WageIndicator.org

Living Wages Globally

Martin Guzi and Martin Kahanec

Prepared for WageIndicator Foundation, Amsterdam, September 2019

WageIndicator Foundation - www.wageindicator.org

WageIndicator started in 2001 to contribute to a more transparent labour market for workers and employers by publishing easily accessible information on a website. It collects, compares and shares labour market information through online and face-to-face surveys and desk research. It publishes the collected information on national websites, thereby serving as an online library for wage information, labour law, and career advice, both for workers/employees and employers.

The WageIndicator websites and related communication activities reach out to millions of people on a monthly basis.

The WageIndicator concept is owned by the independent, non-profit WageIndicator Foundation, established in 2003. The Foundation has offices in Amsterdam (HQ), Ahmedabad, Bratislava, Buenos Aires, Cape Town, Islamabad and Venice.

The authors:

Martin Guzi is affiliated to WageIndicator Foundation, Masaryk University, CELSI and IZA. Martin Kahanec is affiliated to WageIndicator Foundation, Central European University, University of Economics in Bratislava, Bruegel, CELSI, and GLO.

Corresponding author: Martin Guzi, Masaryk University, Faculty of Economics and Administration, Lipová 41a, 60200 Brno, Czech Republic, Email: **martin.guzi@econ.muni.cz**

Acknowledgements

Many people contributed to the development of the Cost-of-Living Survey, the Living Wage calculations and to this report: Huub Bouma, Daniela Ceccon, Maarten van Klaveren, Paulien Osse, Kea Tijdens and national WageIndicator teams.

Bibliographical information

Guzi M, Kahanec M (2019) Living Wage Globally. Amsterdam, WageIndicator Foundation, September. WageIndicator Foundation, 2019 Address: P O Box 15966, 1001NL Amsterdam, The Netherlands Email office@wageindicator.org.

Contents

1. Foreword

In most countries around the world, a national minimum wage is set by law and workers are entitled to this minimum wage. The national minimum wage levels need to be regularly adjusted to take account for fluctuations in the cost of living for working low-income households.[1]

Living wage is based on the concept that work should provide a minimum decent standard of living for a family. Living wage campaigns aim at lifting the minimum wage and to *make minimum wage a living wage*. The living wage is not prescribed by a law and, thus, cannot be legally enforced. Instead, living wages provide a benchmark for employers who voluntarily commit to pay wages according to the local living standards. Living wages can be family-, region- and time-specific and therefore they are very accurate.

Allowing people to lead a decent life is not only a moral obligation. It also encourages consumption by increasing a country's purchasing power and by keeping employment rates up. Employers paying living wage benefit from lower turnover of employees and higher productivity gains. Despite the general agreement on the ethical and economic contributions a living wage would make, no common framework for calculating these living wages exists. Most organizations develop their own regional or national living wage models.

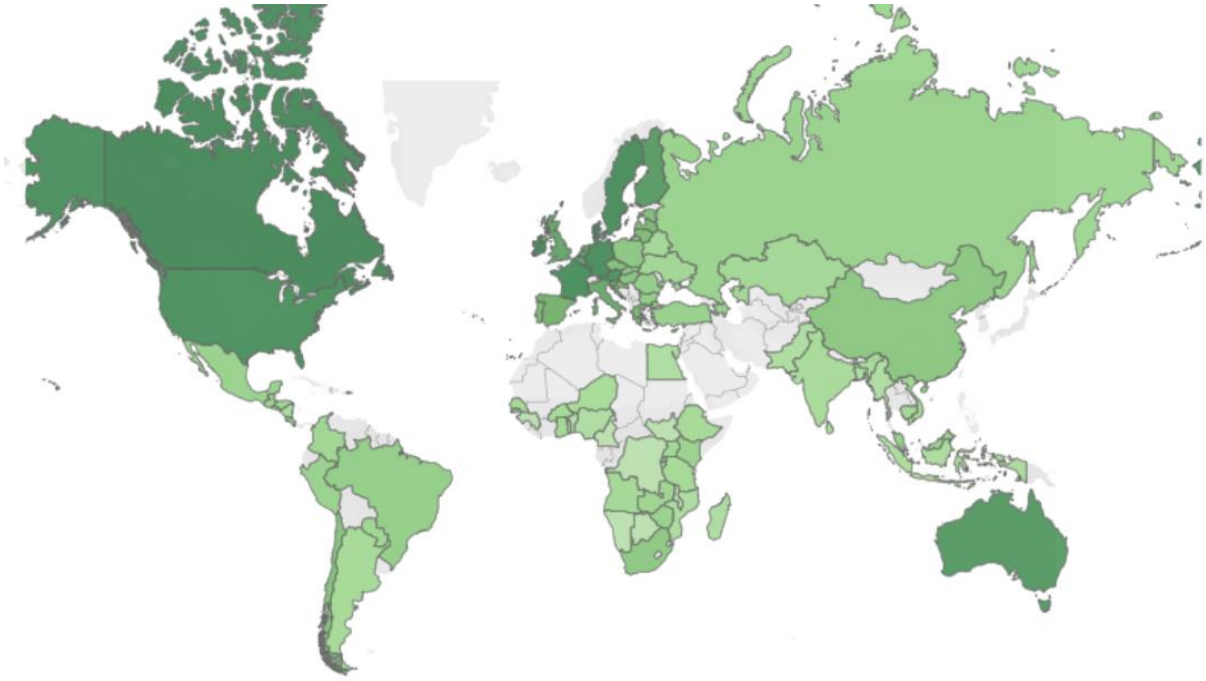
WageIndicator Foundation calculates living wages internationally in order to raise the awareness to the adequacy of national minimum wages. The calculation of living costs is based on the principles developed by Richard and Martha Anker for the Global Living Wage Coalition (Anker and Anker, 2017). The methodology is versatile and can be applied to all country and regional settings. WageIndicator uses the Cost-of-Living application specifically designed to gather the prices of items necessary to calculate the cost of living. The global collection of price data is innovative. Price surveys are posted online on national WageIndicator websites. In some countries with low Internet access, price information is

[1] ILO Minimum Wage Fixing Convention, 1970 (No. 131) states that minimum wage setting should involve social partners and independent experts and take into consideration: (i) the needs of workers and their families, taking into account the general level of wages in the country, the cost of living, social security benefits and the relative living standards of other social groups; and (ii) economic factors, including the requirements of economic development, levels of productivity and the desirability of attaining and maintaining a high level of employment.

collected by interviewers visiting markets and supermarkets, in addition to interviewing people about prices. The collection of prices has been very successful and since its introduction in 2014 until the September 2019, more than 2.2 million prices were gathered combined on all items in all countries. Because prices are collected continuously the presented living wages are always based on the actual price levels and can be regularly updated.

This report describes the approach to calculating living wages by WageIndicator and presents living wages for more than 70 countries on five continents (see the map below). Living wages are presented jointly with national minimum wages and prevailing wages of workers with the aim to raise the awareness to the existing gap between living wage and minimum wage. All information about living wages is published on WageIndicator websites and is available for comments.[2]

Figure 1 Countries with living wage calculated by WageIndicator



[2] https://wageindicator.org/salary/living-wage

2. The calculation of living wages

WageIndicator Foundation calculates living wages internationally following the same principles. The methodology is versatile and can be applied in all country and regional settings. The living costs calculation accounts for food expenses considering national food preferences, housing expenses considering the quality of housing, education and healthcare expenses, travel expenses, as well as employment rates and family characteristics in the local context. This chapter introduces the price data and explains the expenses included in the living wage formula.

2.1 Price survey data

The calculation of living wages globally is challenging as it requires detailed information from various national and international data sources. Information also needs to be regularly updated to maintain the validity of living wages. Guzi (2014) presents the first attempt to provide globally comparable estimates of living wage using online prices from 100 countries. The approach presented in this paper improves the original approach and it is broadly consistent with the manual for living wage calculation published by Anker and Anker (2017).

The Cost-of-Living (COL)[3] application, introduced in 2014 by the WageIndicator, has been specifically designed to gather the prices of items necessary to calculate the cost of living. The COL app facilitates data collection through laptop, tablet, and smartphone. As it is Internet based, it reaches out to large numbers of people, facilitates data collection on a global scale, and ensures that the data is up-to-date because data is collected continuously. Web visitors are invited to complete the price survey for a selection of items or for the entire list of items. Respondents also identify their region and city to allow for regionally adapted living wages. The COL app can also be operated offline, allowing to collect prices in areas with no or low internet coverage. WageIndicator additionally organizes offline COL field surveys by trained interviewers or by ordinary people reporting the prices for a set of commodities in their neighborhood. 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 all countries. The collected prices are always tested and cleaned for outliers. The living wage calculation is based

[3] https://costofliving.wageindicator.org

on prices collected during the last 36 months in order to avoid unnecessary and misleading fluctuations. This reference period is adjusted when necessary, like in countries with high inflation.

2.2 Food costs

The food expenses are essential and especially families in the poorer countries typically spend higher share of their total budget on food. The calculated food costs indicate the monthly budget for food that provides adequate food intake for all family members. The food consumption patterns largely differ between countries, and therefore it is important that these differences are addressed. The calculation of food expenses relies on data from two sources.

First, the food consumption basket of an average individual is approximated by the supply of food commodities from the food balance sheets published by the FAO in every country.[4] For the set of 100 food items, food balance sheet provides the per capita food supply both in grams per day and in food calories per day. A nutritional requirement for good health proposed by the World Bank equals 2,100 calories per person per day. 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. 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.

Second, the prices of all food items are taken from the COL price survey that was designed to include all food items from the FAO food balance sheet. Collected food prices are standardized to price per kilo and cleaned for outliers. For each price entering the calculation we require at least 10 observations per food item in a given country or region.

The cost of food per person per day is equal to the value of food consumption basket at the current prices. It is assumed that all foods are prepared at home and that ingredients are purchased from supermarkets or markets at lower-range prices. The calculated cost of the food basket is scaled to 2,100 calories, that represents the minimum daily per capita supply of

[4] http://www.fao.org/faostat/en/#data/FBS

calories suggested by the World Bank. Children are assumed to have the same food requirements as adults. Finally, family food expenses represent the monthly budget for an adequate food intake for all family members.

2.3 Housing costs

Housing costs are the most peculiar kind of family expenses because homes differ and local prices show a substantial variation. The housing costs are almost always the largest family expenditure paid regularly. The standards of adequate housing depend on local conditions and therefore we take the cost of privately rented housing as the realistic minimum acceptable available option. Individuals without children are assumed to rent a one-bedroom home and households with children are assumed to live in the rented two-bedroom home.

Participants in the COL price survey report the rent, the number of bedrooms and location of their apartments (inside or outside the city center). Participants also identify whether electricity, water, garbage collection, Internet, and taxes on housing are paid with the rent. Based on these characteristics the reference rent is predicted using state-of-art econometric tools. The rent equation is estimated separately for each country when there are at least 70 observations (rents) per country. The predicted rent for a family (an individual) regards a typical rent for a two-bedroom apartment (one-bedroom apartment) in an average urban area, outside the city center and not centrally located or up-market. The reference rent includes utility payments and other related costs. The rent equation also captures regional differences in a country. The advantage of this approach is that it can measure the cost of rented housing for a large number of countries and also for different parts of a given country.

2.4 Travel costs

Family members often commute for work or travel for their daily activities (e.g. shopping). Accounting for travel expenses in the cost of living is therefore important. Low-income families are assumed not to own a motorbike or car and they need to rely on other means of transportation instead. As public transport service is commonly available in most urban places, the price of a regular monthly travel card for public transport is regarded as the transport cost for an adult. The average price of such a monthly travel card is used as a meaningful approximation of transport costs, also for families in areas where no local public transport is available. The COL price survey collects specifically the price of a monthly travel card for public transportation for an adult. The travel costs for a family is calculated as the

price of two monthly travel cards. In many places, children commuting to schools can travel for free or with a substantial discount and therefore the travel costs for children are not budgeted.

2.5 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 people 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 are proportionally adjusted for the family size for example health expenses for an individual are assumed to be one quarter of the expenses reported for a family with two adults and two children.

2.6 Education expenses

Education in public schools is provided at relatively low cost, but additional costs are related to supplementary materials and fees. 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. The cost of education for adults is not budgeted. The concept of a living wage defines the basic needs for a family, that does not provide for families to participate in advanced education, or entertainment or recreational activities.

2.7 Other expenses and provision for unexpected expenditures

The calculation of living wage accounts for the most relevant family expenses on food, housing, travel, 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, household goods, and personal goods and services etc. This would also ensure that the living wage is sustainable in that it allows for unforeseen events such as illness, accidents or unemployment. Provision for unexpected events is common in other living wage calculations. The *Living Wage for Families Campaign* in Canada assumes a two-weeks income from labor 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. The lower margin is more appropriate when the calculation of the costs of living is more comprehensive in covering the goods and services, while it does not increase the resulting living wage unreasonably.

2.8 Calculation of net living wage

The total monthly family expenses are obtained by summing the costs of food, rent, travel, health and education. The 5% margin is added on top. The total amount then represents the income that needs to earned by family members. In many families the income is earned by one or two adults depending on their employment. The living wage is calculated as the equivalent of a full-time worker. In the next step the net living wage is therefore obtained by dividing the total expenses by the family employment rate (e.g. family employment rate is 1.5 when one spouse is a full-time worker and other spouse works half of what typically constitutes a full-time employment).

2.9 Calculation of gross living wage

The living wage is presented as the gross monthly wage of a full-time worker so it is directly comparable to the gross monthly wage or national minimum wage. The gross living wage is obtained by correcting net living wage for mandatory deductions which apply to low earning workers in the country. WageIndicator wage survey asks respondents about their gross and net earnings. The ratio of gross/net income is used to calculate the share of earnings spent on taxes and mandatory deductions of low-earning workers.

2.10 Living wage principles

The calculation of living wage relies on several assumptions that we summarize here.

- Living wage reflects the local living standards and needs of workers and their family

- Living wage is calculated as a reference income of a full-time worker in gross terms
- Living wage is calculated for adults who are of economically active age and competent to manage their family budget efficiently.
- All family members are assumed to be in a good health.
- Overtime pay bonus is not accounted for, because the living wage should be earned during normal hours. The ILO Convention 1 (1919) states a maximum number of 48 working hours per week in all countries (ILO, 2008).
- When workers receive in-kind bonuses such as food, housing or travel allowances, these could be treated as an addition to the (living) wage received in cash. The living wage is assumed as the monetary equivalent of all income, including any in-kind provisions.
- Pay bonuses such as a 13th salary or any other bonuses may effectively decrease the living wage. However, bonuses are not included in the calculation as these are irregular and their amount is uncertain. Living wage is based on the assumption that monthly expenses should be covered by regular monthly income from labor. Irregular or incidental income is assumed to be used for extraordinary expenses.
- Living wage calculation follows the published methodology and is transparent. There is no manipulation to figures other that standard data cleaning for obvious outliers.
- A locally relevant living wage should be paid voluntarily by employers.

3. The presentation of living wages

3.1 Living wage family types

Living wage is family specific. 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 renumeration for work in support of workers and their families. The definition of a family is important for the living wage calculation and finally defines what a living wage represents. The calculation of living wage for different family characteristics reflects the diversity in the life-work situations found around the globe. WageIndicator present living wage for several family compositions also to respond to different demands for living wage information[5] expressed by stakeholders and end users:

- The **typical family living wage** is a baseline estimate that accounts for the variation in the household structure and employment conditions in a given country. In this definition a typical family includes two adults and the number of children is derived from the national fertility rate. In a typical family one adult is assumed to work full-time and the employment rate of the other adult is derived from the national employment rate. Living wage is set at the level that total income earned by both adults in net terms is equal to the calculated living costs. When both parents are paid living wage the family income is sufficient to meet a decent standard of living.
- The **standard family living wage** assumes 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 (Merk, 2009), and the campaigns in New Zealand (King and Waldegrave, 2012) and Vancouver (Richards et al., 2008)) which allows comparability. Third, the assumption of a family with two children keeps the population at the same level over time (population replacement). The living wage is calculated for four alternatives of family working schedules: i) the family

[5] The living wage calculation can be easily extended to other family types and different working schedules (e.g. US living wage calculator, available at http://livingwage.mit.edu/, distinguishes 13 family compositions (Nadeau, 2017)).

employment rate at 1.8 which means one adult is a full-time worker and the second adult has a working week of 80%, ii) both adults are full-time workers (i.e. the family employment rate is 2.0), iii) one adult is a full-time worker and the other works half-time (i.e. the family employment rate is 1.5), iv) one adult works full-time while the other is a non-wage-earning adult (i.e. the family employment rate is 1.0). Living wage is always calculated as the full-time wage. When each adult 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 adults must be sufficient to meet a decent standard of living. This implies that the 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 adult without children and employed full-time.

3.2 Lower– and upper-bound of living wage

WageIndicator presents calculated living wages as a range with a lower- and upper-bound. The lower bound of living wage is measured using prices taken at the 25th percentile, that represents a rather conservative scenario implying a cost-optimizing household seeking cheaper-than-average housing, food and other expenses. The upper bound of a living wage is measured using prices taken at the 50th percentile. The 25th percentile is the value for which 75% of respondents report higher values and the 50th percentile (median) represents the value in the middle of the distribution. The difference between upper and lower bound provides for a more transparent measure of living wages, reflecting the variation of prices and consumer preferences. One single figure, in contrast, could lead to the misperception that prices and consumer choices do not vary. Moreover, presenting living wage as a range captures (at least) some of the diversity in consumption and expenditure patterns which are present in everyday life.

3.3 Quality and consistency of living wage calculation

The reliability of living wages depends on the quality of data. WageIndicator ensures that all data used in the calculation is corrected for issues that could potentially bias the results.

The COL application collects prices continuously providing for regular and frequent updating of living wages across all countries. Price surveys are in general less demanding relative to surveys relying on individual data. Respondents in price surveys do not report

their personal characteristics and therefore the individual bias is minimized. The prices of goods and services are always cross checked for outliers and misreported figures are not used in the calculation.

WageIndicator presents calculated living wages as a range to reflect the variation of prices and consumer preferences. One single figure instead of a range could convey the false impression that the living wage is cast in concrete: it is not and cannot be. Living wages reflect the actual price levels of goods and services consumed by households. These price levels change over (even short periods of) time and also between regions in a country.

WageIndicator calculates living wages for different family types to account for the diversity of households. This also provides for reliable and highly informative comparison within and across countries.

WageIndicator updates living wages each quarter to keep up with changing price levels. In addition, living wage figures are checked for consistency over time. In case of structural discrepancies, WageIndicator consults national experts to detect and correct the source(s) of bias. Feedback on methodological questions and the quality of living wages is also obtained through factual discussions involving academic audience, general public and social partners in a country.

References

Anker, R. & Anker, M. (2017) Living Wages Around the World: Manual for Measurement. Cheltenham: Edward Elgar Publishing

Goedemé, T., Storms, B., Penne, T., & Van den Bosch, K. (2015). The development of a methodology for comparable reference budgets in Europe: final report of the pilot project. Brussels: European Commission

Guzi, Martin (2014) Estimating a Living Wage Globally. Young Public Policy Makers Case Studies "Living out of stereotypes". Bratislava: NISPAcee Press, 59-68.

Haughton, J. H., and Khandker, S. R. (2009) Handbook on poverty and inequality. World Bank Publications

International Labour Office (2008) Global Wage Report 2008/09: Minimum wages and collective bargaining – Towards policy coherence. Geneva: International Labour Organization (ILO).

King, Peter, and Charles Waldegrave (2012) *Report of an investigation into defining a living wage for New Zealand*. Wellington: Family Centre Social Policy Research Unit.

Merk, Jeroen (2009) Stitching a decent wage across borders: the Asia floor wage proposal. New Delhi: Asia Floor Wage Campaign.

Nadeau, Carey Anne (2017) *Living Wage Calculator. User's Guide / Technical Notes. 2017 Update, Prepared for Amy K. Glasmeier, Ph.D.* Cambridge, MA: Massachusetts Institute of Technology (MIT), Department of Urban Studies and Planning.

Richards, Tim, Marcy Cohen, Seth Klein, and Deborah Littman, (2008) *Working for a living wage: making paid work meet basic family needs in Vancouver and Victoria – 2008*. Ottawa: Canadian Centre for Policy Alternatives.