

**Defining and Measuring a Global Living Wage:  
Theoretical and Conceptual Issues**

Mark Brenner  
Assistant Research Professor  
Political Economy Research Institute  
10<sup>th</sup> floor Thompson Hall  
University of Massachusetts  
Amherst, MA 01003-7510  
413-545-6355 phone  
413-545-2921 fax  
[brenner@econs.umass.edu](mailto:brenner@econs.umass.edu)  
<http://www.umass.edu/peri>

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## I. Introduction

While there are many questions still to be answered about the degree to which global integration has fundamentally changed the U.S. economy, one area where the answer is unambiguous is in the manufacturing sector. This is particularly true of labor intensive manufacturing operations such as textile and apparel production, which have seen dramatic declines in absolute employment levels, as well as dramatic increases in the proportion of domestic consumption produced outside the U.S.

To get a sense of the magnitude of these shifts, in 1940 there were more than 2 million people employed in textile and apparel production in the U.S., accounting for 6.5 percent of non-farm employment. By 2001 there were slightly more than a million individuals involved in textile and apparel production, accounting for less than 1 percent of non-farm employment. Over the same period import penetration increased dramatically, as the value of clothing and footwear imports rose from a mere five percent of the value domestic production in 1958 to nearly 300 percent of the value of domestic production by 1999.<sup>1</sup>

As has been well documented, much of the international textile and apparel production originates in the developing world, particularly East Asia and Latin America (e.g. Bonacich, et. al. 1994). The expansion of these sectors is part of a more general emphasis on export-oriented, labor-intensive manufactures by many low- and middle-income countries, seeking to tap the large consumer markets of the more affluent OECD nations. Unfortunately, as has also been well documented (e.g. Sassen, 1998), the internationalization of labor-intensive manufacturing – particularly in textile and apparel – has brought with it the age-old problem of sweatshop working conditions in factories around the world.<sup>2</sup>

Concerned with the proliferation of sweatshops at home and abroad, activists in the U.S. and Europe have been working to raise awareness of (and eventually eliminate) the harsh and abusive conditions faced by footwear and apparel workers globally. A popular instrument for advancing the cause of global garment workers – particularly on U.S. college and university campuses – has been corporate codes of conduct.<sup>3</sup> Although there are many important variations, codes of conduct generally seek to establish minimum standards for corporate activity, both overseas and at home.

An element of many codes of conduct that has sparked much interest and debate is the creation and application of minimum wage standards – usually termed “living wages”. For their proponents, living wage clauses have been seen as a promising vehicle for improving the living

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<sup>1</sup> Employment figures are based on the author’s calculations using historical data from the Bureau of Labor Statistics – <http://www.bls.gov/ces/cesbtabs.htm>. Import and domestic production figures are drawn from Heintz (2002).

<sup>2</sup> I would stress that sweatshops are not to be seen as only a developing country problem. As the U.S. General Accounting Office discussed in a 1994 report, sweatshop conditions remain a major problem for U.S. garment manufacturing, and conditions for many contemporary U.S. garment workers differ little from those of garment workers at the turn of the century (GAO, 1994).

<sup>3</sup> For more on the emergence of codes of conduct as a means for regulating corporate behavior internationally, see Broad and Cavanagh (1998). Featherstone (2002) discusses the specific character of college and university codes of conduct, while Esbenshade (2001) takes a critical look at the efficacy of corporate codes of conduct in improving working conditions in the U.S. apparel industry.

standards of global garment workers. Living wage provisions have been a central element in the codes of conduct adopted by many U.S. colleges and universities vis-à-vis their apparel licensees, and several U.S. cities have also adopted living wage laws that apply specifically to the manufacturers of textile and apparel products procured by the city. Similarly, several European companies and industry associations (such as the International Federation of Football Associations – FIFA) have adopted codes of conduct with living wage language.

Opponents of these initiatives have stressed, variously, the difficulties in defining and measuring a living wage across the wide range of apparel producing regions, the unintended consequences that might result from higher wage levels in export-oriented apparel production (such as employment losses or capital flight), and the ethical contradictions that result from Western consumers (or governments) imposing labor standards on developing country apparel producers.<sup>4</sup> While thorough investigation of each of these concerns is the task of a broad research program, in this paper I attempt a more modest contribution, namely a comprehensive examination of the difficulties involved in defining and measuring a living wage internationally.

In the next section I briefly discuss the many ways in which the term living wage has been defined both in the United States and elsewhere. In section 3 I review the current methods utilized to conduct cross-national living standards comparisons and assess both their virtues and shortcomings. In section 4 I detail the ways in which a “living wage formula” could be constructed from local cost of living surveys or based on information contained in standard household income and expenditure surveys. I also describe the modification of current techniques for living standards measurement that I would consider optimal for defining a measuring a global living wage. In section 5 I discuss other means of conducting cross-national comparisons using more aggregate international data, and in section 6 I will conclude with an evaluation of each of these approaches, as well as a discussion of their desirability and feasibility

## **II. What is a Living Wage?**

Although originating in Britain, the term living wage has a very broad usage in the United States. Historians trace the concept back to the 1870s, and the onset of industrialization.<sup>5</sup> As the United States was transformed into a ‘wage labor society’ the American working class experienced a dramatic shift in attitude towards wage labor. Workers and their unions increasingly rejected their traditional hostility towards ‘wage slavery’ – as it was derisively known in the antebellum period – and began to integrate wage labor into their visions of social justice and civic participation. ‘Living wages’ were the key to this transformation, as they provided the economic freedom necessary to exercise political liberty. To be sure, many definitions of what constituted a living wage were narrowly focused – usually emphasizing the material over the ideological or ethical. But all of the various definitions of the time reflected a broad consensus that wages should provide “the ability to support families, to maintain self-respect, and to have both the means and the leisure to participate in the civic life of the nation” (Glickman, 1997, p. 3). As such, living wages formed a cornerstone of the New Deal social

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<sup>4</sup> See, for example, the views expressed by the Academic Consortium for International Trade, <http://www.fordschool.umich.edu/rsie/acit/>

<sup>5</sup> This review of the historical usage of the term ‘living wage’ is drawn from Glickman (1997).

contract, and informed a working class consciousness grounded as much in the sphere of consumption as in the sphere of production.

Viewed through this turn-of-the-century lens, it is not surprising that during the 1990s – after two decades of declining real wages and stagnant family incomes – a modern living wage movement emerged in the United States.<sup>6</sup> The current incarnation of this historical tradition is rooted in local political action, and more than 80 municipalities around the country have passed local living wage ordinances since Baltimore became the first in 1994. Although the specifics of these laws vary, most require firms receiving public funds – either through city service contracts or financial assistance (subsidies, tax breaks, loan guarantees, etc.) – to pay a living wage. Although the definition of a living wage varies considerably across the cities that have adopted such measures, in most cases it is linked in some fashion to the federal poverty line. A typical requirement is that the living wage be set high enough to ensure that a full-time worker in a family of four would earn enough to keep his or her family out of poverty. In 2001 the federal poverty line for a family of four was \$17,650, which translates into an hourly wage of approximately \$8.50.<sup>7</sup> This is 65 percent higher than the current federal minimum wage of \$5.15 per hour, and 23 percent higher than the highest statewide minimum wage of \$6.90 (in the state of Washington).

Yet, living wage advocates have been quick to recognize the inadequacy of the federal poverty line as a benchmark for meeting basic needs or satisfying the broader historical definition of living wages. As such, they have persuaded many cities to set living wage thresholds at various multiples (such as 125 percent) of the poverty line. These advocates have identified in practice what more formal empirical research has also concluded – that for a variety of reasons the federal poverty line is increasingly inappropriate for adequately gauging the standard of living in the United States.<sup>8</sup> More specific discussion of the weaknesses of poverty measurement in the U.S., and their implications for defining and measuring a global living wage, will be taken up in the next section. Before turning to those details, however, a brief review of the experience with living wages in other countries merits discussion.

While the debate around living wages may have spread more widely into public consciousness in the United States than many other parts of the world, the concept is by no means unique to the U.S. or to the industrialized world for that matter. The clearest example of this is from South Africa, where the Congress of South African Trade Unions (COSATU) launched a national living wage campaign in 1987, shortly after its founding. Their campaign included a call for “a living wage for all workers; a 40-hour week; job security; March 21 and June 16 as paid public holidays; six months maternity leave; the right to decent education and training; and an end to the hostel system” (Rees, 1995). Due in part to the success of the COSATU campaign the concept of living wage was formally incorporated into the ANC’s post-

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<sup>6</sup> For a review of recent trends in wages and family incomes, see Mishel, Bernstein, and Schmitt (2001). For a history of the modern living wage movement, see Pollin and Luce (2000).

<sup>7</sup> The 2001 poverty thresholds for the U.S. can be found at <http://aspe.hhs.gov/poverty/01poverty.htm>. The calculation in the text assumes 2080 hours of work a year (40 hours a week for 52 weeks).

<sup>8</sup> For a more complete discussion of the shortcomings that exist with the current method for measuring poverty in the U.S. see Citro and Michael (1995). One example of an alternative measure of poverty – the ‘basic family budget’ – finds that the cost of providing basic needs ranges from 65-362 percent above the federal poverty line, depending on the community in question (Boushey, Brocht, Gundersen and Bernstein, 2001).

apartheid Reconstruction and Development Program (RDP). The RDP states: “Our central goal for reconstruction and development is to create a strong, dynamic and balanced economy which will...create productive employment opportunities at a living wage for all South Africans.”<sup>9</sup> Similar campaigns have been launched by the International Federation of Chemical, Energy, Mine and General Workers’ Unions (ICEM) targeting women workers in the Asia-Pacific region, and the National Campaign on Dalit Human Rights has also issued a call for a living wage for Dalits in India. More generally, the aspiration for living wages can be heard coming from garment workers themselves throughout Central America and many other parts of the developing world (e.g. STITCH, 2000 or Ching 2001), belying the frequent claim that this is purely an ‘Western’ concept.

Yet it is also true that these international examples rarely delve into the specifics of what actually constitutes a living wage in the various countries mentioned. Moreover, they do not broach the thornier ethical debate surrounding the establishment of enforceable labor standards at the international level. This question is particularly germane in the present context where the call for and definition of standards for producers based in developing countries is heavily influenced by Western activists, non-governmental organizations, scholars and policy-makers. Far from considering this an intractable dilemma, the present work has as its point of departure a more universalist position. Specifically, I start from the assumption that certain global standards<sup>10</sup> are both feasible and desirable, provided that one is sufficiently clear as to which basic human functions are of concern and what methodology should be utilized to assess minimum standards along each dimension of interest.<sup>11</sup> Hopefully, in the remaining sections I will be able to adequately address such issues as they relate to the defining and measuring of global living wages.

### **III. Living Standards Measurement and Cross-National Comparisons**

Economists and other social scientists have long been interested in accurately comparing the experiences of different nations along a variety of dimensions. An area of consistent attention has been well-being. Are residents in one country ‘better-off’ than those in another? What constitutes a consistent metric for international comparisons? What do we mean by ‘well-being’? In addressing the narrower question of how to define and measuring a global living wage, there is much to be learned from contemporary debates about living standards measurement and cross-national comparisons. This section will briefly discuss the most common approaches to both these issues, as well as assess the strengths and weaknesses of each.

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<sup>9</sup> The RDP can be found on-line at - <http://www.polity.org.za/govdocs/rdp/rdp.html>.

<sup>10</sup> Here I make a distinction between standards imposed by direct consumers of products versus those which emerge through other means, such as global or regional trade negotiations. Clearly there is no a priori cause for concern regarding the former case, where labor standards are similar to any other condition of mutually agreeable exchange. By contrast, establishment of the latter, to my mind, presumes some degree of agreement on both what areas standards will address and what method will be used to evaluate them.

<sup>11</sup> In working from this premise, I am drawing on the non-welfarist tradition closely associated with Amartya Sen. See for example Nussbaum and Sen (1993), particularly the papers in Part II which deal with local traditions, cultural relativism and objectivity.

## Cross-National Comparisons

It is a well-established proposition that cross-national comparisons of living standards, made exclusively on the basis of current exchange rates, often substantially misstate real consumption differentials between residents of different countries. This follows from the fact that price levels, in general and for specific commodities, invariably differ across national borders. This has led to efforts by scholars and international agencies to construct national accounts on a consistent *purchasing power parity* (PPP) basis. This effort is currently spearheaded by the United Nations, under the auspices of the International Comparisons Programme (ICP).<sup>12</sup> The core of PPP comparisons involves collecting price data for hundreds of comparable commodities across the majority of countries around the world, and using these data to form consistent sets of national accounts. To do so price and quantity data for each country are aggregated across various levels – ultimately up to total GDP – utilizing the Geary-Khamis additive method (Geary, 1958; Khamis, 1972).<sup>13</sup> Because each country's GDP is evaluated using the same set of prices and expressed in a common currency, they reflect real differences in the command over resources.

Yet, as important as the improvements in cross-national comparisons using PPP methods are, there are still substantial shortcomings in their application to living standards measurement. First, because the purpose of the ICP is comparing national account data, PPP measures reflect average consumption patterns, and are unlikely to reflect consumption of households or individuals near a suitable living standard threshold. This implies that the weights used to combine various prices are inappropriate if the chosen living standard threshold differs from average consumption patterns. A second major problem with the PPP approach is the range of (identical) goods over which price information can be gathered. While it is likely that a fairly standardized list of detailed commodities can be generated for countries in similar regions, or at similar levels of development, this is less true for countries that differ widely on either of these dimensions. This problem is exacerbated by the high proportion of spending in developing countries on non-tradables and commodities for which no suitable comparison exists.<sup>14</sup>

A third substantial problem with the PPP data as presently constituted is the bias that results from its additive approach to prices and quantity aggregation. As Hill (2000) has demonstrated, the Geary-Khamis method is subject to substitution bias, which overstates some poorer countries' GDP per capita by as much as 70 percent relative to richer countries. Finally, as will be discussed more below, most efforts to evaluate minimum living standards base such measures on nutritional adequacy. By defining living standards in PPP terms, the link between a living standard threshold and nutritional adequacy is no longer explicit, and there is no guarantee that individuals above such a threshold would actually be able to consume a nutritionally adequate diet.<sup>15</sup> Indeed, due to these and other shortcomings of aggregate PPP data, much recent

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<sup>12</sup> For a historical overview of the ICP, see Kravis (1986).

<sup>13</sup> While earlier versions of the ICP data utilized one supranational set of prices to evaluate the GDP of all countries, in later iterations the process of comparison was regionalized, where countries were compared in regional blocs, and then a subset of countries within each bloc were compared with each other. This method is commonly known as 'chaining'.

<sup>14</sup> See Lancieri (1990) for more on this point.

<sup>15</sup> This point also follows from the fact that people obtain adequate nutrition via consumption that is acceptable to them given local tastes. Thus, while two individuals at the same PPP living standard may have sufficient income to

research has focused on the theoretical and empirical foundations for a microeconomic approach to living standards measurement.

### Living Standards Measurement

Aside from the many specific difficulties that exist with PPP comparisons across countries, most economists also recognize the limited informational value that a summary statistic such as GDP per capita (even PPP adjusted) affords. As such, there has been a long and rich inquiry into the question of living standards measurement generally, and cross-national comparisons of equivalent living standards. Most relevant for our purposes here are efforts at measuring absolute standards of living.<sup>16</sup> Within this area, two strands of theoretical research have emerged as dominant – *welfarist* approaches, which base comparisons and public policy on individual ‘utility’ comparisons, and *non-welfarist* approaches, which base comparisons on elementary achievements in key areas such as food, clothing, and shelter. The former approach is most closely associated with traditional living standards assessments, such as the establishment of the poverty line used in most countries. The latter has come to be closely associated with both the ‘basic needs’ approach to poverty popular in the 1970s, and the quite distinct ‘capabilities’ approach derived from the work of Amartya Sen.<sup>17</sup>

Empirically, the differences between *welfarist* and *non-welfarist* approaches are less sharp than at the theoretical level. While the *welfarist* approach to living standards measurement typically focuses on goods and services consumed by households as an end itself, even *non-welfarist* approaches are quite concerned with household consumption, as it is a means for achieving human capabilities. Similarly both rely on standard household income and expenditure surveys to assess living standards, facing very similar data and other technical constraints. Some have even asserted that empirically the two approaches offer merely a difference in emphasis, with non-welfarist approaches introducing consumption of public goods as well as private ones.<sup>18</sup>

For the purposes of defining and measuring a global living wage, we take as our point of departure the more traditional *welfarist* methods that attempt to identify a set of minimal consumption items necessary for well-being.<sup>19</sup> Where appropriate we will amend such methods to take into account insights from recent *non-welfarist* approaches. Within the class of *welfarist* measures almost all are nutritionally based, linking the minimally acceptable living standard to a nutritional threshold, most often an individual or household daily caloric requirement.<sup>20</sup> Under

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purchase nutritionally adequate food, due to different constraints on diet and tastes, they may actually need different levels of purchasing power to achieve the same nutritional status.

<sup>16</sup> For a clear exposition of the major issues discussed in this subsection, see Ravallion (1994). For more discussion of relative standards of living as an alternative to the absolute standard chosen here, see Atkinson (1989).

<sup>17</sup> On the basic needs approach, see Streeten et al (1981). On the capabilities approach, see Sen (1980, 1985, 1987).

<sup>18</sup> This is clearly the tone of Anand and Ravallion (1993) which discusses the difference between the World Bank and UNDP approaches to analyzing poverty.

<sup>19</sup> We do not, however, start from what could be characterized as a ‘strong’ *welfarist* position, namely a set of assumptions which allow us to define consumption expenditure as money-metric utility.

<sup>20</sup> A typical standard is 2100 kilocalories per person (or adult equivalent) per day. For a more complete discussion on the nutritional basis for living standards measurement, see Osmani (1992). For a more detailed description of the way in which the nutritional standards are used in practice see Lanjouw (n.d.).

this approach, sometimes referred to as the Food Energy Method (FEM), the nutritional threshold is typically identified based on actual consumption patterns and market prices. Minimal nonfood consumption can then be determined by examining the expenditure patterns of those households (or individuals) whose food expenditures just equal the minimal food requirements. Although we are far from completely specifying a FEM approach for living standards measurement, embedded in what we have already described are several theoretical issues that are recognized as important to the accurate determination of an appropriate standard. We next review several of the most significant of these.

### *Equivalence Scales*

Perhaps the most well known issue involved in living standards measurement is the use of equivalence scales. The need for equivalence scales arises because households differ in the size and composition of their membership, and unadjusted household consumption will vary accordingly.<sup>21</sup> Measured living standards differentials should reflect real differences in consumption, not simply differences in size. In practice, therefore, most analysts make some normalization to account for different household sizes, usually performing living standards measurement on a per capita basis. However, it is also true that consumption needs usually differ by age, gender, occupation, and climate. It is also widely believed that households are able to achieve economies of scale in consumption of many essential commodities (e.g. housing). As such many analysts attempt to account for at least some of these other factors when calculating living standards.

Although there are several rather sophisticated proposals for empirical determination of equivalence scales based on actual expenditure patterns, many of these flounder on their assumptions concerning *intra*-household consumption allocation.<sup>22</sup> If we assume that at least part of observed outcomes in expenditure are the results of unequal bargaining power within a household, then interpreting these expenditure patterns as is at best problematic and at worst impossible. Such difficulties have, in practice, led most experts to recommend somewhat arbitrary scaling factors, both in the advanced industrial countries as well as the developing world (e.g. Citro and Michael, 1995). For example, the OECD uses a system where the first adult receives a weight of 1, each additional adult 0.7, and a weight of 0.5 is used for each child (OECD, 1982). The commission assembled by the National Research Council to evaluate the method of measuring poverty in the United States recommended a similar approach, embodied in the formula  $(A+PK)^F$ , where A equals the number of adults, K equals the number of children and P and F are scaling factors. The NRC recommended a value of .7 for P and a range of .65 to .75 for F (Citro and Michael, 1995). For the purposes of defining and measuring a global living wage it seems clear, then, that some adjustment similar to the OECD or NRC method is preferable to the straight per capita approach, although in any calculation sensitivity analysis should be conducted to determine the degree to which different assumptions yield different results.

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<sup>21</sup> For a more complete review of equivalence scales, see Browning (1992).

<sup>22</sup> See Nelson (1993) for a more complete discussion of empirical approaches to determining equivalence scales, as well as problems that intrahousehold distribution poses for such approaches.



### *Regional Cost of Living Differences*

A second well-known quandary in living standards measurement is how to deal with regional cost of living differentials. In most countries there is substantial variation in the cost of basic consumption items from food to housing to medical care.<sup>23</sup> Frequently in determining an appropriate standard of living, a single national standard is established. At best, the differences that exist between rural and urban residents is acknowledged by constructing two sets of living standards measures. But often a more regional disaggregation is needed to capture relevant cost of living differentials, and failure to account for this can substantially distort the living standards picture (e.g. Bidani and Ravallion, 1993). Here too, in defining and measuring a global living wage, attention must be paid to the regional cost of living differentials within a given country, at least for certain key consumption items.<sup>24</sup>

### *Social Wages*

Less well studied in the context of absolute living standards measurement is how to account for the effects of publicly-provided (or publicly subsidized) consumption. Such programs are common in many developing countries, and often include such essential commodities as electricity, water, natural gas, and less commonly food and housing. While the issue is less of a concern within a single country if the subsidy or public provision of a commodity is uniform and no rationing occurs, this is not true when the task is to conduct cross-national comparisons, or when there is differential access to subsidies or publicly furnished goods in a single country, either due to rationing or targeted assistance. Moreover, as has been demonstrated by Hentschel and Lanjouw (1998) taking account of differences in access to subsidized goods or the effects of rationing can substantially alter living standards measurements. For the purposes of defining and measuring a living wage this issues arises both in the ways in which different social wages are accounted for in cross-national comparisons, as well as how differential access may affect certain segments of the population. For example, as Anita Chan (2000) has described, many industrial workers in mainland China are in fact rural residents who migrate out of their natal villages in search of work. Until the recent changes to the state's long-standing migration policy (known as the *hukou* system), these migrants were unable to benefit from state subsidies on education, healthcare, transportation and a host of other public services. Thus, taking account of such differentials in access is crucial in generating a realistic picture of the living standards for China's industrial workforce. Ideally, any attempt to define and measure a living wage will take account of these sorts of different access to social wages.

### *Alternative Consumption Measures*

As was discussed above, the common approach to living standards measurement is to identify a level of food consumption deemed minimally sufficient, and determine the level of food and non-food spending for those households at or near the nutritional threshold. Using such

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<sup>23</sup> See Kokoski, Cardiff, and Moulton, (1992) for an analysis of the regional cost of living differences in the United States.

<sup>24</sup> For example, the NRC recommends that the differentials in housings costs be taken account of in future measures of poverty in the United States (Citro and Michael, 1995).

a method, only food items are treated as distinct. Influenced by the rising prominence of *non-welfarist* theories of living standards measurement, many alternatives to this standard approach have been proposed in recent years. These alternatives often suggest identifying the dimensions of consumption most crucial to an adequate living standard, and setting individual living standard thresholds along each consumption dimension. Perhaps the most notable recent example of such an alternative approach to measuring consumption deprivation comes from the U.S. National Research Council (Citro and Michael, 1995). The NRC's proposal involved setting minimal consumption thresholds along three dimensions – food, clothing, and shelter (including utilities) – and adjusted the total cost of these items by a small multiplier to account for other needs.<sup>25</sup> Clearly one problem with such an approach is that unlike nutrition, where there is a ready scientific basis for setting a threshold, there same cannot be said for other dimensions such as housing or clothing. Nevertheless, this alternative to the Food Expenditure Method holds quite a bit of promise for those interested in more direct measures of well-being, and is very relevant to the definition and measurement of a global living wage.

### *Other Issues*

Finally, there are several other issues relevant to our question of how to define and measure a global living wage that have traditionally received sparse attention in the living standards measurement literature. For example, only in recent years have the effects of survey design in practice come to be recognized as very important to living standards measurement. It has been shown that failure to account for the effects of complex survey design can increase standard error estimates by as much as 65 percent, dramatically altering inferences about changes in living standards (Howes and Lanjouw, 1998). The recall period over which households are asked to enumerate their incomes and expenditures can also cause sharp fluctuations in measured living standards (Visaria, 1999). Similarly, as recently discussed by Lanjouw and Lanjouw (2001) minimal living standards thresholds can vary quite considerably when consumption definitions differ (between years or between countries). This poses a problem even if the broad definitions of consumption appear to be identical.<sup>26</sup>

Another important issue – if living standards are to be defined in terms of income rather than consumption – concerns the best method for assessing resources (either household or individual). For example, compare the common method used in the United States defining thresholds in terms of gross income, with the proposal from the NRC, which recommended taking into account necessary expenditures such as child care, health care and transportation, and instead defining living standards in terms of disposable income (Citro and Michael, 1995). Although there is less consensus as to what are the most appropriate ways to address these issues in practice, clearly they have bearing on any effort to define and measure a global living wage.

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<sup>25</sup> This method is similar, in principle, to the approach taken by Boushey et al. (2001) in determining basic family budgets, as well as that taken by Renwick and Bergmann (1993) for the United States. It is also akin to the method developed (with specific attention to the situation of developing countries) at a 1998 conference on global living wages convened by the U.S.-based NGO Sweatshop Watch. There they defined a minimal living standard across the following dimensions – food (including potable water), clothing, housing (including utilities), healthcare, childcare, education, transportation and modest savings (10% of total living expenses).

<sup>26</sup> For example, in their study Lanjouw and Lanjouw (2001) found that defining consumption over 72 detailed food items and 25 nonfood items produced a substantially different poverty line than an identical survey found using a more aggregated set of 18 food items and 6 nonfood items.

#### IV. Defining and Measuring a Global Living Wage

As is clear from the preceding section, neither the microeconomic approach to living standards measurement, nor the macroeconomic approach to cross-national comparisons is without shortcomings or difficulties. It is therefore not surprising that very few efforts have been made to combine these two approaches in conducting international living standards comparisons.<sup>27</sup> Before turning to the question of how such international comparisons could be made in this specific case, I first outline a methodology for defining a living wage in the developing country context based on information contained in standard household income and expenditure surveys. I take as a point of departure the previous discussion of both cross-national comparisons and microeconomic approaches to living standards measurement.

##### Defining a Threshold

The first issue to address in any effort to determine a living wage is what sort living standard threshold will be utilized. Adhering to the methods commonly employed, we will define the threshold in terms of consumption expenditure. However, unlike the typical approach, we will set an explicit consumption threshold in each of several different dimensions, and define the overall living standard threshold as the combination of each individual level.<sup>28</sup> Specifically we will set thresholds along the dimensions of food, clothing, shelter (including utilities), health and childcare expenses, and transportation. We will also make an allowance for other expenditures and household savings by applying a modest multiplier.

How shall we identify the threshold for each dimension? As noted in the previous section, most nutritionally based living standards assessments use an indirect approach to determining minimal non-food expenditures, typically estimating the average non-food expenditure for those just achieving the requisite nutritional level. Presenting a new approach for setting the U.S. poverty line, the National Research Council recommended that both poverty and nutritional adequacy no longer be measured in absolute terms (i.e. the amount of money necessary to purchase a nutritionally adequate diet along with other necessary non-food items) and instead suggested adopting a purely relative standard. Specifically they suggested analyzing food consumption (as well as expenditure on clothing and shelter) for lower income households, and determining a cut-off point somewhere along the distribution of total expenditure on food, clothing and shelter, fixing that cut-off point with reference to median expenditure.<sup>29</sup> Based on their analysis of the Consumer Expenditure Survey, for example, they identified the poverty

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<sup>27</sup> Although they are few, however, these studies have been very influential in shaping common approaches to assessing living standards internationally. The development of the 'dollar per day' measure of absolute poverty is the best example of this. See Ravallion, Datt, and van de Walle (1991), Chen, Datt, and Ravallion (1994) and Chen and Ravallion (2001).

<sup>28</sup> This is similar to the approach proposed in Citro and Michael (1995). Although, as will be discussed, we do not set all thresholds on a relative basis, as is recommended by the NRC.

<sup>29</sup> The NRC's initial approach was to identify a cut-off point for expenditure along each dimension. However, after examining available data, they concluded that the sum of expenditure in each area was less prone to measurement error than each component on its own.

threshold as lying somewhere between the 78-83 percent of total median expenditure on food, clothing and shelter (Citro and Michael, 1995).

The NRC's proposed method has a clear advantage, in that there is no ready scientific basis by which one can determine a minimally acceptable level of clothing, shelter or other personal consumption. However, in the present methodology we do not recommend defining and measuring a global living wage purely in relative terms. Instead, we propose that nutritional adequacy remain the anchor with which a threshold is set. Specifically, the methodology we propose here will identify those households who are within five percent (above or below) of the food expenditures necessary for a nutritionally adequate diet. For this reference group of households, we then propose calculating the median expenditure on each of the non-food dimensions listed above, i.e. clothing, shelter (including utilities), health and childcare expenses, and transportation. These medians will then serve as the thresholds for each of the non-food dimensions. Although we believe that median expenditures generally represent a better approach to determining what is necessary, in some cases average expenditures may be a better measure. This is particularly true for items (such as medical care) where large numbers of households may report no expenditures, but for those who do, the values may be high. Similarly, although we believe that determining a threshold in each dimension is preferable, if the NRC's experience is any indication, our proposed approach may need to be modified so as to estimate total expenditure on clothing, shelter (including utilities), health and childcare expenses, and transportation for those households just meeting their nutritional requirements.

#### Identifying a Reference Household and Calculating Equivalence Scales

Up until this point, we have been somewhat ambiguous about the unit of analysis in our approach to defining and measuring a living wage. For our purposes, we will follow the approach for living standards measurement more generally, and start with the household as the relevant unit. This seems like the most sensible method, given that a substantial number of key expenditures are made explicitly by households as a unit, for use by the household as a unit (e.g. housing and utility expenditures, many food purchases, childcare expenditures, etc.). However, such a choice raises two related questions. First, what shall we take as the reference household for living wage measurement, and second to what degree (if at all) should equivalence scales be employed? By reference household, we are referring to the household type that serves as the baseline for living standards measurement and for which minimal consumption thresholds are developed. Such a household type serves as a reference in that thresholds for other family types are not estimated directly, but inferred based on the thresholds for the reference household (often using equivalence scales).

Here we propose a pragmatic approach – defining the reference household as the type most prevalent (i.e. the modal household type) in urban areas in the country in question. We specify the most prevalent household type in urban areas because most developing countries experience industrialization in the cities first and foremost, and such an approach minimizes the likelihood that we will define the reference household as one primarily engaged in agriculture. If possible, it may be appropriate to define the reference household as the most common type among industrial workers. Although desirable for its specificity, the feasibility of such an approach clearly must be explored empirically. As to the issue of equivalence scales, here too

we take a pragmatic approach, recommending the use of the OECD's equivalence scale, i.e. a weight of .7 applied to each additional adult member of the household, and a weight of .5 for each child.<sup>30</sup> As with the question of the reference household, clearly the choice of equivalence scale should be subjected to sensitivity analysis, and possibly replaced with a more sophisticated approach (such as the one discussed above recommended by the NRC) or with a simpler one (such as assessments made on a per capita basis).

### Data Source

As has been alluded to in the previous discussion, we feel that the most fruitful means of actually quantifying necessary household consumption is through analysis of standard household income and expenditure survey data. In recent years there has been a proliferation of household income and expenditure surveys conducted in developing countries. Perhaps the most well known program promoting such surveys is the World Bank's Living Standards Measurement Survey program, but similar household income and expenditure surveys have been funded by other bilateral and multilateral agencies (e.g. the Asian Development Bank and the United Nations Development Program), as well as private research organizations (such as the RAND Institute). Through the collective expertise these efforts have created, most modern household income and expenditure surveys are sufficiently detailed and methodologically sound to serve as a basis for defining and measuring a living wage in the developing country context.<sup>31</sup>

Clearly, basing our approach on standard household income and expenditure surveys is not without its limitations. These surveys are rarely conducted on an annual basis, so often the only available data is several years out of date. With the increasingly rapid pace of capital mobility, particularly in footwear and apparel, this implies that both labor market and living conditions may be dramatically different now as opposed to the time of the survey. Similarly, although these data sources represent a dramatic improvement in quality and availability, they still suffer from several familiar limitations, such as sample size. This constraint can be particularly acute if the industrial workforce (or the footwear and apparel workforce) is very small, and may prevent analysis of subgroups of the population that are of primary interest. While such limitations are not trivial, they do not dramatically diminish the potential of household income and expenditure surveys for the purposes of defining and measuring a living wage. Provided that the survey design is accounted for, that regional cost of living differentials within the country are calculated and utilized in any comparisons, and that appropriate adjustments are made for the passage of time (such as using the CPI to inflation-adjust any living wage calculation), standard household income and expenditure surveys provide a reliable basis for tackling the question of what is a living wage in a host of different countries.

### Assessing Resources

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<sup>30</sup> Note that the application of equivalence scales enters at two points in the usual process of living standards measurement. First, equivalence scales are frequently applied in calculating necessary nutritional intake and thus minimal food expenditure. The logic is that nutritional needs of children are lower than those of adults, and therefore estimating necessary food expenditure treating children and adults in the same manner will overstate what is really necessary. The second application of equivalence scales is in the comparison of households of different types. We are proposing the application of equivalence scales of the second type only.

<sup>31</sup> See, for example, Grosh and Glewwe (2000).

Another substantive issue to resolve in the context of our specific methodology is assessing household resources. Within this broad heading are three distinct, but inter-related topics. The first concerns the dimension along which available resources are defined. Traditional approaches to living standards measurement often define available resources in the same terms as the threshold itself, namely household consumption expenditure. This approach is used because it avoids – to a large degree – any slippage between the definition of a threshold and that of available resources, and clearly fulfills the usual goal of identifying those households whose actual consumption expenditure falls below the threshold identified as minimally necessary. However, such an approach does not seem appropriate for our case, since the goal is defining and measuring a living *wage*. Without completely specifying the relationship between wages and household income – which we take up below – it is nevertheless clear that our assessment of household resources must be made in income terms.

Since our purposes clearly lead us to a definition of available resources in income terms, this makes it more important to consider explicitly the issue of consistency between resource definition and the threshold concept. In particular, there is much debate about whether definitions of household resources should be expressed in terms of gross income or instead in terms of disposable income. Much criticism of poverty measurement in the United States has centered on this issue, as the poverty threshold is defined in terms of necessary consumption expenditure, which is then gauged against a household's gross annual income (e.g. Renwick and Bergmann, 1993). Critics argue that necessary consumption (captured by the nominal value of the threshold) cannot be met by the gross income of the household, since not all of gross income is available for consumption purposes. Clearly, the failure to account for tax liabilities, out of pocket expenses on medical care, and expenses necessary to earn income (transportation, childcare, etc.) implies a mismatch between the methods for defining the threshold and assessing resources (Citro and Michael, 1995). The NRC's recommended approach to this problem is to adjust the income definition rather than the threshold. They suggest evaluating households against the threshold using a measure a disposable income – gross income net of tax obligations, out-of-pocket medical expenses, childcare costs, work-related transportation expenses, and child support, adding in the value of any non-medical near money benefit such as food stamps. Such an approach has the virtue of defining living standards over a set of commodities universally viewed as basic necessities.

However, such an approach does not evaluate the actual costs of these other obligations, something critical to the definition of a living *wage*. This difference is reflected in our definition of a living standard threshold, and as such we recommend assessing household resources in gross terms. As discussed in the previous section, one critical issue in assessing resources is the incorporation of any social wages, i.e. any publicly subsidized or employer-provided consumption items for which the household does not fully bear the cost. Where possible, efforts to define income in developing countries typically impute a value for such publicly provided benefits, similar to the way in which values are imputed for food or other goods produced and consumed by the household (Ravallion, 1994). For our purposes, however, we believe that such adjustments may unnecessarily confuse the issue, as changes to gross income that reflect social wages would necessitate equivalent adjustments to our threshold definition, since it is based on actual out-of-pocket household expenditure. Such practices are advisable when attempting to consistently assess living standards across a very heterogeneous population (for example both

rural and urban residents in a developing country) or between countries, however for the purposes of defining and measuring a living wage in a single country such adjustments are likely to be unnecessary. A notable exception to this is when there is differential access to such publicly provided benefits within the relevant population (such as among urban residents, or among industrial workers).

The final issue to consider when assessing resources is specific to our goal of defining and measuring a living wage. Unlike other applications of living standards measurement, which focus only on how to define total household resources, we are also interested in linking resource requirements to household wage and salary income. This raises several issues for which there is little theoretical guidance. The most important question is how many individuals (or adult equivalent individuals) will be ‘supported’ by a wage earner under our definition of a living wage. Traditional arguments for a ‘family wage’ in industrialized countries have asserted that a single wage earner should be capable of supporting an entire family unit, however such the concept has received much criticism from feminist quarters.<sup>32</sup> In the context of developing countries the notion of a single wage earner supporting an entire family has also been deemed unrealistic, as families are typically larger on average than in industrialized countries, and households frequently comprise multiple family units.

For the purposes of our methodology, we do not take a definitive position on the issue, but recommend defining the living wage as the necessary gross income required by a reference household type, divided by the number of full-time adult wage earners, on average, in the reference household type.<sup>33</sup> Such a definition of living wage may run into problems if the demographic profile of industrial workers and their families differs significantly from other urban residents (such as the case of young women migrating to the cities to work in factories, a practice common throughout Asia and Latin America).<sup>34</sup> However, the extent of this problem can only be addressed empirically, either with household survey data or through other data sources. Although we recommend calculating the living wage on the basis of the number of full-time adult earners in the household we cannot completely ignore the difficult questions associated with the performance of domestic labor (especially caring labor such as child or elder care) necessary for social reproduction. If the reference household typically contains non-working adults (such as the parents of other adult members) then a reasonable case can be made for apportioning this unpaid domestic labor to those adults. However if this is not the norm for the reference household type, then some allowance for domestic labor must be made. Here we propose allocating at least a third of available household labor to domestic labor. This implies, for example, that if the reference household type only has two adults then the maximum denominator for adjusting gross income will be 1.33 (versus an unconstrained maximum denominator of 2). As with many of our other proposals, this one also must be examined more closely empirically before it can be considered definitive. However, once we have calculated the necessary gross income that each full-time equivalent worker needs to earn to provide for basic

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<sup>32</sup> For an examination of the history of the ‘family wage’ see Carlson (1996). For an example of one such feminist critique that the ‘family wage cemented the partnership between patriarchy and capital,’ see Hartmann (1979).

<sup>33</sup> For the purposes of this definition we take adult to mean individuals at least 16 years old or older.

<sup>34</sup> Migration patterns such as these may impose data limitations on traditional household surveys. For example, it is typical for such surveys to record migrants as single individuals, and therefore include no information on family composition, if migrants appear in the sampling frame at all.

needs and necessary domestic labor, we can easily calculate the living wage level (expressed in monthly, weekly, daily or hourly units) by applying to legal definition of full-time work (typically expressed in hours per week).<sup>35</sup>

In this section we have attempted to specify a method for estimating a living wage from household income and expenditure survey data collected in many developing countries. We have proposed setting a threshold of necessary household resources based on expenditures for a reference household type, and defined along the dimensions of food, clothing, shelter (including utilities), health and childcare expenses, and transportation. We have proposed setting the food expenditure threshold based on the minimal food expenditure necessary for meeting nutritional requirements, and setting thresholds in the other dimensions based on expenditures in those areas by households just meeting their nutritional requirements. If thresholds for alternative household types are desired, then we propose making those adjustments based on an equivalence scale methodology, where each additional adult receives a weight of .7, and each child a weight of .5. We do not recommend adjusting gross income or expenditure thresholds for various social wages (since an equivalent adjustment will need to be made on both the threshold and available household resources), unless comparisons are being made across households with differential access to such amenities, or comparisons are cross-national. We do, however, recommend adjusting thresholds for regional difference in cost of living. Finally, we have recommended arriving at the living wage level by dividing necessary gross income by the number of full-time wage earners in the reference household type. We require, however, that at least a third of available adult household labor be available for meeting domestic labor needs, which may place an upper bound on the denominator applied to necessary gross income. Once we have calculated the necessary income that each full time worker needs to earn to provide for basic needs and necessary domestic labor, we can easily calculate the living wage level in whatever time units wages are typically defined.

## **V. Alternative Approaches to Defining and Measuring a Global Living Wage**

Although we feel that the methodology detailed in section IV is the most appropriate approach to defining and measuring a living wage in the developing country context, several other alternatives exist, including the use of local area surveys or more aggregate data from national or international agencies. In this section we briefly review the advantages and possible limitations of these methods, as well as discuss several works that have employed them.

### Local-Area Surveys

One alternative approach to defining a living wage that has been frequently suggested is the use of local cost of living surveys. This method has several distinct advantages to the more general approach outlined above, especially if one is concerned with the standard of living of a specific group of workers, such as those in the footwear and apparel industry. Perhaps most important is the ability to tailor one's sampling strategy and survey instruments to the purpose of defining and measuring a living wage. Focusing in such a manner can allow researchers to better control for differences between the subgroup in question and the general urban population. For

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<sup>35</sup> If no legal work week has been set by the government, then we propose applying the average hours worked by those adults in reference-type households who work more than 30 hours per week.



example, very specific information about employer-provided transportation, meals, or living space (such as dormitories) can be ascertained in a manner most income and expenditure surveys don't afford, and wage and income questions can be tailored to the typical payment systems of factory workers in that industry. This approach means local surveys are typically a more accurate reflection of the real conditions faced by the target population, and can be done at a much lower cost than a general household income and expenditure survey.

This approach, however, is also not without limitations. First and foremost, like all household income and expenditure surveys, these local surveys are strictly speaking generalizable only for the population from which the sample is drawn. This typically will mean residents of a given neighborhood or urban area, and possibly only those households with footwear and apparel workers in them. Clearly this places constraints on the application of any data gathered beyond that of its original purpose. Second, because local-area surveys typically have very small sample sizes, they may suffer from high variability in measured expenditure over a range of different dimensions, especially if there are many enumerated expenditure categories. This implies a trade off that researchers must consider, between the targeting of a local survey and the precision of measured consumption it produces.

Finally, a distinction must be made between local surveys that attempt to define an appropriate consumption basket (usually through a household survey), versus those that simply attempt to establish the cost of an adequate consumption basket once it has been identified. This latter method is attractive because it is considerably cheaper, and in many ways easier to implement. Rosenbaum (2000) is an example of the latter method. In her work, she attempts to compare the cost of living in fifteen different areas in Mexico, all of which have high concentrations of *maquiladoras*. In all fifteen areas, the cost of a reference consumption basket was evaluated, with the major emphasis placed on gathering price data for purchased clothing, food and non-food consumer goods from a variety of different retail outlets. In order to price housing and related costs, as well as transportation, household interviews were conducted, although there is no indication that they were selected randomly. In setting a living wage, Rosenbaum adopts the standard that one full time worker should earn enough to support a reference family type of two adults and two children. As this brief discussion reveals, despite their attractiveness, even local cost of living surveys are not without methodological problems. These include how to determine the necessary consumption basket, whether, and how, to randomly select households to price housing and other costs, and how exactly to determine a weighting scheme for any market price information gathered.<sup>36</sup>

### Aggregate Data Methods

A second approach to defining and measuring a living wage involves the use of summary data from either national or international data sources. Several of the case studies in the

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<sup>36</sup> One specific problem unique to the Rosenbaum method is the conversion of monetary information into time units, which she calls minPP (minutes of purchasing power). The aim in so doing is to use time as the metric over which comparisons are made. While such an approach it to be commended for highlighting the problems that can arise when comparisons are to be made, it nonetheless needlessly confuses the issue of making adjustments for purchasing power, both over time and across countries. We would argue that even with their limitations, PPP data from the ICP are adequate for comparison purposes.

University of Chicago (2000) living wage report adopt such an approach. The advantages to using summary data sources to define a living wage are obvious – these sources are readily available, they require no special data analysis skills, and they are both transparent and easily replicated. However, this convenience and replicability does not come without sacrifices. Most importantly, such methods are constrained by the data and reporting conventions used by national and international agencies. For example, most national statistical agencies do not publish report of income distribution or household expenditure where calculations are made by household type. This means that any analysis based on summary statistics will not typically be able to control for composition effects in living standards measurement. This also implies that any threshold-setting will be done in relative terms, since expenditure distribution is unlikely to be calculated for households just attaining necessary nutritional levels. Indeed, another likely limitation is information on expenditure distribution itself, as most national statistical offices report any distributional calculations based on income rather than expenditure. Similarly, it is unlikely that such methods will be able to account for issues such as childcare costs or valuing social wages, much less the differences in living standards between different subgroups of the population, such as footwear and apparel workers. Indeed, as the discussion of both local area surveys and summary data indicate, these sources may be most fruitful when used in combination with each other, or with other more general household income and expenditure surveys.

## **VI. Conclusions**

This paper has taken up many of the theoretical and methodological issues surrounding the definition and measurement of a living wage in developing countries. We have reviewed the many different meanings that the term living wage has taken both over time and in different countries. We have examined the current methods in use for conducting cross-national comparisons as well as living standards measurement in developing countries. We have reviewed the shortcomings of purchasing power methods, and the potential biases that may result from their application, concluding that microeconomic approaches to measuring a living wage are preferable. We have also identified several adjustments to current methods that are necessary to accurately measure living standards.

In this paper we have also set out a methodology for defining a living wage level using household income and expenditure data. We have proposed setting a threshold of necessary household resources based on expenditures for a reference household type, and defined along the dimensions of food, clothing, shelter (including utilities), health and childcare expenses, and transportation. We have proposed adjusting such a threshold according to regional cost of living differentials, and using equivalence scales when applying this threshold to different household types. While we do not recommend incorporating social wages into either household resources or necessary consumption thresholds, we do suggest making such adjustments if comparisons are being made across households with differential access to such amenities, or comparisons are cross-national. We also recommend arriving at the living wage level by dividing necessary gross income by the number of full-time wage earners in the reference household type, reserving at least a third of available adult household labor for domestic purposes.

Finally, this work has reviewed several frequently proposed alternatives to the methodology we lay out here for defining and measuring a living wage. While we find that there are strengths and weaknesses associated with both local area surveys and the use of aggregate data, we find that the most promising prospects for an alternative approach to the one set forth in section IV will likely involve some combination of the various methods discussed. Building on the methodology laid out in this paper, there are several fruitful future research directions. The most obvious is the application of our methodology in a variety of countries, both to assess its feasibility, as well as to compare against wages in the footwear and apparel industry. In addition, several of the methodological choices suggested above may prove to be excessively fragile. As such, sensitivity analysis is crucial to get a better grasp on how to design and implement feasible methods for determining living wages in developing countries.

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