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MEASURING THE ECONOMIC VALUE OF VOLUNTEER WORK GLOBALLY: CONCEPTS, ESTIMATES, AND A ROADMAP TO THE FUTURE

by

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ABSTRACT: *This article explores alternative approaches for measuring the economic value of volunteer work, develops a methodology for producing global estimates of this value using existing data sources, and identifies a new data source that promises to yield significantly improved data on which to base such estimates in the future at both the global and national levels. Both volunteering through organizations and directly for individuals are considered. Different approaches to valuation, including the replacement cost, opportunity cost, and social benefits approaches and both observed and reported market proxies, are examined. Based on a number of criteria, the replacement cost method using observed market wages is recommended. Using this method, the article estimates that 'volunteerland,' if it were its own country, would have the second largest adult population of any country in the world, and would be the world's seventh largest economy. The article concludes by discussing a new International Labour Organization Manual on the Measurement of Volunteer Work that adopts the basic method for defining and valuing volunteer work outlined here and promises to generate a much more robust and coherent body of data on volunteer work than has ever been available both globally and nationally.*

Medida del valor económico del voluntariado: conceptos, estimaciones y hoja de ruta para el futuro

El articulo examina enfoques alternativos para medir el valor económico del trabajo voluntario, desarrolla una metodologia para elaborar estimaciones globales de este valor utilizando las bases de datos existentes, e identifica una nueva fuente de información que promete proporcionar datos significativamente mejores sobre los que basar en el futuro las estimaciones, simultáneamente en los niveles global y nacional. Se consideran los dos tipos de voluntarios existentes, los que actúan a través de las organizaciones y los que lo hacen directamente. Se examinan diferentes enfoques de evaluación, comprendidos los costes de sustitución y de oportunidad, como también se observan y describen las aproximaciones por los beneficios sociales y las predicciones del mercado. Basado en un cierto número de criterios, el método del coste de sustitución

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utilizando salarios de mercado observados es el más recomendable. Utilizando este método, el articulo estima que "el pais del voluntariado" si es que debiera ser un pais, tendria la segunda población adulta más importante de todos los paises del mundo y seria la séptima mayor economia mundial. El articulo concluye con una presentación del Manual de medida del trabajo voluntario de la Organización Internacional del Trabajo (OIT), que adopta el método de definición y de estimación del trabajo voluntario descrito en el presente articulo, comprometiéndose a generar un conjunto de datos más sólidos y coherentes sobre el voluntariado a nivel nacional y mundial.

Messung des ökonomischen Wertes von ehrenamtlicher Arbeit: Konzepte, Einschätzungen und eine Roadmap für die Zukunft

In diesem Beitrag werden alternative Ansätze zur Messung des ökonomischen Wertes von ehrenamtlicher Arbeit untersucht; es wird unter Verwendung vorhandener Datenquellen eine Methodologie zur Erlangung globaler Einschätzungen dieses Wertes entwickelt; und es wird eine neue Datenquelle identifiziert, die die Gewinnung signifikant verbesserter Daten verspricht, auf die solche Einschätzungen in der Zukunft auf der globalen wie auf der nationalen Ebene gestützt werden können. Berücksichtigt wird sowohl ehrenamtliche Tätigkeit durch Organisationen als auch direkt für einzelne Personen. Verschiedene Bewertungsansätze, einschließlich des Wiederbeschaffungskosten- des Opportunitätskosten- und des Social Benefits-Ansatzes sowie beobachtete wie Berichten entnommene Markt-Proxies werden untersucht. Auf der Basis einer Anzahl von Kriterien wird die Wiederbeschaffungskostenmethode vorgeschlagen, die auf empirisch festgestellte marktübliche Löhne zurückgreift. Bei Anwendung dieser Methode kommen die Autoren zu dem Ergebnis, dass "Ehrenamtsland", wenn es ein eigener Staat wäre, die zweitgrößte Bevölkerung aller Staaten auf der Erde hätte und der Welt siebtgrößte Volkswirtschaft wäre. Der Beitrag schließt mit einer Diskussion eines neuen Manual on the Measurement of Volunteer Work (Anleitung für die Bewertung ehrenamtlicher Arbeit) der Internationalen Arbeitsorganisation (ILO). Diese Anleitung würde die hier dargelegte grundlegende Methode zur Definition und Bewertung von ehrenamtlicher Arbeit anwenden, was die Schaffung eines wesentlich robusteren und kohärenteren Datenbestands über ehrenamtliche Arbeit, als er jemals global oder national verfügbar gewesen war, verspräche.

Mesure de la valeur économique du travail bénévole : Concepts, estimations et carte routière pour le futur

L'article examine des approches alternatives pour mesurer la valeur économique du travail bénévole, développe une méthodologie pour élaborer des estimations globales de cette valeur en utilisant des sources de données existantes et identifie une nouvelle source d'information qui promet de fournir des données significativement meilleures sur lesquelles baser dans le futur de telles estimations à la fois aux niveaux global et national. Les deux types de volontariat, via les organisations et directement, pour les individus sont considérés. Différentes approches d'évaluation sont examinées, en ce compris le coût de remplacement, le coût d'opportunité, les approches par les bénéfices sociaux ainsi que les prédictions du marché à la fois observées et relatées. Basée

sur un certain nombre de critères, la méthode du coût de remplacement utilisant des salaires du marché observés est recommandée. Utilisant cette méthode, l'article estime que « le pays du volontariat » si cela devait être un pays, aurait la deuxième plus importante population adulte de tous les pays du monde et serait la septième plus grande économie du monde. L'article conclut par une présentation du Manuel de mesure du travail bénévole de l'Organisation internationale du travail qui adopte la méthode fondamentale de définition et d'estimation du travail bénévole décrite dans le présent article et s'engage à générer un ensemble de données plus solides et cohérentes sur le travail bénévole au plan mondial ou national.

1 Introduction

Nearly 1 billion people throughout the world volunteer their time through public, nonprofit, or for-profit organizations, or directly for friends or neighbors, in a typical year, making 'Volunteerland,' if it were a country, the second most populous country in the world, behind only China.[1]

This is the conclusion that flows from this first-ever empirically grounded, though still preliminary, estimate of the global scale and economic value of volunteer work throughout the world.

This volunteer effort produces a wide array of impacts – on the volunteers themselves, on the beneficiaries of their activities, on the organizations through which at least some of the activity is organized, and on the quality of life more generally in the societies in which the volunteers operate. Unfortunately, however, few of these impacts are now captured in any systematic form. With the exception of a few industrialized countries, volunteering is not covered in official statistics.[2] As will be detailed more fully below, most of what limited data exist on the scale or impact of volunteering come from privately sponsored surveys that use relatively small samples, diverse, often-incomparable, methodologies, widely differing definitions, and varied numbers of questions (Howlett 2011, Rochester et al. 2009, Lyons et al. 1998). As a consequence, even such basic questions as the share of the population engaged in volunteering in a country is unknown in most places, or worse, is reported by various studies to be at wildly different levels in the same country due to differences in definitions or research methodologies. Residents of the United Kingdom were thus found to be volunteering through organizations at rates that varied from 48 percent of the population in 1997, down to 2 percent in 2009, and then part-way back to 29 percent in 2010. With 'direct' volunteering (i.e. volunteering directly for individuals) included, the volunteering rate in the UK was found to be 74 percent in 1997, 31 percent in 2007, 10 percent in 2009, and 52 percent

1 For detail on this estimate of the total number of volunteers worldwide, see Section V of this paper below.

2 Regular surveys of volunteering are currently conducted by the statistical offices of Australia, Canada, the UK, Switzerland, Norway, and the United States. A new *Manual on the Measurement of Volunteer Work* developed by the Johns Hopkins Center for Civil Society Studies with support from United Nations Volunteers has been adopted by the International Labour Organization and is available for adoption by countries (ccss.jhu.edu). A discussion of this new *Manual* is presented in the final section of this paper.

in 2010. While it is possible that British citizens underwent this dizzying array of gyrations in their attachments to volunteering, a more plausible explanation is that the gyrations occurred in the methodologies and definitions applied by different researchers. Indeed, the early estimate resulted from a survey that used 39 different prompts to elicit the extent of 'formal' or 'informal' volunteering British citizens might have done over an entire year. The low estimates resulted from the Harmonized European Time Use Survey of 2009, which asked respondents to record time spent in either 'organizational work' or 'informal help to others' during a highly constrained one-week reference period. The European Quality of Life Survey of 2007, which yielded a combined organization-based and direct volunteering rate of only 31 percent asked respondents about 'volunteering and charitable activities,' an amalgam that could include everything from working in a soup kitchen to making a charitable contribution. And the UK is a country where the measurement of volunteering has been fairly extensive. Elsewhere the divergence of estimates is less pronounced, but only because the available data are far less extensive.

This lack of systematic comparative data on volunteering is not simply an academic matter. It has numerous practical consequences:

- It limits the visibility, and therefore the credence, of volunteer work. 'Out of sight/out of mind' captures well the neglect that lack of visibility can create for a social phenomenon, and this seems generally to have happened with volunteering. The economic value of volunteering in particular has been obscured. This in turn has made it difficult to generate support for policies that could bolster volunteer effort;
- It makes effective management of volunteer work far more difficult. Management improvement depends critically on measuring the consequences of management change. What cannot be measured therefore cannot be effectively managed. And volunteering has not been effectively measured in most places;
- It robs societies of the ability to make the most effective use of precious human resources and denies volunteers a full appreciation of their contributions; and
- It discourages volunteering by failing to acknowledge its scale and contributions and therefore undervalues its impact.

This article seeks to take some useful steps toward closing the gaps that have long kept volunteer work from being accurately quantified and portrayed cross-nationally. In particular, after first identifying some of the major conceptual and methodological challenges in measuring volunteer work it systematically explores several alternative approaches for overcoming these challenges. It then identifies a set of criteria for choosing among these approaches and applies these criteria through an actual demonstration of the feasibility of generating an initial global estimate of the scale and economic value of volunteer work using existing sources of data. Finally, it identifies a new data source that promises to yield significantly improved data on which to base such estimates in the future.

In pursuing this topic, we are keenly aware that economic impact is but one of a number of facets and impacts of volunteering that could, and should, be measured more fully and systematically. But we are also aware that in a world that puts enormous emphasis on economic realities, providing a better picture of the economic scale of volunteering can provide the key that opens the door to interest in other

facets of this phenomenon. What is more, economic weight may constitute one of the easier facets of volunteering's impact to measure. If not the endpoint in measuring the contribution of volunteering, therefore, economic impact is certainly a convenient and useful starting point.

Even when we narrow our focus in this way, however, the challenges of devising a suitable approach remain numerous. Economic impacts can take a variety of forms and accrue to a variety of stakeholders. What is more, the appropriate basis for assigning valuation, even something as narrow as economic valuation, is far from settled (Anderson and Zimmerer 2003, Handy and Srinivasan 2004, Mook and Quarter 2003). This is so in important part because volunteer work is part of a broader class of so-called non-market goods and services, i.e., goods and services that are not exchanged for money. As a consequence, the price system of the market economy is not available to provide the short-cut that market prices offer for gauging the economic value of market goods and services.

The discussion here therefore proceeds in four steps. First, we examine the peculiar challenges that confront any effort to estimate the economic value of volunteer effort. Second, we identify three more or less distinct approaches for addressing these challenges – the replacement cost, opportunity cost, and social benefits approaches. Third, we identify the basis for choosing among these approaches and develop initial estimates of volunteer participation and the economic value of volunteer work using the most defensible and feasible of these approaches and existing sources of data. Finally, we outline the improvements in available data for measuring the amount and value of volunteer work that are anticipated from the implementation of a new *Manual on the Measurement of Volunteer Work* that the International Labour Organization (ILO) has just approved for use in countries around the world.

What emerges most clearly from this discussion are three central conclusions: first, it is possible to make reasonable estimates of the economic value of volunteer work; second, those estimates, even preliminarily and conservatively done, suggest that this value is huge; and third, the limitations of available data create the need for a more comprehensive and systematic data collection approach to generate reliable, cross-national data on volunteer work, and such an approach is now finally in prospect.

2 Measuring volunteer work: key conceptual and methodological challenges

Volunteering is a complex phenomenon that has often defied definition, let alone measurement. Undertaken in leisure time, it is nevertheless a form of work. Pursued for no monetary compensation, it nevertheless produces both tangible and intangible benefits not only for its beneficiaries, but also for the volunteers. Supposed to be undertaken as a matter of free will, it is often motivated by a sense of personal, cultural, religious, or other obligation.

A number of significant conceptual and methodological challenges thus confront any effort to measure the extent and economic value of volunteer work. In this section we identify four such challenges that particularly deserve our attention.

2.1 The definitional challenge

In the first place, even the definition of volunteering is unsettled, in part because the very term carries different meanings, and different connotations, in different cultures and settings, and some of these are unflattering or problematic. No definition of the concept can rest on the use of the term alone, therefore. For some purposes, volunteering is conceived as a set of activities done only for or through organizations. In other uses, it includes as well activities done directly for individuals. But this immediately raises the question of which individuals are valid objects of an activity that meets the definition of volunteering – one's children? Other family members? Only persons outside one's 'family'? If so, how broad a definition of 'family' should be used? What is more, although volunteering is typically thought to be activity undertaken without pay, is no compensation possible? What about reimbursement for expenses?

2.2 The focus of measurement: inputs vs. outputs

Even if the main contours of a definition of volunteering can be clarified, a second complication in measuring volunteer work arises in deciding what the focus of the measurement should be. In standard economic analysis, two broad options are available here. One of them involves determining the economic value of a good or service by measuring the *inputs* to it. Since the major input in the case of volunteering is labor time, some form of assessment of the value of volunteer time is the key to assessing the economic value of volunteering through this route.

The other option for measuring the economic value of a good or service is to measure the output that flows from it. In the case of volunteering, a wide assortment of outputs might result, some of them accruing to the volunteer and some of them accruing to society more generally.

2.3 The valuation method

A third complication in measuring the economic value of volunteering concerns the valuation method to apply to the inputs or outputs. For market goods and services, this problem is solved automatically by the price system, which tells us, through wage payments, how much employers and employees agree to value certain kinds of work; and similarly, through prices, how much consumers and producers agree to value certain outputs. To be sure, this method of valuation has its limitations, as recent discussions of alternatives to the gross domestic product as a measure of a society's 'well-being' attest (Stiglitz et al. 2009). But at least it provides an objective baseline measure reflecting actual consumer and worker behavior and has therefore been the touchstone for measuring the production of economies since the invention of national income accounting.

But there is no market-determined price that can stand automatically as a proxy for the value of volunteer work. On the input side, this is due to the fact that volunteers are not paid so there is no market-determined indication of the value that is placed on their work either by them or by those who enlist their talents.

On the output side, this is due to the difficulty of sorting out the volunteer share of the output and to the fact that many of the outputs produced by volunteers are also non-market: they take the form of mentoring or promoting a cause or building a sense of community or providing goods or services to populations unable to pay for them.

In view of this complication, proxies have to be found to represent the value of volunteer work. The literature on valuation of non-market goods or services identifies two broadly defined types of proxies that can be used for this purpose. One type, which we can term 'observed market proxies,' essentially identifies an analogous market service or good that can be considered a close substitute for the non-market good or service. In the case of volunteer work, the most straightforward form of this approach can involve finding the wage of a paid worker doing roughly the same job as a volunteer. This is generally known as the 'replacement cost' approach since it measures the value of the volunteer contribution by reference to what it would cost to hire someone to do the work the volunteer does for free. Another variant of this same approach, as noted below, is to determine the value of the time that the volunteer could spend in his or her regular job if he or she were not volunteering. This is generally known as the 'opportunity cost' approach since it measures the value of the volunteer's contribution by reference to the value of the alternative opportunity the volunteer is passing up in order to volunteer.

The second type of proxy utilizes 'declared market proxies' to estimate the value of non-market goods or services. More specifically, this approach, sometimes referred to as 'contingent valuation,' relies on the stated amount that those making use of a non-market good or service indicate they would be willing to pay for that good or service if it were suddenly not available to them for free. This approach is widely used in legal circles to estimate losses from environmental or other damages. Applied to volunteering, this approach can be used to estimate what the volunteer effort is worth to the person making use of it (i.e., an output measure) or what its value is to the volunteer (an input measure). In both cases, some type of survey process must be used to elicit the declared value. Though highly subjective, some prominent economists believe that, with proper design, this approach can yield reliable indicators of value (Adamowics et al. 1998, Carson et al. 2001, Foster et al. 1997, Goldschmidt 1993, Hausman 1993, Portney 1994, Arrow et al. 1993, Quarter et al. 2003, Mook et al. 2005).

2.4 The unit of analysis

Finally, as with any measurement exercise, care must be taken in measuring the economic value of volunteering to adjust the measurement technique to the unit of analysis that is of interest because some techniques are more useful, or more feasible, at one level of analysis than another. In the case of volunteering, it is possible to distinguish three different such units, or levels, of analysis: first, the individual level; second, the organizational level; and third, the macro or economy-wide level.

Individual level. Measures of the economic value of volunteering at the micro, or individual, level can take two different forms depending on whether the focus is on the volunteer or on the beneficiary of the volunteer's efforts. From the point of view

of the beneficiary, the value is the impact that the volunteer's work has had on the beneficiaries of his or her action. From the point of view of the volunteer, the value can include such intangible pay-offs as the psychic satisfactions of volunteering as well as the more tangible benefits such as job skills, interpersonal skills, connections, experience, and reputational capital. Balanced against these contributions or benefits of volunteering are the costs to the volunteer reflected in lost time for either work or leisure. Put somewhat differently, from the point of view of the volunteer, the value of volunteering can be seen in the value of what the volunteer is willing to give up in order to volunteer.

Organizational level. Measures of the economic value of volunteering at the organizational level involve estimates of the value of the added activities that the organization was able to undertake as a result of the volunteer contribution (the output measure) or the value of the work that the volunteer put into the organization (the input measure). Included on the output side in addition to the tangible benefits of higher outputs of particular services can be a variety of intangible benefits such as higher staff morale, improved engagement with the community, participation in advocacy campaigns, connections with important stakeholders, and access to new streams of funding. At the same time, these benefits need to be set beside the costs that the organization might incur in order to reap these benefits, including costs of recruitment and management of volunteers, legal liability, distraction of paid staff, and potential staff-volunteer tensions.

Macro-economic level. Finally, a third level at which the value of volunteering can be measured is the aggregate economy level, either on a local, country-wide, region-wide, or global level. This is the level of most interest to policy-makers, the media, and perhaps to the volunteer community more generally since it provides an indication of the contribution of volunteer work to a society. But it is also the most demanding in terms of data availability. Techniques that might be sufficient for individual level measurement may therefore be entirely inappropriate, or infeasible, at the macro level, and vice versa. Thus, although in principle the aggregate economic value of volunteering can be measured either in terms of the inputs or the outputs of volunteering, the former is likely to be more feasible given the diffuseness of the outputs.

3 Confronting the complexities: definitions and valuation methods

3.1 Operational definition of volunteering

To confront the ambiguities of the concept of volunteering, our approach relies on an operational definition that specifies empirical criteria identifying activities that are in scope. Such a definition has been adopted in the ILO *Manual on the Measurement of Volunteering Work,* which we prepared in cooperation with the International Labour Organization and an international Technical Experts Group comprised of volunteer experts and statistical officials from around the world. This *Manual* defines volunteering as:

Unpaid non-compulsory work; that is, time individuals give without pay to activities performed either through an organization or directly for others outside their own household.

This definition sets ups operational criteria that objectively differentiate volunteering from other human activities, such as paid work or pure leisure. It differentiates volunteering from leisure activities by stipulating that volunteering must generate some product or service that has value to people other than the volunteers themselves. It also differentiates volunteering from paid work activities by emphasizing that it is unpaid and performed without any legally sanctioned compulsion.

These operational criteria can be applied independently of any specific socio-cultural context, which makes them particularly useful for a cross-national study of volunteering. They also identify a broad range of volunteering activities that can take place in different socio-economic settings – e.g., through institutions, such as non-profit or social economy establishments or even for-profit companies, as well as directly to other individuals, so long as the individuals are not part of the volunteer's household.[3]

3.2 Valuation approaches

To deal with the challenges in valuing volunteer work, three broad strategies are available, as already hinted. Each of these, in turn, can be implemented using either 'observed' market proxies or 'declared' market proxies to assign value. These three strategies are known as: (a) the replacement cost approach; (b) the opportunity cost approach; and (c) what we will here term the 'societal benefits' approach. Two of these approaches focus on the inputs to volunteer work and one focuses on the outputs. While all of these approaches can be applied to any of the three possible units of analysis identified above, some are more feasible in some contexts than others. Let us look at each of these approaches and the valuation methods they can employ.

3.2.1 The replacement cost approach

Perhaps the most commonly used approach for estimating the economic value of volunteer work is known as the 'replacement cost' method. This method estimates the value of volunteering by focusing on the value of the labor inputs to volunteering. More specifically, this approach focuses on the value of the work that the volunteer performs.

As noted above and in Table 1 below, this value can be estimated in either of two ways: (a) by finding what it would cost to replace the volunteer with a paid worker, what we have termed the 'observed market proxy' approach; or (b) by inviting those who make use of the volunteer work to indicate what they think it is worth, which we term the 'declared market proxy' approach.

3 For further detail, see: International Labour Organization, *Manual on the Measurement of Volunteer Work,* available at: www.ccss.jhu.edu.

Table 1 – Approaches to measuring the economic value of volunteering

		Basis of valuation	
Valuation strategy	Focus of valuation	1. Observed	2. Declared
A. Replacement cost	Inputs	Replacement wage	Supervisor judgment
B. Opportunity cost	Inputs	Alternative-employment wage	Volunteer judgment
C. Societal benefits	Outputs	Cost of counterpart goods or services	Beneficiary judgment

The second of these two ways of finding the replacement cost of volunteer work is conceptually less complex, but likely more burdensome. It involves questioning those who supervise volunteers (in the case of organization-based volunteering), or those who benefit from them (in the case of direct volunteering) about what they would be willing to pay for the volunteer work if they could not get it for free.

The observed market proxy approach is a bit more complex because of the range of options that might be available for observation. The optimum approach is to identify the occupation that comes closest to the type of work that each volunteer performs and use the wage associated with that occupation to value the volunteer work. But this so-called 'specialist' approach requires information not only on the number of volunteers and the hours that they work, but also on the jobs that each one does. In addition, it requires fairly detailed information on the occupational structure of the workforce generally and the average wages associated with the various occupations. Since such data are rarely available on the work of volunteers, a fall back 'generalist wage' can be used, typically the average wage in the economy as a whole or in the field in which the volunteer is working, or some cruder estimate of a wage that might be considered a reasonable proxy for the work of volunteers.

Even where the actual occupations of volunteers and data on the wages associated with typical volunteer occupations are known, some analysts recommend adjustments to this wage to account for the possibility that volunteers' skills or experience may differ from those of specially recruited paid workers performing the same jobs. Thus, for example, Abraham and Mackie (2005, 32) recommend computing a 'quality adjusted replacement cost' to take account of such differences in skill and effort between market and non-market providers, though the exact scale of any such adjustment has not been established.

3.2.2 The opportunity cost approach

Where the replacement cost approach measures the value of volunteering in terms of what it would cost to replace the volunteer with a paid worker, a second input-focused approach, the 'opportunity cost' approach, measures the value of these inputs in terms of the cost to the volunteer of foregoing some other activity that may have generated income or otherwise had value for the volunteer. It thus measures the monetary value of volunteering to the volunteer him- or herself (Brown 1999, Abraham and Mackie 2005).

Differences of opinion exist, however, over what to consider the appropriate alternative activity to volunteering. Many economists have traditionally viewed leisure as the true alternative activity to volunteering. Since leisure is unpaid, however, this has provided a rationale for treating the opportunity cost of volunteering as zero, and therefore questioning whether volunteering really has economic value (United Nations et al., 2008, paras. 6.38, 9.54, 19.39, and 29.146–29.151).

An alternative conceptualization that rescues the opportunity cost approach from this reductionist line of thinking views the true alternative activity for volunteers to be their regular paid job. Under this conceptualization, an 'observed market proxy' for the value of volunteer time is available in the wage for the volunteer's paid-work occupation. But this approach, too, encounters a problem because it values the time of a lawyer ladling soup at a homeless shelter radically differently from the time of a homemaker doing the same volunteer task because the homemaker has no alternative paid job and therefore has an opportunity wage of zero.

A third option for valuing the 'opportunity cost' of volunteering is therefore to use the contingent valuation, or 'declared market proxy,' method – i.e., to ask the volunteers what they think their volunteer time is worth. This is consistent with recent research on the value of leisure time, which has challenged the notion that leisure activities have no economic value and used contingent valuation methods involving surveys to measure the value of what people are willing to give up to preserve their leisure activities (Larson 1993, Larson and Shaikh 2004, Larson, Shaikh, and Layton 2004, Lee, Kwangsuck and In-Moo 2005, Kokoski 1987, Jara-Diaz et al. 2008, Alvarez-Farizo et al. 2001).

3.2.3 The societal benefits approach

Whereas the replacement and opportunity cost approaches focus on the measurement and valuation of inputs, a third broad strategy for estimating the economic value of volunteering is to focus on the outputs of this work: the societal benefits that volunteer work produces. This, too, can be done in two different ways. In the first place, for those volunteer activities associated with outputs that have a reasonable market counterpart, an 'observed market proxy' can be found in the price paid for units of that output. Assuming that the extra amount of that output resulting from the volunteer activity can be determined, this can be considered a reasonable estimate of the economic value of the volunteer work.

Alternatively, for any portion of the output of volunteer work for which no reasonable market counterpart can be identified, or for those who consider the market counterparts inappropriate or indeterminate, a 'declared market proxy' can be used by asking the managers of volunteers, or the beneficiaries of volunteer effort (in the case of direct volunteering) to indicate what they would be willing to pay for the goods or services that the volunteers produced.[4]

4 For examples of the use of contingent valuation methods in similar circumstances, see: Shaw (1992); Alvarez-Farizo et al. (2001); Larson et al.(2004); and Jara-Diez et al. (2008).

4 Measuring the economic value of volunteer work globally: a first estimate

Against the backdrop of this review of available approaches, we turn now to an effort to project the economic value of volunteer work at the global level using the most suitable of these aproaches. To do so, we proceed in four steps:

- First, we identify the approach that seems most likely to yield meaningful results given the objective we have in view and the data currently available;
- Second, we identify the data sources available to drive our estimates;
- Third, we describe the methodology we propose to use to estimate the economic value of volunteering for as many of the world's 182 countries as feasible using the recommended approach and the available data; and
- Finally, we present the results of the estimates we have developed.

4.1 Choosing the appropriate measurement approach

Given the competing options for measuring the value of volunteer work, choices have to be made to keep the estimating effort manageable. Based on the conceptual discussion above, we believe five criteria should guide this choice.

1 *Suitability*. First and foremost, the recommended approach must be suitable to the task at hand. As we have seen, given the complexities of volunteer work various approaches are more or less workable depending on the unit of analysis and the focus of measurement. For our purposes here, the primary focus is the generation of data at the macro economic level, i.e., at the global and country level. While it will be useful to design an approach that can be used at other levels of aggregation as well, it is the macro level that is our principal focus of attention;
2 *Breadth*. Given the macro-economic focus of our desired estimates, it is important to choose an approach, and a definition, that can encompass the broadest array of countries. Since different forms of volunteering can be evident in different countries and cultures, it is important to choose an approach that covers all types of volunteer work, including such work done through organizations as well as such work done directly for individuals;
3 *Conceptual clarity*. The recommended approach should be understandable to the broadest array of stakeholders. Too abstract or unclear a concept will lack credence and therefore not prove effective;
4 *Objectivity*. The recommended approach, to be believable, should utilize objective measures grounded in empirical observations wherever possible; and
5 *Feasibility*. Finally, the recommended approach needs to be feasible given reasonable expectations of data and resource availability. What is more, to ensure some reasonable prospect of sustaining the estimating capability over time, feasibility also embodies consistency with usage in existing statistical systems. What is needed to establish a reliable system of measurement of volunteer work is not the design of a one-off research project, but the design of a capability to measure volunteer work that can be institutionalized through official statistical systems. Approaches that require data sources beyond the foreseeable capabilities of large numbers of countries, or particular classes of countries (e.g., non-OECD countries)

cannot reasonably be recommended regardless of their theoretical merits. What is more, approaches that call for data not likely to be captured in prevailing data assembly systems will be harder to sustain than ones that can potentially, at least, be integrated easily into these data assembly systems.

For our present purposes, these criteria have implications both for the *definition* of volunteer work we adopt and for the *estimating approach* we utilize.

So far as the *definition* is concerned, what is needed is a broad definition, one that covers both volunteering for or through organizations and directly for other persons; and one that defines volunteer work without using the word volunteer or volunteering in view of the diverse meanings of these terms in different national setting. For this reason, the definition of volunteer work embodied in the recent ILO *Manual on the Measurement of Volunteer Work* seems most appropriate. As noted earlier, that definition conceives of volunteering as a form of work despite being done without pay and during leisure time, as embracing such work that is done both directly for individuals as well as that done through organizations, and that includes as eligible beneficiaries anyone living outside a person's own household even if in some cultures such individuals are considered part of one's extended family. Such a definition meets the criteria of sufficient breadth, suitability for the cross-national analysis that is the focus of our efforts here, and objectivity by using objective criteria rather than vague terms that have multiple meanings in different national settings.[5]

With regard to the *estimating approach,* the one that seems to fit all five criteria the best is the *replacement cost approach using observed market wages* (Type A.1 in Table 1 above). In the first place, this approach is especially *suitable* to the macro-economic estimations we are undertaking. This is so because it relies on observed market values that are likely to be available in most settings. Although, as noted earlier, some analysts question the use of market wages for similar work to represent the value of volunteer work on grounds of possible differences in skills and efficiency between a volunteer and a paid employee doing essentially the same job in a similar institutional setting, this objection overlooks the possibility that while some volunteers may have lower skill levels than a typical paid worker, others may possess higher or unique skills that offer a premium over paid workers (e.g., mentors, specialists, or professional advisors). While possible skill differences may require special adjustments at the individual or organizational levels, therefore, they are of far less concern at the macro-economic level at which we are proposing to operate because any individual skill/quality differences are likely to be averaged out at these higher levels of aggregation.

The Type A.1 replacement cost approach also fulfills the need for an approach with sufficient *breadth*. Both organization-based and direct volunteering can be

5 In labor force statistics, a 'household' is defined as a common living area. The members of one's household are therefore the persons who live together with one in a dwelling unit. While there are cultural differences in such living arrangements these are far less extreme than those embodied in the definition of a 'family.' This definition follows SNA usage, which defines a 'household' as 'a group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food.' (United Nations 2008, para. 4.149).

evaluated through this approach and the approach is consistent with the view that volunteering is a form of work for which a market wage can be determined. Furthermore, the range of occupations and institutional settings across which such wage data are typically available is also quite broad, making it possible to cover a wide array of volunteer episodes. Even if detailed information on individual industries or occupations is not available (as is the case in some low income countries), economy-wide average wages are usually still available and can be used to produce aggregate estimates. While it is true, as some argue, that market wages may not reflect the full range of tangible benefits of volunteering to society, such as the value of occupational skill development, work-life experience, the contribution to civic engagement and community solidarity, disaster relief, or the protection of civil and human rights, this shortcoming is shared by all input-based measures of individuals' contributions to the economy so it does not put the replacement cost/observed market wages method at a disadvantage vis-à-vis valuations of paid work.

In addition to its considerable breadth, this preferred approach also meets our *clarity* criterion because it relies on the concept of employee compensation, which is easily understood by most people. For the same reason, the approach is also *objective*, as employee compensation is a well-defined statistical measure about which data are regularly collected by well-regarded statistical authorities. Finally, this approach is highly *feasible* because it utilizes already existing data systems. Most countries, including many low-income ones, conduct labor force surveys that provide data on wages economy-wide as well as in specific industries and occupations. These wage data can easily be applied to estimate the replacement cost of volunteer inputs.

Several of the other approaches have benefits for other analytical tasks, such as estimating the value of volunteer work at the individual level, but fall short in terms of one or the other criteria for the macro-economic estimating task of interest to us here. Thus, for example, the *replacement cost approach based on declared market proxies* (Type A.2 from Table 1 above) fails to meet the feasibility criterion because it requires specialized national surveys of the users of volunteer work, which are simply not conducted in any country.[6] In addition, such declared market proxies are inherently subjective and therefore subject to multiple interpretations.

Likewise, the social benefits (Type C) approach also fails to meet the feasibility criterion. This approach has enormous demands for additional data beyond that collected in existing surveys. Detailed information is needed on the actual output associated with the work of volunteers. Even when such data are available on the output of organizations it is often difficult to determine what share is attributable to volunteers as opposed to paid staff. These problems are obviously compounded at the macro-level due to the range of volunteer activities involved. While this approach has obvious appeal in terms of the breadth of types of contributions of volunteer work it can capture, it is likely to be feasible only for pilot inquiries at the organizational level, though such inquiries can make important contributions.

6 One experimental effort to generate such data by comparing observed market wages with declared estimates of the value of volunteer work is underway under the supervision of Professor Jack Quarter in Canada but has not reached the point as of this writing of generating estimates that can be used here, and at any rate will not be in a position to assess whether the reported relationships in Canada are similar to those likely to be reported in other countries.

Finally, the opportunity cost approaches (Type B in Table 1) fall short on several of the specified criteria. For one thing, the approach falls short along the conceptual clarity criterion. While the concept of 'opportunity cost' may be clear to theoretical economists, it is somewhat murky to practitioners in the field as well as the general public because it often yields counterintuitive results, such as a zero value for work performed by persons without a job even though that work produces tangible economic benefits, or vastly different values for the same work performed by two different persons who happen to have different paid-work occupations.

While some of these difficulties can be overcome by using the 'declared market value' of the volunteer work as reported by the volunteer (Type B.2 in Table 1), this runs afoul of the objectivity criterion even though some meaningful progress has been made in generating estimates of the subjective value of non-employment time (Shaw 1992, Goldschmidt-Clermont 1993, Alvarez-Farizio et al. 2001, Jara-Diaz et al. 2008). Organization managers and national accounts statisticians want to know the actual market value of labor input, not the sum of subjective values this work has to the workers.[7]

In sum, the replacement cost approach through observed market proxies seems to be the optimal method for estimating the aggregate value of volunteering at the national level on a global scale at the present time. Contingent valuation approaches are not feasible due to the lack of required data. The opportunity cost method using market proxies grossly underestimates the value of the volunteering contributed by unemployed volunteers or those not in the labor force unless costly additional surveys are undertaken. The version of this approach that relies on declared estimates of the value of volunteer work fail to meet the objectivity and feasibility criteria and are therefore not suitable for a macro-economic level of analysis.

4.2 Data availability

To say that the replacement cost approach with observed market proxies is the most feasible and suitable basis for estimating the economic value of volunteer work

7 From a macro-economic point of view, volunteering is a transfer from individuals (the household sector) to organizations that facilitate volunteering (typically the nonprofit sector). Inasmuch as this transfer subsidizes the economic output of these receiving institutional units, it adds value to the national economy. That added value can be estimated either on the production side (as a share of the aggregate output of the nonprofit institutions) or on the income side (as the imputed value of volunteer input). However, the opportunity cost approach focuses on the value of the activity to the volunteer him or herself and disregards the value of volunteering as a transfer to the receiving units. This is equivalent to treating volunteering as if it were production for 'own use' (i.e., leisure) rather than a contribution to the national economy. Consequently, this approach does not estimate the value added by volunteering to the national economy, but rather estimates the subjective assessment of the value of what amounts to a leisure activity. Although that subjective perception may be expressed in monetary units, its economic value (i.e., contribution to national economy) is zero, since leisure by definition is excluded from the production boundary of the economy. For this reason, the opportunity cost methodology may be conceptually incompatible with the macro-economic level of analysis, regardless of what particular approach to estimating the monetary value of volunteering is being used. It is for this reason, in all likelihood, that statistical agencies have almost uniformly used a replacement cost approach in assessing the value of volunteering to the economy.

is not to say that applying such an approach will be easy. One crucial reason for this is that existing data sources, while more suitable for this approach than others, are far from plentiful. The minimum data requirements for driving an estimate using this approach are: (a) the total number of hours volunteered either directly or through organizations nation-wide during a reference period for the maximum number of countries world-wide; and (b) the wage that can be used to estimate the value of these hours. What is more, data must be available using common approaches and definitions for a wide enough array of countries to sustain meaningful comparisons.

Unfortunately, data sources meeting these qualifications are painfully scarce. Broadly speaking, there are three types of such data sources: first, general opinion surveys that also cover volunteer work; second, surveys specifically designed to measure volunteer work; and third, Time Use Surveys.

The existing general opinion surveys – such as the survey of ten European countries conducted in the 1990s by the UK Volunteer Centre (Smith 1996: 180–189), successive waves of the World Values Survey (World Values Survey 2009), the recent Gallup Worldview Survey (English 2011), and country-specific general social surveys – tend to be based on relatively small samples (typically 1–2 thousand people), fit questions about participation in volunteer activities into surveys addressing a wide range of other topics, and generally fail to provide data on the *amount* of volunteer time. For example, the World Values Survey, which, at least up through 2001, generated data on 96 countries and asked about the number of people who have volunteered, focused only on organization-based volunteering, used a long, one-year reference period, and failed to collect data on the amount of time the volunteers devote.[8] The recent cross-national survey touching on volunteering carried out by the Gallup organization covered 153 countries and gathered information on both organization-based and direct volunteering (English 2011). However, the information on volunteering in this survey is limited to the number of people involved (the volunteering rate) with no indication of how much time these volunteers devoted. In addition, the survey relied on relatively small samples (similar in size to those used by WVS) and utilized quite general questions that could be interpreted differently by different respondents.[9] As a consequence, this survey has produced results that are of dubious accuracy. For example, this survey reports US rates to be 39 to 43 percent for organizational volunteering and 65 to 73 percent for direct volunteering. In contrast, the Current Population Survey carried out by the United States Bureau of Labor Statistics (BLS) on a much larger sample of about 60,000 respondents found the organizational volunteering rate to be about 26 percent (United States Bureau of Labor Statistics 2010). Similar discrepancies exist in other countries' results (e.g., Canada, Australia, and South Africa). Furthermore, the cross-national reliability of the Gallup data also raises

8 Following 2001, the questions about membership and volunteer work in voluntary organizations were replaced with one about active and inactive membership in voluntary organizations.

9 For example, the question asking whether respondents helped a stranger or someone they didn't know who needed help could be interpreted by respondents as entailing anything from providing hours of assistance to incidental acts, such as giving someone directions on the street. Likewise, questions about whether respondents volunteered time to an organization may entail compulsory community service required as a condition of graduation or mere attendance at events (such as religious services).

questions. The rate of organizational volunteering reported for Russia, for example, at 26 percent, is significantly higher than that reported for Sweden (13 percent), Denmark (20 percent), and France (22 percent), which is inconsistent with every other known survey of volunteering in these countries (Salamon et al. 2004).

Similar problems exist with the recently released European Quality of Life Survey (EQLS), which covers all 27 EU member states (McCloughan et al. 2011). Although this survey collected information about the number of hours spent on unpaid work, its primary focus was on perceptions of well-being rather than measuring volunteer work. Consequently it asked only a generic question about 'volunteering and charitable activities,' which bundled volunteering with a number of potential other 'charitable activities' that are out of scope of volunteering as defined earlier in this paper (e.g., making charitable contributions and taking part in charity balls or other events). Furthermore, it is not clear whether these activities were performed through organizations or directly to individuals, a distinction that is of crucial importance for interpreting volunteer work in different settings. Finally, the data source is available only for the European region and no comparable data using a similarly vague concept of 'volunteering and charitable activities' are available on countries outside of the European region.

The second type of data source for estimating the value of volunteer work consists of surveys specifically designed to measure volunteer work. Most of these focus on individual countries and use widely different definitions, sampling frames, and reference periods (Lyons et al. 1998, Bailie 2007). One of the few efforts to assemble comparative data on volunteer work in a sizable cross-section of countries was that carried out as part of the Johns Hopkins Comparative Nonprofit Sector Project (Salamon et al. 1999, 2004, Salamon 2010). These surveys collected information about the number of volunteers, the hours volunteered, and the industry of volunteer activity. Most of these data were collected through specially commissioned inserts to omnibus population surveys in which information about the number of volunteers, duration of their work, and field of activity was collected. However, in some countries special organizational surveys were used instead. In the global South countries where comprehensive registers of nonprofit organizations generally do not exist, hyper-network sampling was used to identify unregistered organizations operating in targeted geographical areas and these organizations were then surveyed and asked about both paid and volunteer workers. Much of this data has been published in books and articles, with results from 43 countries representing all income categories as defined by the World Bank (Salamon et al. 1999, 2004, Salamon 2010).

Organizational surveys can be superior to household surveys in recording the time of volunteer activity compared if organizations maintain written records of volunteer inputs. However, these surveys capture only organization-based volunteering and not direct volunteering. Furthermore, the number of individuals participating in volunteer activities reported by organizations may be overstated because some individuals may volunteer for more than one organization. To cope with this problem, however, Johns Hopkins researchers have made adjustments to take account of such multiple counts (Salamon 2004, Tbl A2).

The third type of data source for estimating the value of volunteer work are Time Use Surveys (TUSs). These surveys collect information on the amount of time

people allocate to their everyday life activities. Volunteer work, both direct and organization-based, is typically included among these activities.[10] TUSs use a very rigorous methodology to record the exact duration of a wide range of well-defined activities and reconcile these reports with the 24-hour time frame, which provides a powerful 'reality check' guarding against over-reporting activities that may put the respondents in a favorable light (such as helping others or volunteering). TUSs typically generate three types of data: (a) population-wide estimates of the average time spent on a standard list of activities, including both organization-based and direct volunteering; (b) estimates of the average time spent by participants in those activities; and (c) participation rates, that is shares of the population reporting these activities. These figures are computed from episodes recorded by respondents over a reference period (typically a week) and are properly weighted. The information on episodes is typically collected through diaries in which respondents record their daily activities in a fixed time-table schedule. The definitions and classification of activities are standardized and typically are similar to those in the International Classification of Activities for Time Use (ICATUS), which has 15 major groups, each having 2–5 subgroups. However some TUSs may report only highly aggregated activities (e.g., work, housework and leisure). Different breakdowns by socio-demographic characteristics or employment status are often provided, but mostly for activities that take substantial chunks of time (e.g., housework or leisure). The total time spent on the activities must fit within the 24-hour time frame.

Thanks to these features, the accuracy of TUSs in recording time individuals spend on various daily activities is far superior to that of ordinary opinion surveys. Information about both organization-based and direct volunteering is not only recorded and collected, but also reconciled with the respondent time schedule. However, this data source does not provide much information about the institutional settings in which activities of interest take place, such as the type of organization for which respondents volunteer, the types of jobs they performed, or the types of households that respondents helped (e.g., whether it was a household of a family member or someone unrelated to the respondent). Furthermore, activities that are infrequent or take relatively short time periods are often not reported separately, but aggregated with other activities. In addition, the relatively short, one-week reference period used for TUSs makes it possible that the count of people who engage in infrequent activities, such is volunteering, may undercount the actual amount when projected to an entire year because some people who report no volunteering during the reference period may volunteer at a later period, though it is possible to correct for this, as will be discussed in greater detail below. Perhaps most seriously, TUSs are available for only 26 countries, though, as will be discussed below, there is enough breadth in the coverage of types of countries to make some reasonable imputations possible.

10 For details about the methodological approaches and range of activities measured by TUSs see http://unstats.un.org/unsd/methods/timeuse/tusresource.htm.

4.3 Methodology[11]

In short, serious limitations characterize the available data on volunteering around the world. First, there are no reliable data sources that cover all activities in scope, that is, both direct volunteering and volunteering through organizations, for a sizable number of countries. Most existing surveys focus on volunteering through organizations. This is problematic because it potentially gives a northern 'bias' to the picture of global volunteering since countries in the North are more likely to channel their volunteer activities through organizations than are countries in the South, where existing nonprofit and social economy institutions are more limited. In addition, widely divergent definitions and limited sample sizes have produced widely disparate estimates that are hard to square with each other. Finally, few of the limited surveys that exist go beyond head-counts to generate useable information on the time spent in volunteering. This makes it especially difficult to estimate the economic value attributable to this volunteer effort.

Given these data limitations, to generate a first approximation of the scope and economic value of volunteering at the global level, we therefore had to tap a variety of data sources and develop methodologies for making imputations for those countries and regions where no volunteering data have been assembled. Wherever possible, we have used the most conservative estimates available to avoid inflating the results. We therefore consider these to be *de minimus* estimates. Even so, they are also preliminary estimates pending the adoption of the new statistical apparatus that has now been put in place, as detailed in the final section of this article.

More specifically, because different data sources were needed, separate estimates had to be developed for *organization-based* and *direct* volunteering and then combined to provide an overall picture both with respect to the number of volunteers and the value of volunteering. Generally speaking, as noted above, we relied on the replacement cost approach using direct market proxies (Approach A.1 in Table 1) to estimate the monetary value of both organization-based and direct volunteering. As a partial check on these results, however, we also developed a series of alternative estimates, though these are not presented fully here.[12]

In particular, our methodology to estimate the *economic value* of volunteering entailed two steps, as outlined more fully in Appendix A. First, we developed global estimates of the number of hours volunteered in each of the 182 countries covered by this inquiry. For the organization-based volunteering, we did this by projecting the results obtained from the Johns Hopkins Comparative Nonprofit Sector Project surveys for 43 countries to the remaining 139 countries using a regression equation obtained from the 43-country sample. For the direct volunteering, we relied on the Time Use Surveys (TUS) available for 26 countries. Of these 26 countries, 16 are EU countries, and four are high income English speaking countries (Australia, Canada, New Zealand and the US). However, the remaining five – Chile, Japan, Korea, Mexico and South Africa – provide at least reference points for their respective regions (Latin America, Asia, and Africa). Using these reference countries, it was possible

11 For further detail on the methodology used here, see Appendix A.

12 More information about these alternative estimates is available upon request. Please send request to volunteers@jhu.edu.

to generate at least rough approximations of the aggregate time given to direct volunteering in the remaining countries.

In the second step, we assigned a monetary value to the estimated number of hours based on wage data available from the International Labour Organization (ILO). Such data were available for 111 countries. For the remaining 71 countries, we made average-based estimates drawing on the data available on similar countries.

To estimate the *number of volunteers,* we relied on the same data sources as were used for the economic value estimates. The estimate of organization-based volunteers used the Johns Hopkins Comparative Nonprofit Sector Project data on 43 countries adjusted for possible multiple counting of individuals volunteering for more than one organization. These figures were then blown up to the remaining countries using separate average rates for high and low income countries based on the CNP results. Estimation of the number of direct volunteers used Time Use Surveys to estimate the number of volunteers in countries with such surveys, and blew these up to other countries by applying the rate in relevant reference countries. To take account of the possibility that some proportion of the surveyed population that reported no direct volunteering during the short, one-week reference period may volunteer at some other point in the year, an additional adjustment was introduced using a standard formula used to estimate probabilities for picking respondents from a declining pool of eligibles.

Given the nature of these imputation calculations, we have more confidence in these estimates at the level of regions and the world as a whole than we do at the level of individual countries, where cultural or historical peculiarities may exist that are difficult to capture in the kinds of imputation techniques on which we had to rely given the limited data on most countries. For this reason we report the results for country groupings as these are more robust than those for individual countries. We look forward to improving these estimates as better quality data become available through adoption of the new internationally sanctioned methodology discussed below.

4.4 Findings

Several crucial findings emerge from this estimation process. In particular:

1 *An immense global presence.* Volunteers represent an enormous global presence. Using our preferred, but still somewhat conservative, approach, we estimate that approximately 971 million people volunteer in a typical year across the globe either through organizations or directly to persons outside their household. As shown in Figure 1, this means that if we gathered all the world's volunteers on a single land mass, it would have the second largest adult population in the world, behind only China.[13]

13 Using an alternative estimate which imputes the average direct volunteer rate of countries with Time Use Surveys to all countries without Time Use Surveys instead of using the 'reference country' rate, the estimated global number of volunteers would stand at 1.083 billion. Since most of the countries with Time Use Surveys are upper income countries, and

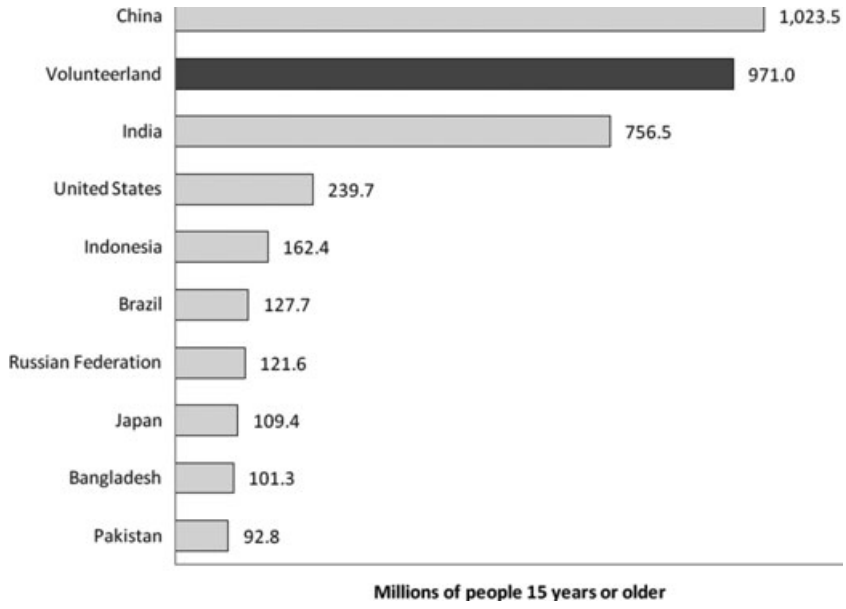

Figure 1 – The global volunteer workforce vs. the adult population of the world's largest countries

Of these volunteers, approximately 36 percent volunteer through organizations and the remaining 64 percent volunteer directly for individuals, but individuals living in households other than their own. This underlines the importance of such direct volunteering in the overall picture of global volunteering.

2 *A widely dispersed volunteer work-force.* Lower income countries account for a larger proportion of the world's volunteers than do the higher income ones. This may be understandable given that these countries also account for the preponderance of the world's population. Thus, as shown in Table 2, an estimated 62 percent of all volunteers are in the low or lower-middle income countries, as defined by the World Bank, compared to 38 percent in the upper-middle and high income countries, roughly equivalent to the 69 to 31 percent distribution of total population between these two groups of countries. This disparity is even sharper when it comes to direct volunteering as opposed to organization-based volunteering. In particular, the low and lower-middle income countries account for 66 percent of the direct volunteers and the upper income countries only 34 percent. This emphasizes the special importance of direct volunteering in the less well-off countries. Indeed, only 32 percent of all volunteers in these countries are volunteering through organizations compared to 68 percent who volunteer directly for other people. By comparison, among better-off countries, 43 percent of all volunteers do their volunteering through organizations. This

the estimated rate of direct volunteering is higher in these countries than in the lower income countries for which we have Time Use Survey results, we have rejected this estimate and report the estimate based on using similar reference countries to project the rate in countries lacking Time Use Surveys.

Table 2 – Distribution of global volunteer workforce

Region	Volunteers		Population
	Number (mns)	% of total	% of total
By income level			
Low	297.1	30.6%	32.1%
Lower middle	304.2	31.3%	37.3%
Upper middle	114.5	11.8%	12.9%
High (nonOECD)	13.2	1.4%	1.0%
High (OECD)	242.1	24.9%	16.7%
Total	**971.0**	**100%**	**100%**
By geographic region			
North America	107.0	11.0%	7.3%
South America	55.9	5.8%	6.7%
Western Europe	98.8	10.2%	7.2%
Eastern Europe & Russia	71.8	7.4%	7.1%
Middle East	63.7	6.6%	6.1%
Africa	75.5	7.8%	9.2%
Far East	204.2	21.0%	26.0%
South Asia & Indonesia	285.4	29.4%	30.0%
Australia & New Zealand	8.7	0.9%	0.4%
Total	**971.0**	**100%**	**100%**

suggests the powerful indigenous impulses to volunteer in these poorer countries as a mechanism for coping with life's challenges.

However, volunteering rates (shares of adult population that volunteer) are considerably higher in high income countries. In OECD countries an estimated 31 percent of the adult population volunteers, either directly or through organizations, compared to less that 20 percent in middle and low income countries. Since the ratio of volunteering through organizations to direct volunteering in higher income countries is twice that in lower and middle income countries, these differences in volunteer rates suggest that organizations are far more effective in mobilizing volunteer participation than spontaneous impulses to volunteer.

In terms of geographic region, over half (51 percent) of the estimated volunteers turn out to be located in Asia, which also accounts for the largest share of the world's population (56 percent). North America and Western Europe come next in proportions of the world's volunteers, with 11.0 percent and 10.2 percent respectively. Africa is next in line with 7.8 percent of the estimated global volunteers, followed by Eastern Europe (7.4 percent), South America (5.8 percent), and the Middle East (6.6 percent).

3 *An enormous economic force.* Not only is the volunteer workforce numerous, but also it represents an enormous economic force. Using our preferred replacement cost approach applied to both organization-based and direct volunteering, we estimate the total economic value of the world's volunteer workforce as of 2005 to be US$1.348 trillion.[14] To put that into perspective, this means that if it were

14 Using the alternative 'opportunity cost approach' (Type B in Table 1) yields an estimate of the economic value of volunteering globally of US$621 billion assuming that the share of persons not working in the volunteer workforce is the same as that in the general population.

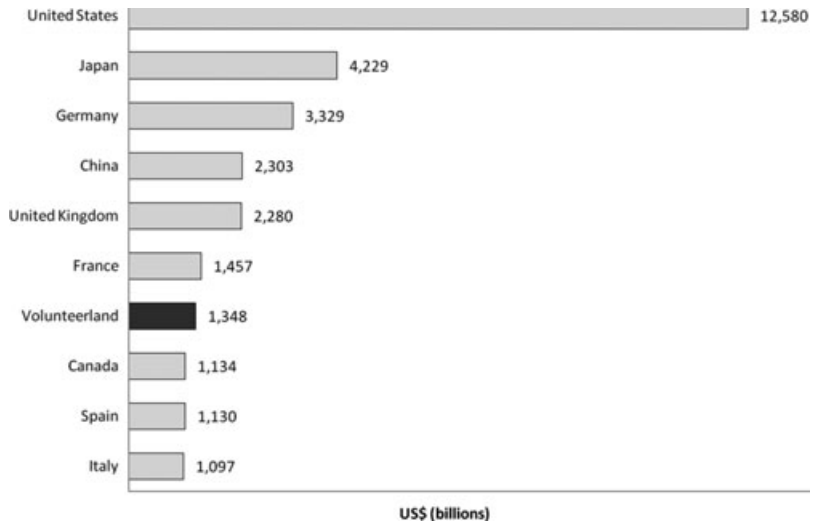

Figure 2 – The global volunteer economy vs. the GDP largest national economies (circa 2005)

its own country, the 'Volunteerland' economy would be the seventh largest in the world, behind the US, Japan, Germany, China, the UK, and France, but ahead of Canada, Spain, Italy, and all other countries, as shown in Figure 2.

Stated somewhat differently, the global volunteer workforce has an economic value that is the equivalent of 2.4 percent of the entire global economy, and 17.5 percent of world-wide government final consumption expenditures. The economic value of the world's volunteer workforce also holds its own in comparison to a number of major global industries. Indeed, if volunteering were to disappear tomorrow, it would be equivalent to the disappearance of 40 percent of the world's construction industry or close to 30 percent of the world's entire transportation industry.

4 *A presence in numerous markets.* The nonprofit workforce produces economic value in a wide set of markets. At the same time, due to differences in wage levels, the distribution of the value of volunteer work differs markedly from the distribution of volunteers. Thus, as shown in Table 3, lower income countries account for just under 8 percent of the estimated value of volunteer work. Still, this represents over US$100 billion. What is more, volunteer work in these countries accounts for a somewhat larger share of GDP and government final consumption expenditures than is the case in the richer countries (2.5 and 19.5 percent, respectively, vs. 2.4 and 14.9 percent). Indeed, in these countries, the value added of volunteer work is

If we take account of the higher proportion of persons not working in the volunteer labor force, as found in the US, this lower-bound estimate comes to US$475 billion. By contrast, if we use the variant of our replacement cost estimate of direct volunteering that applies the average rate of direct volunteering discovered through time use surveys to countries without such surveys, we get an estimate of the economic value of volunteering globally of US$1.489 trillion, well above the estimate reported in the text.

Table 3 – The global volunteer economy, by income level and region of country

Region	Economic value of volunteers		% of GDP total
	Amount (US$ billion)	% of total	
By income level of country			
Low and lower middle	103.3	7.7%	13.1%
Upper middle to high	1, 244.9	92.3%	86.9%
Total	**1, 348.1**	**100.0%**	**100.0%**
By geographic region			
North America	516.8	38.3%	33.2%
Western Europe	471.6	35.0%	26.6%
Far East	117.1	8.7%	17.5%
South Asia & Indonesia	65.9	4.9%	5.5%
Africa	48.8	3.6%	3.6%
Eastern Europe & Russia	42.9	3.2%	4.4%
Australia & New Zealand	36.4	2.7%	2.1%
Middle East	24.5	1.8%	3.4%
South America	24.2	1.8%	3.7%
Total	**1, 348.1**	**100%**	**100%**

the equivalent of 20 percent of the value added by manufacturing and 42 percent of the value added by construction.

The geography of the volunteer economy mirrors closely, but by no means exactly, the geographic distribution of global GDP. Thus, North America and Western Europe account for roughly 73 percent of the value of volunteer work – somewhat more than their 60 percent share of global GDP, as shown in Table 3. One reason for this appears to be the disproportionately high share of organization-based volunteer work in Western Europe, which accounts for approximately 45 percent of the value of organization-based volunteering but only 29 percent of global GDP. By contrast the Far East's share of the global value of volunteer work is markedly lower than its share of global GDP, under 9 percent vs. its 17.5 percent share of global GDP. This reflects the somewhat less fully developed traditions of volunteering in this part of the world, but also, in all likelihood, the difficulty of gauging volunteer work in the world's most populous country, China. Likewise, both South America and the Middle East claim less than 2 percent of the value of volunteer work each, in both cases well below their shares of global GDP. Finally, Africa's share of the value of all volunteer work is equal to its share of global GDP, but its share of the value of direct volunteer work is higher.

To gain a full appreciation of the role that volunteer work plays in the provision of public goods, it is useful to relate it to those produced by government. Thus, Figure 3 compares the economic value of volunteering as estimated here to government final consumption expenditures, which measures the extent of government purchases in an economy.[15] As this Figure shows, although Africa accounts for only 3.6 percent of the global value of volunteering, the economic value of volunteer work in Africa is actually equivalent to a larger share of

15 'Government final consumption expenditure consists of expenditure, including imputed expenditure, incurred by general government on both individual consumption goods and services and collective consumption services.' (OECD 2001).

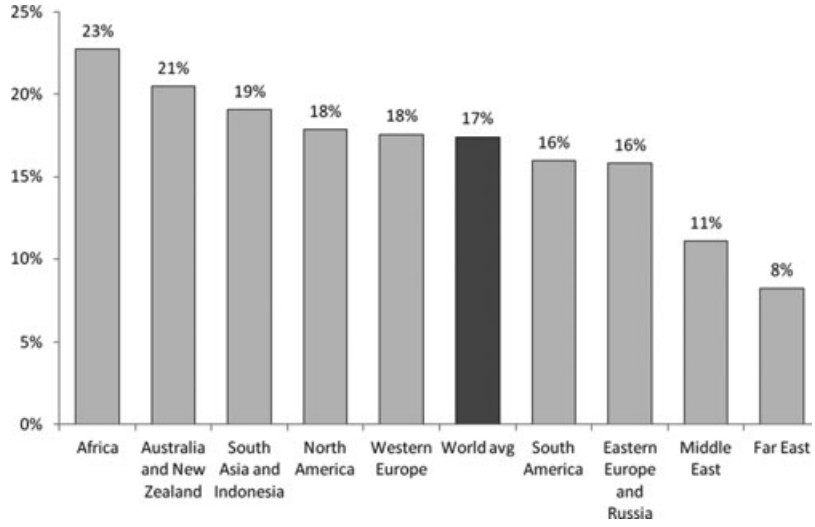

Figure 3 – Value of volunteer work compared to government spending

government consumption expenditures than in any other region – 23 percent in all. By comparison, in Western Europe volunteering represents the equivalent of 17.6 percent of government consumption expenditures, and in the Far East it is around 8 percent. While this may be due in part to the relatively low level of government expenditures in Africa compared to Western Europe, it nevertheless still provides an important indication of the special importance of volunteer work in the Africa region.

5 Roadmap to the future

What the previous section has demonstrated is that it is possible to generate meaningful estimates of the economic contribution of volunteer work to the global economy. While we believe these are the most reliable and thoughtful estimates that can be generated at the present time, it is important to emphasize that they rest on very limited empirical foundations due to the sketchiness of reliable empirical data on key variables needed to drive such estimates in most of the countries of the world.

Fortunately, however, this situation may be on the verge of changing thanks to the recent official acceptance by the International Labour Organization (ILO) of a new *Manual on the Measurement of Volunteer Work,* prepared by the Johns Hopkins Center for Civil Society Studies in cooperation with a Technical Experts Group composed of statistical officials and volunteering experts from around the world. This *Manual* establishes an officially sanctioned international standard for defining volunteer work and for measuring it in a comparable way throughout the world.[16] Once adopted by national statistical agencies, this new *Manual* thus promises to revolutionize the

16 The ILO Manual can be downloaded at ccss.jhu.edu.

data available on volunteer work throughout the world, and to resolve many of the measurement issues that have long impeded the type of systematic, cross-national measurement of the scale and economic value of volunteering undertaken in the previous sections of this paper. What is more, the International Labour Organization has agreed in principle to host a location on its web site where consensus standards for measuring other dimensions of volunteer work (e.g., the motivations to volunteer, the impacts of volunteering on the volunteers themselves, and the impact of various volunteer recruitment and management practices) can be posted; and a process has been put in place through the European Volunteer Measurement Project to begin formulating such standards.

A number of the key features embodied in this new *Manual* are of special relevance to the measurement task addressed here:

- *Use of official labor force or equivalent household surveys.*

  The new ILO *Manual* recommends the use of official labor force or other household surveys as the platform for measuring volunteer work. This approach guarantees that the measurement of volunteer work can be institutionalized in existing economic data statistical systems rather than being left to periodic and uneven private data-collection efforts. The use of labor force surveys have particular advantages for the kind of estimates outlined above, moreover:

  A They are among the most frequent and regular of all official data-collection programs;
  B They utilize huge samples, ensuring adequate coverage of all population groups;
  C They are household-based, making it possible to reach all individuals and to cover direct as well as organization-based volunteering;
  D They are conducted by employment specialists, which facilitates their use in translating volunteer activities into standard occupational classifications, and thus to identify the replacement wages associated with the volunteer work in an efficient way;
  E They are less prone to the self-selection bias that plagues many smaller private surveys because participation in labor force surveys is often mandatory, and even where not, highly encouraged; and
  F They gather important demographic data on respondents, which makes it feasible to identify the demographic profile of the volunteer population and also to gauge the 'opportunity wage' of volunteers for those wanting to utilize that valuation approach.

- *Broad, operational definition of volunteer work.*

  As noted earlier, the ILO *Manual* defines volunteering as: *'Unpaid non-compulsory work; that is, time individuals give without pay to activities performed either through an organization or directly for others outside their own household.'* Several key features of this definition are particularly helpful to the measurement task of interest to us here:

  A It defines volunteering without using the word volunteering. This makes it easier to apply to the broadest set of countries due to the divergent connotations that this word conveys;

B It makes clear that volunteering involves 'work,' i.e., that it produces goods or services that are of value to its recipients or beneficiaries and not just to the volunteers;
C It objectively differentiates volunteer work from other work activities by emphasizing that it is *unpaid* and willingly entered into, sidestepping the difficult-to-ascertain objectives or motivations for the activity;
D It makes clear that volunteer work lies within the production boundary of the economy by specifying that work done without pay for persons within one's own household does not qualify as volunteer work.

- *Activity focus*

  The survey module recommended in the ILO *Manual* is structured around individual volunteer *activities* (rather than beneficiaries). That is, respondents are asked to identify any activity in which they have engaged over a specified reference period that fits the definition of volunteer work. This makes it possible to differentiate among volunteer assignments based on the actual work that the volunteers do, and thus to associate the assignment with an occupation and ultimately with a wage, thus facilitating the calculation of the economic value.

- *Other key variables*

  In addition to the activity or occupation represented by each instance of volunteering, and hence the 'replacement wage' associated with it, the survey module proposed in the ILO *Manual* for inclusion in regular labor force surveys will yield data on four other aspects of volunteering that will be crucial to measure its scale and economic impact. These include:

  A The number and demographic characteristics of volunteers;
  B The number of hours volunteered;
  C The organizational context in which the activity takes place (nonprofit, government, for-profit, cooperative, or direct to other households); and
  D The industry in which the activity took place (health, education, etc.).

- *Coding tools*

  Because occupational and industry classification experts may not be familiar with typical volunteer activities or industries, the ILO *Manual* contains a number of cross-walks between such activities and industries and the standard international classifications of industries, occupations, and economic sectors used in regular economic statistical systems. This will make it possible to relate volunteer work to other types of work using existing classification structures and thus to put volunteer work into context and demonstrate its economic value much more powerfully and clearly. This will also facilitate the integration of volunteer contributions into the satellite accounts for both nonprofit institutions and the social economy, as proposed by the United Nations Statistical Division (United Nations 2003) and the European Union (Barea 2006).

A number of other methodological features promise to enhance the usefulness and precision of the proposed module. These include the use of a *four-week reference period* instead of the shorter one-week period commonly used in labor force surveys or the year-long reference period often used in existing private surveys; the inclusion of

prompts to reduce recall error; and the provision of screening questions to ensure that respondent answers to questions about volunteer work do not violate the definitional requirements identified for such work.

The methodology recommended in the new ILO *Manual,* once implemented, will thus eliminate many of the gaps in data and ambiguities in definitions that have necessitated the kind of heroic imputations reported here to generate even preliminary estimates of the scope and economic contribution of volunteer work. Already, five countries, Brazil, the United States, South Africa, Bangladesh and Poland, have successfully utilized this basic methodology.

As data from more countries come on line, we will have the opportunity to improve these estimates significantly with more reliable and comprehensive information on the number of volunteers, the work they are performing, the type of institution for which they are volunteering, and the replacement wage associated with their activity. This will significantly boost the visibility and credibility of volunteer work, validate and thereby encourage volunteer effort, offer a sound empirical base for judging the effectiveness of various volunteer recruitment and management practices, and create a more favorable policy and social environment for volunteer effort.

6 Conclusion

This article developed a methodology for measuring the macro-economic value of volunteer work and producing tentative global estimates of this value using existing data sources. Both volunteering through organizations and directly for individuals were considered. Different approaches to valuation, including the replacement cost, opportunity cost, and social benefits approaches and both 'observed' and 'reported market' proxies, were examined, but the replacement cost method was determined to be the most suitable approach to the task at hand. This method conceptualizes the value of volunteer work as the cost to the employer of hiring someone to perform similar work. Because information about the type of volunteer work and its institutional settings is not yet available for most countries, that cost was operationalized as the economy-wide average wage in individual countries. The volume of volunteering through organizations was estimated from organizational volunteering surveys where available, and projected from predictors for other countries. The volume of direct volunteering was derived from Time Use Surveys where available, and projected for all other countries where not available.

Using this method, the article estimated both the number of natural persons engaged in volunteer work in a typical year, as well as the economic value of that work, both for the world as a whole and for each of the major regions. These tentative findings demonstrate that, even conservatively estimated, volunteering is an enormous economic force in the world today. The number of volunteers world-wide is larger than the adult population of all but one country, China, whereas the economic value of their volunteer work is greater than the GDP of all but the six wealthiest countries.

At the same time, it seems clear that the measurement of this economic force remains in its infancy. Most countries do not have any data on volunteering, and in those countries where such data are collected, systematic comparisons are impossible

due to variations in definitions, methodologies, and scope of coverage. This has serious consequences for our ability to gain the maximum benefit from this important renewable resource for social, economic, and environmental problem-solving. It also limits our understanding of the enormous value of volunteering and our ability to give credence and respect to the contributions that volunteers make.

Fortunately, the recent adoption by the International Labour Organization of a *Manual on the Measurement of Volunteer Work* offers an opportunity to solve this problem. To seize this opportunity, however, it will be necessary for advocates of volunteering and those in the research community with an interest in this topic to press international statistical authorities and national statistical offices to implement this *Manual* in their own data systems. Given the evidence of the enormous scale of volunteer work presented here, such a mobilization seems well worth the effort.

Appendix A – Methodology

This Appendix provides further detail on the methodologies used to estimate the two key variables at the heart of this paper's objective: the number of volunteers and the economic value of volunteering, for each of the world's major regions and globally. Because of the lack of data from which to make these estimates for most of the world's countries, imputations had to be developed on the basis of the cross-national data available. Because the available data on *direct* volunteering differed from the available data on *organization-based* volunteer work, moreover, separate estimates had to be made for each of these types of volunteering and then combined to provide a total picture. The discussion below outlines, first, the approach to measuring the *economic value* of volunteer work; and then the approach to measuring the global *head-count* of volunteers.

I. Estimating the economic value of volunteer work

As noted above, the economic value of volunteer work at the aggregate, global level was undertaken separately for direct volunteering and organization-based volunteering due to differences in data availability. In each case, however, the basic estimation procedure involved two major steps:

- *First*, estimating the *number of hours* of volunteer work of each type in each country; and
- *Second*, estimating the *economic value* to assign to these hours. As outlined in Section 4 of this article, a *replacement cost approach* using an *observed market proxy* was identified as the most appropriate for carrying out this estimation task. However, two variants of the observed proxy were ultimately utilized. In addition, however, as a check on this replacement cost estimate, an *opportunity cost estimate* was also utilized for both organization-based and direct volunteering.

Organization-based volunteering

To estimate the economic value of organization-based volunteering, we proceeded as follows:

Step 1: Estimating volunteer hours. To estimate the total hours of organization-based volunteering, we began with the data generated on 43 countries through the Johns Hopkins Comparative Nonprofit Sector (CNP) Project, which we found to be the most reliable source of systematic, cross-national data on the number of hours of organization-based volunteering in a reasonable cross-section of countries scattered broadly across the world (see Appendix B for a list of the countries covered by this data base). These 43 countries collectively account for about 46 percent of the global economically active population.

To go from the 43 countries on which estimates of volunteer hours are available from this source to all countries in the world, we proceeded as follows:

- A regression equation was estimated that could best account for the observed variation in the number of full time equivalent (FTE) workers (paid and volunteer) as a share of the economically active population (EAP) in the 43 countries covered by the CNP data. The equation is:

$$y = 0.0196 + 0.0027x,$$

  where: y is the nonprofit workforce share of the Economically Active Population, and

  x is the per capita GDP (in USD).

  The adjusted R square for this equation is 0.609 (or 61% of explained variance). Only predictor variables available for all, or nearly all, of the 192 countries in the world were considered for inclusion in this equation. The total NPI workforce rather than the FTE volunteers was used as the dependent variable because it produced a better fit.

- The variables specified in the equation were then assembled on 139 countries on which the requisite data were available. The parameters determined by the equation were then applied to estimate first the total nonprofit workforce and then the number of FTE paid workers and FTE volunteers in each country, assuming the average volunteer share of the nonprofit workforce determined from the CNP data. This produced the number of FTE volunteers in circa 2005 for 182 countries, of which 43 were observed in the CNP project data and 139 were estimated.
- Finally, since post-Communist and South-Asian countries included in the 43-country data set had significantly lower average levels of nonprofit institution staff (both paid and volunteer) than the regression results would have suggested, downward adjustments were made in the regression estimates for similar, non-CNP countries to avoid possible over-estimation.

Step 2: Estimating the replacement wage. The next step in this estimation process was to identify a suitable wage to use in estimating the replacement cost for these hours.

- Due to limitations of available data on the work performed by volunteers, we utilized a *generalist wage* for this step in the process. For the most part, this was the average wage in the economy as reported by the International Labour

Organization based on country publications available to the ILO.[17] Altogether, such wage data were available on 110 countries, including the 43 CNP countries plus 67 additional countries, giving us a basis for computing the economic value of volunteering using a replacement wage for a total of 110 countries. The ILO wage information was provided for different time intervals, which we converted to annual FTE wages assuming a 40-hour work-week and 52 weeks in a year (which includes paid vacations).

- As a partial check on these results, we ran our analysis also utilizing something closer to a *specialist wage* that was available for the 43 CNP countries, i.e., the average wage paid by nonprofit organizations in these countries, broken down, in most countries, by field. Because we found that the average wage of nonprofit workers in the 43 CNP countries generally exceeded the economy-wide average wage in these countries, we used the economy-wide average for the 43 CNP countries as well in order to be conservative in our estimates.
- These wages were then applied to the estimate of volunteer hours for each country generated in Step 1 to yield our estimate of the total value of organization-based volunteer work in each country. These values were then expressed as shares of the GDP. This allowed conversion to US dollars by applying these shares to GDP figures in US dollars.[18]

Step 3. To go from the 110 countries on which we had sufficient data to drive this estimating procedure to the 182 countries on which we had at least GDP data, we first calculated the average volunteer shares of GDP for countries in each income group, and then applied these averages to the remaining 72 countries not covered by the initial estimation.

Direct volunteering

As noted above, the only reliable source available to estimate the scale of direct volunteering in at least a limited cross-section of countries are Time Use Surveys (TUSs). These surveys provide information on both participation rates for such volunteering and the average duration of the activity, and they offer superior accuracy and reliability. We were able to collect TUS data on 26 countries, including Canada, the US, Mexico, Chile, 16 EU countries, Korea, Japan, Thailand, Australia, New Zealand, and South Africa. We used the data from the TUS activity category called 'help provided to other households' and proceeded to estimate the total value of direct volunteering through the following three steps:

Step 1: Estimating the total hours of direct volunteering. In order to estimate the total hours of direct volunteering globally, we began with the average minutes per day spent on 'help provided to other households' per person as provided in the available TUS data.

17 The data set utilized was accessed at: http://laborsta.ilo.org/. Some countries (e.g., Germany) do not report an economy-wide average wage. In such cases, the next-best substitute was applied. This was usually the average wage of non-agricultural workers, or the average wage of community-service workers.

18 The GDP figures (national currency and USD) were obtained from the UNSD website http://unstats.un.org/unsd/snaama/selbasicFast.asp.

For countries for which TUS data were not available, we then developed two sets of estimates:

- First, we assigned to each country the number of minutes associated with a country that is culturally similar and for which TUS data are available. We referred to this as the 'reference-country based approach'; and
- Second, we assigned to each such country the average number of minutes for the 26 countries on which TUS data are available. We referred to this as the 'TUS average approach.'

Step 2: From average minutes to total hours. We then computed the total number of hours spent on 'help provided to other households' by multiplying the daily estimates by 365 and then by the population 15 years of age or older. This procedure resulted in two sets of estimates of the total hours of direct volunteering, one based on the assumed similarity to countries for which TUS data were available, and the other based on the average calculated from all available TUS data.

Step 3: Assigning a replacement wage. We then calculated the value of the resulting time estimates by applying the same replacement cost wages used in the organization-based volunteer estimates.

II. Estimating the number of volunteers

In addition to estimating the economic value of volunteer work, we also sought to estimate the number of people who volunteer either through organizations or directly to other households at the global level. This task proved challenging because the existing sources tend to provide over-inflated counts of individuals, due either to multiple counting (organizational surveys) or vague questions allowing diverse interpretations by respondents. Our work here therefore proceeded in three steps:

Step 1: Estimating the number of organization-based volunteers. We used the volunteering rates for high and low income countries generated as part of the Johns Hopkins Comparative Nonprofit Sector Project and reported in the book, *Global Civil Society*, Volume 2 (Salamon et al. 2004, Table A2) to estimate the number of organization-based volunteers. These estimates were derived mostly from organizational surveys and adjusted for possible multiple counting of individuals volunteering for more than one organization.

To go from the CNP countries to the full 182-country data set used for the other estimates, we applied the rates available from the CNP project on countries with different income levels to the respective classes of countries not covered by the CNP.

Step 2: Estimating the number of direct volunteers. We used the rates from the available TUSs and applied these rates to countries not covered by TUSs, using appropriate reference countries as the basis. These rates were then applied to the population 15 years or older in each country to estimate the count of individuals.

Step 3: *Adjusting the estimated number of direct volunteers to overcome possible undercount resulting from the short TUS reference period.* Since volunteering is an irregular activity, the short, one-week reference period used by TUSs likely led to some undercounting of direct volunteers. This is so because TUSs likely recorded

some portion of the volunteer population as non-volunteers because they were only asked about activities undertaken during a week-long reference period, whereas they may have engaged in volunteer activities at some other time. To take account of this, we added to the proportion of people indicating that they volunteered during the reference period a comparable proportion of the remaining population who may have volunteered outside the reference period, as reflected in the formula below:

$$V = rN + r\,(N - rN)$$

Where V is the total number of volunteers, r is the volunteer rate, and N is the population size.

This procedure allowed us to generate an estimate of the number of direct volunteers for 182 countries.

Appendix B – List of CNP Countries

Argentina	India	Poland
Australia	Ireland	Portugal
Austria	Israel	Portugal
Belgium	Italy	Romania
Brazil	Japan	Russian Federation
Canada	Kenya	Slovakia
Chile	Korea, Republic of	South Africa
Colombia	Mexico	Spain
Czech Republic	Morocco	Sweden
Denmark	Netherlands	Switzerland
Egypt	New Zealand	Tanzania
Finland	Norway	Uganda
France	Pakistan	United Kingdom
Germany	Peru	United States
Hungary	Philippines	

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