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Estimating Living Wage Globally

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Abstract

In the last decade the living wage concept has received renewed international attention. This paper contributes to the living wage discussion and introduces a method to calculate living wages globally. The proposed approach is innovative in that it uses a cost-of-living app specifically designed to collect the prices of items necessary to calculate the cost of living. The calculated living wage represents the amount of money sufficient to cover food, accommodation, transportation, health and education expenses together with a provision for unexpected expenses. Finally, the living wage is corrected for income taxes and social contributions in order to be comparable to minimum wage and real wage rates expressed as gross earnings. Living wages are estimated for more than 50 countries of which half low- and middle-income countries in Africa, Asia and Latin America. The resulting rates are contrasted with the national statutory minimum wages. The calculated living wages are normatively based, and offer an economic yardstick of income adequacy reflecting the needs of workers and their cost of living.

Keywords: living wage, income adequacy, minimum income, decent work

1. The concept of living wage

The income level necessary to secure a decent standard of living is an important economic yardstick of income adequacy. Since 1919 receiving a living wage is recognized by the International Labor Organization (ILO) as a basic human right (ILO, 2008). ILO endorses the living wage within a wider concept of decent work that aims for work in conditions of freedom, equity, security and human dignity. In 1948 the United Nations Universal Declaration of Human Rights recognized the need for workers to receive a living wage. However, the exact definition of the living wage has never been established and each campaign in favour of a living wage defines it differently (see Anker, 2011). For example, the *Global Living Wage Coalition* that brings together certified companies defines the living wage as the “remuneration received for a standard work week by a worker in a particular place sufficient to afford a decent standard of living for the worker and her or his family. Elements of a decent standard of living include food, water, housing, education, health care, transport, clothing, and other essential needs, including provision for unexpected events” (Anker and Anker, 2013). In 2009 the *Asia Floor Wage Alliance* proposed “a wage for garment workers across Asia that would be enough for workers to live on. It accounts for the cost of a fair amount of food per day, plus other essential living costs such as healthcare, housing, clothing, childcare, transportation, fuel, education, etc.” (Merk, 2009). The *Living Wage Movement Aotearoa New Zealand*, launched in 2012, defined a living wage “as the income necessary to provide workers and their families with the basic necessities of life” (King and Waldegrave, 2012). In the US, the *Living Wage Calculator* developed by Amy K. Glasmeier from the Massachusetts Institute of Technology (MIT) presents local wage rates allowing individuals and families to meet minimum standards of living (Nadeau for Glasmeier, 2017). Glasmeier defines the living wage as “an approximate income needed to meet a family’s basic needs [that] would enable the working poor to achieve financial independence while maintaining housing and food security”. The *Living Wage for Families Campaign*, organised since 2008 in British Columbia, Canada, bases the living wage “on the principle that full-time work should provide families with a basic level of economic security, not keep them in poverty” (Richards et al., 2008). In the latter campaign the living wage has been calculated as “the amount needed for a family of four with two parents working full-time to pay for necessities, support the healthy development of their children, escape financial stress and participate in their communities”.

A very comprehensive calculation is developed in Ireland and the UK defining a *Minimum Income Standard* (MIS) based on public views about a minimum standard for different family types (Hirsch, 2013; Collins et al., 2012). Under this approach a negotiated consensus about the cost of goods and services to enable a minimum essential standard is decided by the group of respondents from a mixture of social and economic backgrounds. The MIS is then calculated as the gross income necessary to afford these expenditures, taking account of the tax liabilities and social welfare entitlements of each household type. The *Living Wage Foundation* in the UK uses MIS as the recommended minimum wage in their living wage campaign. The advantage of MIS is that it reflects the real household needs in a very comprehensive way and figures are typically provided for a broad range of household types. An extension of the work on MIS calculates the cost of a minimum acceptable standard for rural households in Scotland (Hirsch et al., 2013). The downside of MIS is the difficulty to understand what it represents and whether a negotiated consensus is understood as a mean, mode or median estimate of basic needs of workers. The other downside of MIS is the high initial cost of development and the monitoring of living standards in the society necessary for regular updating. Therefore, the universal applicability of MIS method remains limited.

The calculation of living wages for a large number of countries based on the same methodology is challenging. The first attempt to provide globally comparable estimates of living wage for 100 countries has been presented in Guzi (2014). Here, the cost of living has been evaluated using prices collected through web-surveys on the Numbeo.com website - the information hub for travellers.¹ Through Numbeo prices are obtained from web-visitors who can report market prices of about 50 items which include 11 food products, rental prices and the cost of public transportation. Because travellers typically stay in pricey apartments and do not shop for the cheapest goods in local markets, the reported prices and therefore the estimated living wages may be biased upwards. Another drawback of this approach is that the Numbeo database contains a limited number of items as to control for the variation in the food basket and housing quality between countries.

¹ <https://www.numbeo.com/cost-of-living/> (last accessed December 22, 2018).

The approach suggested in this paper largely improves the method of Guzi (2014) and is broadly consistent with the manual for living wage calculations published by Anker and Anker (2017). The calculation of living wages in the current paper takes into account food preferences, the quality of housing, transportation expenses, national employment rates and family characteristics, all in the local context. Calculated living wages are based on the actual price levels and are regularly updated. All information about living wages is published on WageIndicator websites and is available for comments.² Our living wage concept is transparent and its outcomes are comparable to the results of other approaches and methods. The common goal of the many living wage campaigns currently taking place all over the world is to lift minimum wage levels to those of living wages. In this paper living wage levels are reported together with minimum wages, with the aim to raise awareness of the existing differences between levels.

² <https://wageindicator.org/salary/living-wage> (last accessed December 22, 2018).

2. Data sources

The calculation of living wages requires detailed information from various national or international data sources. Information also needs to be regularly updated as to guarantee the validity of estimates. In this paper we introduce a novel approach to the calculation of living wages. The Cost-of-Living (COL)³ survey, introduced in 2014 by the WageIndicator Foundation (WIF) as an app, has been specifically designed to gather the prices of items necessary to calculate the cost of living. The COL survey is posted on the national WageIndicator websites in 92 countries. Each day a teaser is posted on the national websites asking web visitors to indicate the price for one rotating item. Similar items are combined in groups (e.g. prices of vegetables) and if provided the price for one item, web visitors are asked to fill prices on all items in the group. Thus, COL is not a standard survey because it does not require a respondent to complete prices for all the items, although this option is available to respondents. The collection of prices has been very successful: since its introduction in 2014 until the end of 2018, more than two million prices were gathered in the 92 countries. The collected prices are always tested and cleaned for outliers. The COL app can also be operated offline, allowing to collect prices in areas with no or unsatisfactorily internet coverage. In 2018 the collected prices were sufficient to calculate living wage rates for more than 50 countries, of which half are low- and middle-income countries in Africa, Asia and Latin America.

The food items in COL are based on data on food consumption as published by the UN Food and Agriculture Organization (FAO). The FAO food balance sheet presents the consumption of 92 food items measured in kilocalories and in grams per person per day.⁴ The measure of food weight is necessary for calculating the cost of daily food consumption. The needed data on national employment and fertility rates are taken from World Bank data⁵.

³ <https://costofliving.wageindicator.org>

⁴ <http://www.fao.org/faostat/en/#data/FBS>

⁵ <https://data.worldbank.org/>

3. The calculation of the living wage

The definition of living standards can vary between countries but all living wage campaigns aim to ensure that wages are sufficient to guarantee a decent remuneration for work in support of workers and their families. The definition of a family is important for the calculation and finally defines what a living wage represents. In our approach we define three household types to respond to different demands for living wage information⁶:

- The typical family living wage indicates the amount of money needed to support a representative family with children in a given country. This is a baseline estimate that accounts for variation in household structure. The number of children is derived from the national fertility rates (see Table 1). The family employment rate is also country-specific. The underlying assumption is that one adult is employed full-time and that the employment rate of the other adult is derived from the national employment rate. The total income earned by the two adults paid the living wage is sufficient for a typical family to reach an adequate living standard.
- The standard family living wage indicates the amount of money needed to support a family of two adults and two children. This approach has several advantages. First, it allows a global comparison of living wages focusing on price variation and keeping the family composition constant. Second, this approach is adopted by several living wage campaigns (e.g. Clean Clothes Campaign, and the campaigns in New Zealand and Vancouver) which allows comparability. Third, the assumption of a family with two children keeps the population at the same level over time (population replacement). The calculation of the standard family living wage has been based on a number of assumptions. The family employment rate is assumed at 1.8 which means one spouse is a full-time worker and the second spouse works has a working week of 80%. In addition we consider three alternatives of family working schedules: i) both adults are full-time workers (i.e. the family employment rate is 2.0), ii) one adult is a full-time

⁶ The living wage calculation can be easily extended to other family types and different working schedules (e.g. the approach of Nadeau / Glasmeier (2017) distinguishes 12 family compositions).

worker and the other works half-time (i.e. the family employment rate is 1.5), iii) one adult works full-time while the other is a non-wage-earning adult (i.e. the family employment rate is 1.0). Under each alternative the total income earned by two adults who are paid the living wage must be sufficient to attain an adequate living standard. This implies that the calculated individual living wage is lower when the family income is earned by both adults working full-time relative to the other alternatives.

- The individual living wage represents the amount of money needed to support a household with a single individual without children and employed full-time.

The methodology to calculate living wages introduced in this paper is consistent with some previous living wage campaigns reviewed in Anker (2011). The calculation of the living wage is composed of six components, notably food, housing, transportation, health, education, and other expenses (e.g. clothing, personal care). The following is an explanation for each component of the living wage.

The calculation of food costs

The food basket is calculated using data from two sources. First, the national food consumption patterns in per capita units are taken from the national food balance sheets published by the FAO. Second, the prices of all food items listed in the food balance sheet are taken from the WageIndicator COL database.

The food consumption patterns largely differ between countries, and hence it is important that these differences are addressed in the calculation. The food balance sheets published by the FAO include the supply of food commodities available in every country and reflect the potential food consumption basket of an average individual. FAO (2013) notes that in the world as a whole per capita food supply rose from about 2,200 kcal/day in the early 1960s to more than 2,800 kcal/day by 2009. Food supply varies widely across regions. Europe has the greatest average supply at 3,370 kcal/day, closely followed by the Americas, while the average supply in Africa is below 2,600 kcal/day. It is important to note that the amount of food actually consumed may be lower due to losses of edible food and nutrients in the household, e.g. during storage, in preparation or cooking.

The calculation of food costs assumes that all foods are prepared at home and that ingredients are purchased from supermarkets or markets at lower-range prices. A nutritional requirement for good health proposed by the World Bank equals 2,100 calories

per person per day (Haughton and Khandker, 2009). The cost of the food basket is based on prices from the COL database; the COL survey was designed to include 60 food items from the FAO food balance sheet. A price entering the calculation requires at least 10 observations per item in a given country or region. The cost of the food basket is then scaled to 2,100 calories, or the minimum daily per capita supply of calories suggested by the World Bank. Children are assumed to have the same food requirements as adults. In the COL calculation the food cost is expressed per person per month.

The calculation of housing costs

Housing costs are the most peculiar kind of costs because dwellings differ and local prices show a substantial variation. The calculation of housing costs should therefore take into account quality criteria and departs from a minimum acceptable housing quality (e.g. appropriate number of rooms, location). In the COL survey respondents are asked about their house rents; they self-identify whether electricity, water, garbage collection, Internet, and taxes on housing are included in the reported rents. Respondents also indicate the size and location (inside or outside the city center) of their apartments or houses. Based on these characteristics the cost of a reference dwelling is predicted using state-of-art econometric tools (also see Goedemé et al., 2015). The housing equation is estimated separately for each country if there are at least 50 observations per country. The predicted housing cost for a family (an individual) regards a typical rent for a 2-bedroom apartment (1-bedroom apartment) in an average urban area, outside the city center and not centrally located or up-market. The housing cost always controls for utility and other housing costs. The housing equation includes variables to capture regional differences in a country. The advantage of this approach is that it can estimate the reference housing costs for a large number of countries and also for different parts of a given country.

The calculation of transport costs

Transportation is an important cost for households because many people commute for work or travel for their daily activities (e.g. shopping). The assumption made here is that families the living wage does not include the ownership of a motorbike or car and that they have to rely on other means of transportation. As public transport service is commonly available in most urban places, the price of a regular monthly pass is regarded as the transport cost for an adult. The average price of such a monthly pass is used as a meaningful approximation of transport costs, also for families in areas where no local public transport is available. The

price of a monthly pass is taken from the COL database. The cost of transport for a family household is calculated as twice the price of a monthly adult pass. In many places, children commuting to schools can travel for free or with a substantial discount. Therefore, in the living wage calculation it is assumed that children travel for free.

Health expenses

Many countries provide at least basic public health care services. Yet, additional expenses are often required on medication not available from public facilities or on private health care in emergency situations. In addition, if households temporarily lose income due to health-related absence from work they still need to be able to cover their basic living expenses. The COL survey asks respondents about the minimal monthly expenses on health care for a family of two adults and two children. Based on this information, the monthly expenditure on health is included in the living wage calculation. Health expenses for an individual are assumed to be one quarter of the expenses reported for a family with two adults and two children.

Education expenses

Education in public schools is provided at relatively low cost, but additional costs are related to supplementary materials and fees. Education expenses are typically included in the living wage. Anker and Anker (2013) add one percent of household expenditure for the cost of children's education in the living wage they calculated for rural South Africa. The COL survey asks respondents about the minimal monthly expenses on education (assuming that children attend public schools) for a family of two adults and two children. Based on this information the monthly expenditure on education is included in the living wage calculation. Expenses on education for adults are not considered in our living wage calculation. Because the concept of a living wage defines the basic needs for a family, it does not provide for families to participate in advanced education, or entertainment or recreational activities.

Other expenses and provision for unexpected expenditures

The calculation of living wage accounts for the most relevant expenditures on food, housing, transport, health and education. National living wage campaigns typically rely on data from national household income and expenditure surveys to estimate the amount of expenditures beyond these basic categories. However, household surveys are not readily available for a

large set of countries on the regular basis that would allow for frequent updating. Because the bundle of non-food and non-housing commodities varies across countries according to habits and culture but also over time, it is difficult to arrive at a universal basket of goods and services covering the personal needs in all countries.

One solution to this problem is to provide for spending on non-specified discretionary purchases such as clothing, cosmetics, etc. In addition, it has to be ensured that the living wage is sustainable in that it allows for unforeseen events such as illness, accidents or unemployment. Provision for unexpected events is also common in living wage calculations. The *Living Wage Foundation* in the UK includes a 15% margin for unforeseen events. Earlier works by Anker and Anker (2013) used a 10% margin. The *Living Wage for Families Campaign* in Canada assumes a two-weeks income from labour as the provision for unexpected events on a yearly basis (i.e. approximately 4% of the monthly household expenditure). In this respect, we follow the manual for living wages by Anker and Anker (2017) and add a 5% margin to the final estimate of the cost of living. When the calculation of the costs of living is more comprehensive in covering the goods and services, a lower margin is more appropriate as that does not increase the resulting living wage unreasonably.

The living wage as a full-time worker equivalent

The total household income of a family is earned by two parents. When each parent is paid the living wage, or in case of a part-time work a proportion of the living wage, the total income earned by both parents would cover family expenses. As the living wage is estimated for an equivalent of a full-time worker, it allows to be comparable with a legal minimum wage or with real wages. Living wage campaigns adopt the principle that the living wage should be earned within standard working hours, and therefore its calculation does not account for overtime hours.

The WageIndicator living wages are published as a range with a lower bound indicating the 25th percentile and an upper bound indicating the 50th percentile. The range represents the variation of prices registered according to the various differences discussed above. The upper bound of a living wage is calculated at prices taken at the 50th percentile (median) from the distribution of prices and the lower bound of living wage is calculated at prices taken at the 25th. The lower bound is a rather conservative scenario implying a cost-optimizing household seeking cheaper-than-average housing, food and other expenses compared to the national average (median).

Table 1 summarizes the assumptions involved in the living wage calculations for three different types of household.

Table 1 Living wage calculation for different household types

a.	Typical family living wage
Household composition	Two adults with children; the number of children is determined by the current fertility rate in the country.
Interpretation of living wage	Typical family living wage defines a gross income of full-time worker that is sufficient to cover food, accommodation, transportation, health and education on a monthly basis for a typical family adjusting for two-parent employment rate.
Employment status	One spouse is a full-time worker and the involvement of second spouse is derived from the national employment rate in the country.
Food expenses	The composition of food basket with 60 food items reflects the actual food consumption in the country. A nutritional requirement is set at 2,100 calories per person per day. Children have same food requirements as adults.
Accommodation	The monthly rental rate of a 2-bedroom apartment outside the centre including utility and other housing costs.
Transportation	The price of two regular monthly public transportation passes. Children are assumed to travel for free.
Provision for unexpected events	5% margin
b.	Standard family living wage
Household composition	Two adults with two children.
Interpretation of living wage	The standard family living wage defines a gross income of a full-time worker that is sufficient to cover food, accommodation, transportation, health and education on a monthly basis for a family with two adults and two children adjusting for the two-parent employment rate.
Employment status	The family employment rate is assumed at 1.8 which means one spouse is a full-time worker and the second spouse has an 80% working week.
Food expenses	Same as for a typical family
Accommodation	Same as for a typical family
Transportation	Same as for a typical family
Provision for unexpected events	5% margin
c.	Individual living wage
Household composition	Single individual without children
Interpretation of living wage	Individual living wage defines a gross income of full-time worker that is sufficient to cover food, accommodation, transportation, health and education on a monthly basis.
Employment status	Full-time worker
Food expenses	Same as for a typical family
Accommodation	The monthly rental rate of a 1-bedroom apartment outside the centre including utility and other housing costs.
Transportation	The price of a regular monthly public transportation pass.
Provision for unexpected events	5% margin

4. The publication of living wage estimates

Table 2 presents the calculated for 58 countries based on prices collected between 2014 and 2018. The living wages presented for three family types serve different purposes. The preferred estimate is the living wage for a typical family that accounts for specific country conditions. In order to raise public awareness of income adequacy we also present national statutory minimum wages. All figures are presented in monthly terms and in national currency. The calculated living wages are also presented in the Wages-in-context online application that is visually attractive to users.⁷ The living wage series⁸ published online show details of living wage calculations and their components, separately for each country. The living wage calculations are quarterly updated reflecting changing price levels. The policy of the WageIndicator Foundation regarding full transparency with respect to calculations and methodology is adopted with the objective of providing for accountability and stakeholder involvement.

Transparent, timely, and broad publication on interactive websites of living wages and the underlying methodological assumptions serves as a powerful feedback channel involving stakeholders around the globe, such as employees, employers, civil society organisations, academics, policy makers, and other internet visitors.

Table 2 Minimum wage and living wage estimates (national currency, December 2018)

Country	Typical family		Standard family		Individual		Minimum wage
	from	to	from	to	from	to	
Angola	104200	149300	69200	100300	40400	61800	15003
Azerbaijan	760	950	720	900	675	865	130
Argentina	11100	14500	10300	13400	7930	10600	10700
Australia	1740	3050	1570	2730	1110	1820	3117
Austria	1250	1610	1170	1510	825	1020	
Bangladesh	11800	15300	11000	14300	6210	8150	1500
Belgium	1300	1560	1170	1410	945	1090	1563
Botswana	3760	4760	3520	4400	2350	2730	700
Brazil	1550	2360	1490	2260	885	1390	954
Bulgaria	705	1080	670	1010	400	675	510
Myanmar	324200	405700	311900	390400	156700	193400	104000
Belarus	375	520	355	495	185	270	305
Cambodia	886200	1259600	871800	1240900	545100	761200	680000

⁷ <https://wageindicator.org/salary/wages-in-context>

⁸ <https://wageindicator.org/salary/living-wage>

Country	Typical family		Standard family		Individual		Minimum
Cameroon	172700	221800	118000	157800	79200	104200	36270
Canada	2130	2730	2090	2670	1640	1960	2426
Sri Lanka	37400	52300	33000	46000	17200	31700	6500
Chile	452300	613300	434100	588600	295900	388800	288000
Colombia	848500	1095100	855300	1104300	620800	782100	781242
Costa Rica	255800	355200	247200	342300	159100	232100	300256
Croatia	5350	10100	4750	8780	3180	6070	3440
Czech Republic	15000	20500	13800	19000	11400	15500	12200
El Salvador	415	520	390	490	265	335	200
Ethiopia	5870	9060	5210	8150	3990	6350	420
Finland	1300	1700	1180	1550	905	1160	
France	1470	1940	1310	1720	925	1110	1498
Germany	1290	2070	1220	1960	770	1140	1498
Ghana	1240	1720	1020	1420	630	925	261
Greece	860	1070	775	965	470	595	684
Guatemala	2880	4880	2520	4310	1610	2510	2508
Honduras	5820	9070	5260	8230	3550	5210	6097
Hungary	156600	224400	147700	210300	99500	146100	138000
India	13500	19400	11500	16700	6450	10300	4162
Indonesia	2282300	2912400	2043100	2606100	1213400	1445000	1.50E+06
Italy	1040	1440	915	1270	650	935	
Kazakhstan	86800	126400	80400	117900	54800	84400	28284
Kenya	36000	48500	30000	40500	17200	22300	6896
Madagascar	484400	671400	423300	595500	253600	350100	155523
Malaysia	1200	1860	1140	1760	660	1070	1200
Mexico	5210	7900	4750	7240	2480	4320	2686
Mozambique	8280	14000	6140	11100	4200	7790	4063
Namibia	6730	8610	5120	6630	6400	8360	
Netherlands	1180	1560	1080	1420	880	1120	1578
Nicaragua	4960	7510	4540	6890	3370	4790	3774
Niger	203200	267400	109900	140300	61100	83400	30047
Nigeria	74300	100600	45100	62100	24100	32500	18000
Pakistan	20800	31100	15300	23900	8730	14400	15000
Paraguay	1768500	2566400	1677300	2445900	1033800	1539800	2.10E+06
Peru	1160	1700	1120	1640	730	985	850
Poland	2010	3190	1930	3010	1260	1690	2100
Portugal	725	980	685	930	510	670	677
Romania	1530	2160	1450	2040	900	1300	1900
Russia	17100	23700	16800	23300	10400	14500	9489
Rwanda	168000	224600	136800	188500	83900	109700	
Senegal	161500	211500	120300	159500	62100	89800	35858
Slovakia	415	610	395	580	275	420	480
Vietnam	5351100	7738700	5351100	7738700	2990800	4741000	2.80E+06
South Africa	8070	11200	6990	9730	4580	6610	2602
Zimbabwe	380	575	350	540	205	315	
Spain	830	1160	780	1090	630	860	859

Country	Typical family		Standard family		Individual		Minimum
Sweden	11900	17200	11400	16400	8130	12400	
Turkey	2250	3430	1870	2840	1370	2010	2030
Uganda	847200	1350000	605200	1017300	387200	642100	
Ukraine	4600	6630	4380	6280	3250	4710	3723
Egypt	1910	2710	1510	2150	760	1160	1200
United Kingdom	915	1350	815	1210	685	895	1378
Tanzania	565600	762700	438400	599900	219200	346400	65000
United States	1540	2370	1380	2120	1130	1660	1257
Zambia	4350	7040	3390	5880	2040	3090	1050

Source: Own calculation based on WageIndicator Cost of Living survey, 2014-2018.

Note: All figures are expressed in monthly terms. Minimum wages are collected by the WageIndicator Foundation.

5. Discussion

The strongholds of the proposed living wage methodology include:

- The COL methodology is rooted in state-of-the art approaches and concepts outlined in the literature
- The richness of the COL data and the set of covered living expenses provides for regionally differentiated living wages within countries
- The COL methodology is harmonized across countries and hence provides for reliable international comparison
- The COL calculation for three types of households accounts for the diversity of households within and across countries, providing for reliable and highly informative comparison within and across countries
- The data collection techniques used in the COL survey provide for regular and frequent updating across countries
- Reporting of the median as well as 25th percentile of living wage calculations provides for explicit comparison of well-defined concepts within and across countries, and over time.
- The living wage is corrected for income tax, and social contributions and therefore the living wage is most comparable to minimum wage and real wages which are gross earnings.

The living wage approach as outlined in this report aims to provide for a growingly accurate calculation of living wages across regions, countries, and over time:

- A general long-term objective is to improve our web-based data collection, account for the variation of prices and consumption patterns, and ensure that data is corrected for issues that could potentially bias our results. Such biases are further limited by the fact that price surveys are less demanding relative to surveys relying on individual data and our price level calculations are represented as a range, with the median as the upper bound and 25th percentile as the lower bound.
- Respondents in the WageIndicator Cost of Living Survey additionally report a total monthly expenditure necessary for living in their country. This information can be considered as subjective cost of living that can be used to calculate the

living wage. As a consistency check the living wage obtained from subjective reports about the cost of living is compared to the calculated living wage. In case of discrepancies national experts are asked to identify and correct any possible sources of bias.

- When workers receive in-kind bonuses such as food, housing or travel allowances, these could be deducted from the living wage; we however take the living wage as the monetary equivalent of all income, including any in-kind provisions. We aim to obtain more precise information about the family composition and household production. This allows us to improve the living wage calculation in the countries with high share of informal employment. Inasmuch as living wages are determined by expenditures on a basket of basic needs and people report employment status even if it is informal, our calculations are not directly affected by in-kind benefits from work.
- Pay bonuses such as a 13th salary or Christmas bonus may effectively decrease the living wage; however, as they are irregular and their amount is uncertain, they are not included in our calculations. Living wage is based on the assumption that monthly expenses should be possible to finance from regular monthly labor income; and irregular income can be used for irregular expenses.
- Overtime pay bonus is not accounted for, because the living wage should be earned during normal hours (ILO Convention 1 (1919) states a maximum number of 48 hours of work per week in all countries).

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