Lewis, Jane, ed. 1998. *Gender, Social Care and Welfare State Restructuring in Europe* (Aldershot: Ashgate).

Lokshin, Michael. 1999. "Household Childcare Choices and Women's Work Behavior in Russia," Policy research Working Paper 2206. Washington D.C., The World Bank.

- McDonald, Peter. 2000. "Gender Equity in Theories of Fertility Transition," *Population and Development Review* 26: 427-439.
- Misra, Joya, and Sabine Merz. 2004. "Neoliberalism, Globalization, and the International Division of Care," manuscript, Department of Sociology, University of Massachusetts Amherst.
- Mullan, Killian. 2006. "Quantifying Parental Childcare in the United Kingdom," Working paper, Institute for Social and Economic Research. Colchester: University of Essex.
- O.E.C.D. 2007. Organization for Economic Cooperation and Development, *Babies and Bosses - Reconciling Work and Family Life: A Synthesis of Findings for OECD Countries*. Available at <http://www.oecd.org>, accessed March 8, 2008.
- Ogg, Jim, and Sylvie Renaut. 2006. "The Support of Parents in Old Age by Those Born During 1945-1954: A European Perspective," *Ageing and Society* 26:723-743.
- Pacholok, Shelley, and Anne Gauthier. 2004. "A Tale of Two-Earner Families in Four Countries," 198-223 in N. Folbre and M. Bittman, editors, *Family Time: The Social Organization of Care*. New York: Routledge.
- Pampel, Fred C. and Kazuko Tanaka. 1986, "Economic Development and Female Labor Force Participation: A Reconsideration," *Social Forces* 64:3, 599-619.
- Pitt, Mark M., and Mark R. Rosenzweig. 1990. "Estimating the Intrahousehold Incidence of Illness: Child Health and Gender Inequality in the Allocation of Time," *International Economic Review*, 31, 969-989.
- Presser, Harriet. 2003. *Working in a 24/7 Economy: Challenges for American Families*. New York: Russell Sage.
- Rasavi, Shahra, 2008. "The Statistical Evidence on Care and Non-care Work Across Six Countries." UNRISD report draft.
- Rasavi, Shahra. 2007. *The Political and Social Economy of Care in a Development Context: Contextual Issues, Research Questions, and Policy Options*. UNRISD report draft.
- Reid, Margaret. 1934. *Economics of Household Production*. New York: John Wiley and Sons.
- Rubery, Jill, Mark Smith and Colette Fagan. 1999. *Women's Employment in Europe: Trends and Prospects*. New York: Routledge.
- Sadar, Nevenka Cenirgoj. 2005. "Labor Market Integration of Women and Childcare in Slovenia," 235- 253 in Birgit Pfau-Effinger and Birgit Geissler, eds. *Care and Social Integration in European Societies*. Bristol: Policy Press.

- Sayer, Liana C., and Janet C. Gornick. 2007. "Cross-National Variation in the Influence of Employment on Child Care Time," paper presented at the meetings of the Population Association of America, March 29-31.
- Sayer, Liana C., Anne H. Gauthier, and Frank F. Furstenberg. 2004. "Educational Differences in Parent's Time with Children: Cross-National Variations," *Journal of Marriage and Family* 66:5, 1152-69
- Schultz, T. Paul. 1990. "Women's Changing Participation in the Labor Force: A World Perspective," *Economic Development and Cultural Change* 38:3, 457-488.
- Secombe, Wally. 1974. "The Housewife and Her Labor Under Capitalism," *New Left Review* 83, 3-24/
- Short, Susan E., Frances K. Goldscheider, and Berna M. Torr. 2006. "The Decline in Female Support for Mothers of Young Children," *Demography* 43:4: 617-629.
- Stone, Philip J., "Child Care in Twelve Countries," 249-264 in *The Use of Time. Daily Activities of Urban and Suburban Populations in Twelve Countries*, ed. Alexander Szalai. Paris: Mouton.
- Kuznets, S., 1955, "Economic Growth and Income Inequality", *American Economic Review*, 45(1): 1-28.
- USAID. 2004. United States Agency for International Development, *Global Population Profile: 2002*, International Population Reports.
- U.S. Census. 2004. International Programs Center, Population Division, *Global Population Profile 2002*, available at <http://www.census.gov/ipc/www/wp02.html>, accessed March 13, 2008.
- Vanneman, Reeve. 2007. See the End of the Gender Revolution website at <http://www.bsos.umd.edu/socy/vanneman/endofgr/matrix.html>, accessed March 15, 2008
- Wagman, Barnet, and Nancy Folbre. 1996. "Household Services and Economic Growth in the U.S., 1870-1930," *Feminist Economics* 2:1, 43-66.
- Waring, Marilyn. 1988. *If Women Counted. A New Feminist Economics*. New York: Harper and Row.
- Yeates, Nicola. 2005. "Global Care Chains: A Critical Introduction." *Global Migration Perspectives* No. 44. Geneva, Switzerland: Global Commission on International Migration.
- Yoon, Jayoung. 2005. "Measuring Unpaid Caring Work Using the Korean Time Use Survey, With a Focus on Methodological Issues," manuscript, Department of Economics, University of Massachusetts Amherst.

Notes

¹ The Nicaraguan survey also included some wording, with apparently less successful results.

² Michelle Budig of the Sociology Department at the University of Massachusetts Amherst is currently exploring this topic.

³ Note that the percentage of adults in this category will typically be higher than the more commonly-reported percentage of households with three or more adults. One household with 3 adults is likely to represent a smaller percentage of all households than 3 adults as a percentage of all adults.

⁴ These numbers are the inverse of those reported in Table 7. The structure of the HETUS data base does not make it possible to compare parental child care time and adult non-parent coresident child care time within the same household.

⁵ Data on parental education was apparently not included for Belgium.

⁶ This question was asked slightly differently in some countries, on a per-child or on a per-household basis. These differences in wording do not seem relevant to the simple comparisons presented here.

⁷ This result may reflect inaccurate responses to the “who with?” questions.