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Measuring Care: Gender, Empowerment, and the Care Economy

NANCY FOLBRE
Nancy Folbre is Professor of Economics at the University of Massachusetts Amherst, USA

Abstract How should ''care'' be defined and measured in ways that enhance our understanding of the impact of economic development on women? This paper addresses this question, suggesting several possible approaches to the development of indices that would measure gender differences in responsibility for the financial and temporal care of dependents.

Key words: Gender, Care, Empowerment, Dependents, Unpaid work, Time use

Introduction

The Human Development Report Office has used both the Gender-related Development Index (GDI) and the Gender Empowerment Measure (GEM) as a means of monitoring international progress in the development of women's capabilities. The GDI helps assess women's relative health and well-being. The GEM goes beyond this to assess participation in activities traditionally dominated by men: paid employment, professional and managerial jobs, and share of parliamentary seats.

Many observers have pointed to the limitations of these measures, proposing additional indices such as a Gender Equity Index (Social Watch, 2005) or a Relative Status of Women as supplements (Dijkstra and Hanmer, 2000). This paper makes a case for the development of additional indices focused on burdens of financial and temporal responsibility for the care of dependents. We need better measures of the *inputs* into care, rather than merely capturing some of the *outputs* of care in terms of improved health and education in the Human Development Index.

Motivation for more attention to unpaid care emerges from feminist critiques of the ''universal breadwinner'' model that urges women to change their work to more closely resemble that of men (Fraser, 1996). While women have been disempowered by their traditional specialization in care work — both within the family and without — care work provides

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important resources for the development of human capabilities. Responsibilities for the care and nurturance of dependents impose significant financial and temporal constraints. Women may be reluctant to pursue gender equality if they fear for the well-being of children and other dependents. Alternatively, women may seek to minimize the burden of care responsibilities by remaining childless, a growing trend in many countries such as Italy, Spain, and South Korea with fertility rates well below replacement levels.

Many experts advocate policies that will encourage men to participate more actively in family care and also provide more public support for such work (Perrons, 2000; Gornick and Meyers, 2003). Rather than merely encouraging increased paid employment of women, policies could encourage both women and men to combine paid work with family care. Support for such policies can be increased by development of a more detailed picture of both the costs and rewards of care. Care imposes costs in the form of financial obligations, lost opportunities, and foregone wages — but it also generates intrinsic rewards, stronger family and social ties, and high-quality services for dependents.

Neither the GDI nor the GEM tells us much about participation in the care economy. Indeed, the GEM embodies the ''universal breadwinner'' bias that feminist theorists have often criticized. It may also overstate improvements in the relative position of women.

Two hypothetical questions help illustrate this point. First, how does increased access to market income affect women's responsibilities for the support of dependents? As women earn more money, they may also shoulder new financial obligations. While intra-household inequalities are difficult to measure, intra-family inequalities are often reflected in increases in the share of households with children maintained by mothers on their own.

Even if the countervailing effects of increased responsibility for support of dependents are small, they may contribute to greater inequality among women. Single childless women and widows typically experience bigger gains in disposable income earned from wage employment than mothers of young children. Trends toward the ''feminization of poverty'' and the ''pauperization of motherhood'' have been observed in affluent countries like the United States that do little to protect low-income families against poverty (Folbre, 1994, 2005). While these trends vary substantially across regions, they have also been observed in some countries of the developing world, particularly those characterized by high levels of income inequality and labor mobility (Chant, 1997).

A second question concerns the allocation of time, rather than money, in the household. As women have increased their hours of market work, have their hours of non-market work declined commensurately? Increased participation in paid employment is often purchased at the expense of time once devoted to personal care, sleep and leisure. Studies of time allocation in the United States suggest that employed women often work a ''second shift'' or experience a ''double day'' (Hochshild, 1989, 1997).

Hours of work have implications for personal health and the development of human capabilities. They are also relevant to subjective assessments of well-being such as the level of stress or feeling of being rushed (Floro, 1995; McDonald *et al*., 2005).

New patterns of time allocation may also intensify inequalities among women. Relatively well-educated, high-earning women are often able to engage in domestic outsourcing, purchasing substitutes for time they would otherwise have devoted to housework or child care. Poorly educated low-earning women typically have less flexibility. Women living in tightly knit rural communities may enjoy assistance from other female family members; recent migrants to urban areas may have less access to such forms of informal assistance. Age differences may also come into play. As young girls increase their participation in schooling, for instance, their reallocation of time away from housework and care responsibilities may increase the burden on mothers.

The allocation of women's money and time affects their ability to develop their own capabilities — and that of their children. It also affects their relative standard of living, as measured by national income statistics. Reliance on estimates of the total value of marketed output fail to capture important dimensions of women's lived experience. Conventional statistics obscure the realm of unpaid work, making it easier for policy-makers to ignore the negative effects of cutbacks in public services that affect the provision of care to children, the sick, and the elderly.

As Diane Elson puts it, ''The ability of money to mobilize labour power for 'productive work' depends on the operation of some non-monetary set of social relations to mobilize labour power for reproductive work'' (Elson, 1994, p. 40). The fulfillment of care responsibilities represents an indispensable contribution to the maintenance of social capital, an asset that the World Bank considers crucial to economic development (World Bank, 1997). It is also responsible for the production and maintenance of human capital.

Women's entrance into paid employment probably increases the resources available to meet the needs of families and communities. But demands on women's money and time are intensifying. While fertility is declining in many countries, the relative demands of the elderly are growing (Stark, 2005). The HIV/AIDS crisis is increasing the need for family members to tend to the sick and orphaned, particularly in Sub-Saharan Africa (Mackintosh and Tibandebage, 2006). Debates over the composition of public spending and development of new entitlements increasingly turn on debates about the supply of care (Razavi, 2005).

The care economy

Despite a recent flurry of attention, no clear consensus has emerged regarding accounting conventions for the care economy. Even definitions of care work vary widely. Most United Nations publications use the term

''unpaid care work'' quite broadly, synonymously with terms such as ''non-market work'' or the work of ''social reproduction.'' While it is tempting to call attention to the importance of social reproduction as a process of meeting the needs of individuals and families, it is difficult to think of any activities that do not indirectly fall under this general rubric. Even a single male wage earner producing steel ingots earns a wage that helps him reproduce his own labor power.

Categorizing care work

Most people visualize ''unpaid care work'' as work done, primarily by women, to care for family members: cooking, cleaning, and shopping, as well as care of children, the sick, and the elderly (Elson, 2000). It is important to note, however, that some categories of unpaid work, including growing food for own consumption and collecting water and fuel, are categorized as productive activities according to the latest revision of the international System of National Accounts (SNA) These activities deserve special attention because they should, in principle, be included in measures of Gross Domestic Product, but are poorly measured by most surveys.

Some scholars define care work more specifically, focusing on the labor process rather than the relationship to the site of production (home versus market) or the production boundary (in the SNA or not). A process-based definition calls attention to activities that involve close personal or emotional interaction (Badgett and Folbre, 1999; England and Folbre, 1999). Many of women's family responsibilities, such as child care and elder care, fall into this category. But the concept of care work also encompasses work within the paid economy, particularly jobs that provide market substitutes for services women once provided in the home. In developed countries, many women are employed in care occupations such as child care, elder care, nursing, and teaching. Such occupations tend to pay less than other jobs with otherwise similar characteristics (Budig *et al*., 2002). Women's segregation in caring jobs helps explain the persistence of gender differences in pay.

Care work can also be conceptualized in terms of who benefits. Work directed toward meeting the needs of children, the elderly, and the sick and disabled is particularly important, because these ''consumers'' often lack political voice. Yet much care time is also devoted to meeting the needs of healthy adults. The category of ''self-care'' also deserves attention. Activities such as eating, drinking, bathing, and grooming are socially necessary. People who cannot feed themselves or engage in other activities of daily living are considered disabled and require the assistance of other person. Grooming and manicure services can often be purchased in the market, suggesting that they should be considered productive activities when performed outside the market.

Most personal services of this type represent luxuries. But of course many other commodities purchased in the market, including restaurant

meals, are also luxuries. The process of economic development often leads to increases in the percentage of persons living alone and thereby expands the relative importance of self-care. Cooking a meal for oneself is defined as unpaid work. Why should not washing and setting one's hair also be included? When such personal services are purchased in the market economy, they are counted as a contribution to the Gross Domestic Product.

These conceptual issues suggest the need to move beyond the term ''unpaid care'' to a more disaggregated analysis, distinguishing among forms of care work according to their relationship to the market, characteristics of the labor process, *and* types of beneficiaries.

The four most important categories of relationship to the market are: unpaid services, unpaid work that helps meet subsistence needs (non-market but included in the SNA), informal market work, and paid employment. Each of these categories may be further divided between direct care that involves a process of personal and emotional engagement, and indirect care activities that provide support for direct care. Virtually all activities can be construed as providing support for direct care, even the production of steel boxes, which are likely to be used to help transport goods or services that facilitate care. Therefore the ''indirect care'' category represents a residual of sorts — whatever is not direct care.

Table 1 arrays these categories in rows, using columns to indicate categories of care recipients — children, the elderly, the sick or disabled, other able-bodied adults, and the self. Each cell of the matrix offers an example of the type of care work being described. Some of the cells are empty. For instance, it is difficult to think of a subsistence production activity (i.e. with a tangible ''product'') that also involves personal interaction, other than breastfeeding. It is also difficult to think of an activity of paid employment that generates self-care. Overall, however, the array of categories illustrates important distinctions and commonalities. The array also locates the paid work that economists more typically focus on as paid provision of indirect care for other adults. All goods and services can be seen as indirect inputs into the provision of care.

The production of care services

All workers make important contributions to their care economy, and their relative importance tends to vary along with levels of economic development. One reason that time-use surveys may reveal relatively little time devoted to unpaid direct care activities is that the demands of subsistence production in those countries are great. The relative size of the informal sector, particularly the availability of paid domestic servants, affects the burden of unpaid work, as does the proportion of the paid labor force involved in provision of child care, education, and elder care services.

Labor is the most important input into care but it is by no means the only one. Labor is typically combined with raw materials and with physical,

Table 1. Categories and examples of care work

		Children	Elderly	Sick, disabled	Adults (other than self)	Self
Unpaid work (outside SNA)	Direct care	Changing diapers	Spoon feeding or bathing	Spoon feeding or bathing	Counseling	Visiting doctor, exercising
	Indirect care	Preparing food, doing laundry, cleaning	Preparing food, doing laundry, cleaning	Preparing food, doing laundry, cleaning	Preparing food, doing laundry, cleaning	Preparing food, doing laundry, cleaning
Unpaid subsistence production (inside SNA)	Direct care	Breastfeeding				
	Indirect care	Growing food for own consumption, collecting wood or carrying water	Growing food for own consumption, collecting wood or carrying water	Growing food for own consumption, collecting wood or carrying water	Growing food for own consumption, collecting wood or carrying water	Growing food for own consumption, collecting wood or carrying water
Informal market work	Direct care	Family day care; babysitting	Family day care; eldersitting	Informal but paid assistance to in the home		
	Indirect care	Domestic servant; paid or unpaid family worker in small service enterprise	Domestic servant; paid or unpaid family worker in small service enterprise	Domestic servant; paid or unpaid family worker in small service enterprise	Domestic servant; paid or unpaid family worker in small service enterprise	
Paid employment	Direct care	Child care worker, teacher pediatrician	Elder care worker, gerontologist	Nurse, nursing aide, doctor	Counselor, nutritionist, yoga instructor	
	Indirect care	School administrator, clerical, food services or janitorial	Nursing home administrator, clerical, food services or janitorial	Hospital administrator, clerical, food services or janitorial	Most paid jobs not listed in other cells	

environmental, social and human capital to provide care services. The functional relationship between these inputs is difficult to specify, but it seems likely that there are important synergies among them, similar to what environmental economists call ''cook pot effects.'' The person-specific characteristics of direct care services probably means that they are less likely to enjoy economies of scale — and more vulnerable to diseconomies of scale — than other economic activities.

The quality of direct care work is difficult to monitor or to specify in an explicit contract. As a result, social norms and personal preferences have an important impact on the quality of care. Care providers who feel genuine affection and concern for those in their care are likely to do a better job, all else equal, than those lacking personal connection. It follows that long-term personal relationships, or, in the context of purchased services of child care and elder care, low rates of turnover, are likely to increase quality (England and Folbre, 2003). Both producers and consumers of care share a common interest in quality of care (Folbre, 2006). Finally, care services have an important public good component because they improve productive human capabilities. The benefits of providing good care ''spill over'' to improve the well-being of the community as a whole.

One important care service that theoretically falls within the purview of the SNA but is not explicitly listed there is breastfeeding. This service results in the creation of a product, breast milk, which is an important component of total subsistence production. If breast milk is not provided, market substitutes for it must be purchased. Indeed, breast milk itself is bought and sold in many countries, albeit in small amounts, making it possible to impute its value using a direct market price. Efforts to calculate its value within a national income accounts framework are underway in some countries and should be extended to others (Smith and Ingham, 2005).

The current economic invisibility of breastfeeding has important policy implications. The premature weaning of children onto formula or solid food increases children's vulnerability to malnutrition and disease, and increases aggregate health costs. Because these costs are diffuse and spread over a long period of time, it is difficult to link cause and effect. But it is clear that increased pressure on mothers to enter paid employment without flexibility can have negative consequences. For instance, a statistical analysis of the impact of welfare reforms implemented in the United States in 1996 shows a small but significant negative effect on average levels of breastfeeding among low-income mothers (Haider *et al.*, 2003).

Care and the macro-economy

Direct care services are provided by all four units of the economy typically represented in macro-economic diagrams of the circular flow of money

and labor: households, businesses, governments, and non-profit organizations. Each of these units plays a part in the subset of activities that can be designated part of the ''care sector.'' The care economy also has significant international dimensions. Increased capital and labor mobility are reducing the economic implications of national boundaries. When working-age adults raised and educated in poor countries migrate to rich countries, they provide a source of free human capital. The remittances these workers often send home may not be sufficient to repay the costs.

The implications of this ''brain drain'' are beginning to receive considerable attention (United Nations Population Fund, 2005; World Bank, 2006). A ''care drain'' also comes into play as many women in poor countries leave their families behind in order to work as child care or elder care workers in rich countries. Migrants gain access to better employment, but their communities of origin lose caregivers. Host countries enjoy the benefits of the relatively inexpensive care that migrants provide. At the same time, the availability of migrants reduces the pressure to provide greater public funding for dependent care.

Social researchers are only beginning to consider the implications of ''global care chains'' (Misra and Merz, 2004; Yeates, 2005). A better understanding of flows of money and time within the international care economy as a whole would help put the unpaid care services provided in households into context.

Public support for care work

Money buys care, and the expenditure of money on dependents has implications for adult standards of living. Mothers and fathers (as well as other family members) have different preferences regarding spending on children, and these affect household expenditure patterns. Most micro-economic analyses of gender inequality compare men's and women's propensities to spend on child-related goods, or differences in child outcomes related to male or female control over market income. Few efforts have been made to examine the macro-economic distribution of the costs of caring for children and other dependents.

In recognition of the important work that parents do, the United Nations Convention on the Rights of the Child, ratified by all nations except Somalia and the United States, stipulates that ''the nation shall provide appropriate assistance to parents in child-raising.'' What exactly is appropriate assistance? Most northwestern European countries offer family allowances and paid parental leaves from work as well as publicly supported childcare and education (Gauthier, 1996; Kamerman and Kahn, 2001; Gornick and Meyers, 2003).

Even these benefits, the most generous in the world, cover only a small percentage of parental expenditures. These countries have probably socialized a greater percentage of the benefits of children than the costs: their pension systems tax the working-age population to provide support

for the elderly. As a result, non-parents generally fare better economically than parents. This pattern is especially pronounced among women in the United States and the United Kingdom (Joshi, 1990, 1998; Waldfogel, 1997, 1998).

Current national income accounting and data collection systems are not designed to follow the ''circuits of care.'' But some empirical efforts to measure expenditures on children are underway (Folbre, 2005). The burgeoning literature on gender budgeting in developing countries could and should be extended in this direction (Budlender and Hewitt, 2002). Public spending on programs for children and the elderly reduces the burden of family care, and makes it easier for women to balance competing responsibilities. Most countries rely on taxes with a higher incidence on male than on female productive effort. As a result, increased reliance on public provision generally shifts care costs away from women more toward men.

Survey design and data collection issues

Measures of women's participation in economic development have improved significantly, albeit unevenly, in recent years. The development of a gender approach to statistics has played an important positive role (Corner, 2002). Until 1993, the SNA excluded many aspects of subsistence production undertaken by women. Critiques of the undercounting of women's work (for example, Beneria, 1992) have had a discernible impact. Positive examples are provided by the labor force surveys conducted by Statistics South Africa and the use of women fieldworkers in Indian surveys (Budlender, 2002, pp. 10, 19). Recent publications by the United Nations Economic Commission for Africa and the World Bank provide important examples of attention to time use in unpaid work (United Nations Economic Commission for Africa, 2004; Blackden and Wodon, 2006).

Financial responsibility for dependents

However, much work remains to be done. In affluent countries, regular Consumer Expenditure Surveys provide important insights into intrafamily resource allocation. In the United States the Department of Agriculture publishes regular estimates of family expenditures on children (Folbre, 2005). Consumer expenditure surveys are less common in developing countries, although they could easily be combined with time use surveys.

In the absence of data on family spending, data on household structure can be used to estimate the impact of differences in household dependency ratios. Census data often make it possible to determine whether women are more likely than men to live in households with large numbers of dependents. Combined with data on inter-household income flows, such as remittances and child support payments, such assessments

move beyond a misleading emphasis on female headship to look at female financial obligation (Chant, 2003).

It is important to note, however, that the definition of an economic dependent varies according to economic and cultural context. As levels of education go up, the period of time during which children remain dependent on their parents tends to increase. More efforts to explicitly harmonize measures of dependency along with calculations of dependency ratios could facilitate international comparisons.

Temporal responsibilities for care

Partly as a result of pressure from the international women's community, time use surveys have now been implemented by at least 20 developing countries and more are underway (Economic and Social Commission for Asia and the Pacific [ESCAP], 2003). As data from these surveys becomes available, they will make it possible to develop ''time accounts'' providing important insights into the trajectory of economic development. Imagine Table 1 with entries representing not just examples of different direct and indirect care activities, but with average and total amounts of time devoted to them. Unfortunately, comparisons across countries are currently hampered by differences in activity classification and nomenclature. Again, more efforts at harmonization could yield important benefits.

Of immediate relevance to the measurement of direct care are questions that have recently arisen regarding the invisibility of supervisory and on-call responsibilities for dependents. Most time-use surveys are categorized in terms of activities. Unfortunately for time-use researchers, humans are ''multitasking beings'' (Harvey and Royal, 2000, p. 8). ''Primary activities'' are those designated in response to a question such as ''What were you doing during this time period?'' The recent Australian and UK surveys designated ''secondary'' activities in response to questions such as ''Were you doing anything else at the time?'' The list of activities listed as ''secondary'' often includes leisure activities such as ''listening to the radio'' or ''talking with friends.'' But, as other time-use researchers have pointed out, child care frequently shows up quite often as a secondary activity (Ironmonger, 2004).

Such findings reflect the nature of child care as a responsibility that constrains all activities, rather than merely an activity in and of itself. Women often take responsibility for supervising young children, even when they are not feeding, bathing, or talking to them (Budig and Folbre, 2004; Folbre *et al*., 2005). Supervision often takes the form of a background activity, but many respondents may not construe it as an activity at all. Despite efforts to harmonize different time-use surveys, serious ambiguities in the specification of primary, secondary, and ''on call'' child care time remain (Folbre and Yoon, 2005).

A recent UN report emphasizes that if estimates of time use are based only on primary activities, many care activities will be underestimated

(United Nations, 2005, p. 35). However, there has been little specific assessment of the particular features of individual surveys that may lead to problems in this area. The Australian Time Use Surveys of 1992 and 1997 registered large amounts of secondary care for two reasons. First, they included an explicitly coded activity that called attention to supervisory responsibilities:

> 541 Minding children. Caring for children without the active involvement shown in the codes above. Includes monitoring children playing outside or sleeping, preserving a safe environment, being an adult presence for children to turn to in need, supervising games or swimming activities including swimming lessons. Passive child care.

Second, written instructions to respondents regarding secondary activities listed childminding as an example. As a result, these surveys recorded three hours of secondary child care for every single hour of child care as a primary activity. The UK survey of 2000, which lacked both these features, registered much lower levels of secondary relative to primary care (Folbre and Yoon, 2005).

Differences are even greater in non-English-speaking countries. For instance, in her analysis of the 2004 Korean Time Use Survey, Yoon finds that among married women with at least one child under the age of five in their household, secondary child care time averaged less than one-tenth of an hour per day, compared with about 3.2 hours of primary child care time. She argues that this finding probably reflects the absence of an activity code describing anything resembling passive or supervisory care (Yoon, 2005). Similar definitional problems may help explain why the recent Indian time-use survey suggests that less time is devoted to supervising children than to the activities of direct care (see ESCAP, 2003, p. 191).

The new draft International Classification of Activities for Time-Use Statistics does include a category for minding children, parenthetically described as passive care (United Nations, 2005, p. 322). But it is noteworthy that two affluent countries, Canada and the United States, both rely on a measure of child care that is not purely activity based. Their most recent time-use surveys acknowledge the diffuse nature of child care by including a special child care module designed to ascertain whether individuals were ''looking after children'' (the Canadian wording) or whether ''children were in their care'' (the US wording). Answers to these questions are typically reported as ''secondary'' child care activity (Fedick *et al.*, 2005; ATUS published tables [http://www.bis.gov/tvs/, accessed 1 May 2006]). Yet in the US case, the wording was explicitly designed to capture something broader than a mere ''activity.'' As the term ''in your care'' implies, it was designed to capture supervisory responsibility (Horrigan and Herz, 2004).

The US survey shows that the time that adults reported children ''in their care'' is more than three times greater than the time reported

engaging in an ''activity'' with children (Folbre and Yoon, 2005). Studies using Australian time-use data suggest that time devoted to the care of sick and disabled persons is also seriously understated by activity-based measures (Bittman *et al*., 2004). Personal communications from public health experts studying the impact of HIV/AIDS on time use report similar problems (Barnett, 2005). This evidence suggests that activity-based surveys should be supplemented by more stylized questions regarding care responsibilities. In this respect, the ''stylized question'' approach to unpaid work in general recently applied in Nepal may actually be superior to a time-diary-based survey (ESCAP, 2003, p. 31). Advocates of increased gender-sensitivity in data collection have long advocated for more small-scale, qualitative, ethnographic research that could help calibrate quantitative results (Corner, 2002).

Once better instruments are developed for measuring time devoted to direct care it will be possible to move toward better methods of valuation of this time. Most current methods of valuing unpaid work simply juxtapose replacement and opportunity cost measures. A recent National Academy of Science report in the United States puts more emphasis on what is termed ''quality-adjusted'' replacement cost as a method of input valuation (Abraham and Mackie, 2005). Some effort should be made to ensure that the quality of the market service that would be used as a replacement is comparable. For instance, the value of time that a college-educated parent spends reading aloud to a child should be ascertained by asking how much it would cost to hire a college-educated worker to do the same, not by an average housekeeper's wage.

An even better approach to valuation of non-market work goes beyond simple consideration of the value of labor inputs, taking the value of household capital goods, utilities, and raw materials into consideration as well (Ironmonger, 2004). For instance, the value of time devoted to cooking a meal can be determined by asking what it could cost to purchase a similar meal (or output) in the market, then subtracting the cost of the capital goods, utilities and raw materials devoted to that meal. This remainder represents the value of the other factors of production, primarily labor.

Similarly, with child care, one can ask how much it would cost to place a child in care outside the home. In this case, the ''output'' of paid child care services provided by a care center can be used to value the total ''output'' of unpaid child care services in the home, which includes the value of the capital goods, household utilities, and food provided to the child as well as the direct supervision and interaction. The United Kingdom has taken the lead in implementing this form of valuation, and it provides a valuable model for developing countries (Holloway *et al*., 2002). This general approach dictates more effort to combine time-use surveys with measures of household spending on consumption and capital goods.

It is sometimes argued that monetary valuation of non-market work is forced and misleading. Certainly, it can lead to the incorrect conclusion

that the market provides perfect substitutes for non-market work. Development of satellite accounts must emphasize that the market metric can provide only a lower bound estimate of the value of family care — what it would cost society to provide an acceptable substitute. Advocates of the valuation of non-market work also need to join forces with environmental economists who are struggling with similar issues in developing alternatives to Gross Domestic Product such as a Genuine Progress Indicator (Waring, 1999).

A stand-alone system of ''time accounts'' with no monetary estimates attached would represent an important contribution to our understanding of economic development. But valuation of care time is indispensable to any overall measure of gendered responsibility for the care of dependents. Overall, men tend to devote more money, and women more direct care time, to the support of dependents. Without some common denominator between these two, comparisons of overall contributions cannot be made. This issue can be further clarified through consideration of several alternative indices of care responsibility.

New indices of care responsibility

One way to mobilize support for overcoming these data collection and survey design problems is to offer clear examples of the kinds of policy-relevant measures they could potentially yield.

Building on the presented discussion — and hoping to provoke further debate — I outline six possible indices of care responsibility modeled after the GDI and GEM. The first two indices are individual measures that would allow for comparisons of *levels* of care responsibilities between men and women. The second two indices focus on the *share* of money costs and time costs, respectively, devoted to dependent care. The fifth measure assumes that a monetary value could be imput to non-market work to combine a measure of money and time expenditures. The sixth measure includes consideration of segregation in paid employment as well as the gender division of labor in unpaid direct care.

Individual Disposable Income

As an alternative to measures of per-capita income (household income divided by number of family members), surveys could aim to measure individual income (earned income plus income from property plus transfers from others) minus taxes paid to the government minus transfers for the care of dependents. This measure extends the concept of ''disposable'' or ''after-tax'' income to treat spending on dependents as analogous to a tax. This measure would require collection of data on individual income, expenditure, and saving. It could be used to develop a better measure of individual poverty than current measures, which are typically based on household rather than individual income.

Individual Disposable Time

By analogy with Individual Disposable Income, this measure would examine the amount of time ''left over'' for an individual after they have fulfilled responsibilities for paid and unpaid work. This measure can be constructed in a straightforward way from existing time-use surveys by summing leisure time and personal care (including sleep) time. A similar measure has already been operationalized in the African Gender and Development Index, as a variable within the ''social power'' block (United Nations Economic Commission for Africa, 2004, Table 3, p. 50). However, it is important to note that much of the time that women report as leisure is accompanied by child care constraints; this time needs to be adjusted or ''discounted'' in some way in order to make it comparable with truly unencumbered leisure. An Individual Disposable Time measure could be used to provide an estimate of time poverty either by setting an absolute standard for the amount of time that individuals require for leisure and personal care, or by setting a relative standard, such as an Individual Disposable Time below 50% of the median.

Gender Care Spending Parity Index

This is defined as private male spending on care of dependents divided by total private spending on care of dependents, multiplied by two. This simply represents men's share of monetary outlays on dependents, normalized so that perfect equality would obtain the value of one. Note that this could be extended to include public spending, but this would require analysis of the gender incidence of taxation as well as spending.

Gender Direct Care Parity Index

This is defined as male unpaid time devoted to the direct care of dependents divided by total unpaid time devoted to direct care of dependents, multiplied by two. As with the measure of Individual Disposable Time, this measure cannot be based purely on ''primary activities,'' but must include consideration of the burden of supervisory care.

Gender Overall Care Parity Index

This is essentially a combination of the Gender Care Spending Parity Index and the Gender Direct Care Parity Index, using quality-adjusted replacement cost to assign a monetary value to direct care time. The numerator would include the sum of male spending on dependents and the value of male direct care time. This total would be divided by is the sum of total private spending on care plus the total value of direct unpaid care.

The Gender Care Empowerment Index

This is an equally-weighted sum of men's proportion of direct unpaid care hours relative to women's direct unpaid care hours and men's proportional representation in paid care work occupations relative to women's representation. This represents the mirror image, in a sense, of the current Gender Empowerment Index. Instead of measuring women's participation in the ''masculine'' sphere, it measures men's participation in the ''feminine'' sphere.

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