

# Estimating a Living Wage Globally

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## Abstract

During the last decade, the concept of a living wage has received renewed international attention. This paper contributes to the living wage discussion and introduces a method to calculate a living wage globally. The proposed approach is innovative in the way that it uses prices collected through web-surveys in order to provide timely, reasonably accurate and globally comparable estimates. The living wage is estimated for 100 countries and rates are contrasted with the indicators of the relative poverty line and national statutory minimum wage. The living wage is normatively based and therefore offers an additional metric of economic adequacy that reflects the needs of workers and their cost of living. Findings demonstrate that many workers in countries of Eastern Europe and in the most middle-income countries do not receive a living wage.

Key words: living wage, international comparison, minimum income

JEL Classification: I32, J30, J80

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## 1. Introduction

The income level necessary to secure a decent standard of living is an important economic yardstick of income adequacy. A living wage is defined as a wage paid for a standard working week that meets the basic needs of workers and their families and provides some discretionary income. The need for a living wage has also been recognised by the international community. In 1919, the International Labour Organisation (ILO) defined a living wage as a basic human right under their conventions and recommendations to the Universal Declaration of Human Rights Article 23 (ILO, 2008). In 1948, the United Nations Universal Declaration of Human Rights officially recognised the need for workers to receive a living wage. There was never a consensus on how to define a living wage, but in recent decades, governments, municipalities, international and local trade unions, and labour research institutes developed their own definitions and measurement methods of a living wage.

This paper contributes to the living wage discussion and suggests a method to calculate a living wage globally. The proposed approach is innovative in the way that it uses prices collected through web-surveys. Online survey tools can be a very cost-effective way for gathering data quickly and easily. The data collection through one central system is very efficient when a current global overview is needed. The remainder of this article is divided into three sections. Section 2 describes the data sources and the calculation method. Section 3 presents the living wage estimates and Section 4 concludes.

## **2. The concept of an internationally comparable living wage**

This paper introduces the concept of a globally comparable living wage that demonstrated how costly it is to lead a decent life in different parts of the world. It is the first attempt to provide globally comparable estimates of a living wage for a large number of countries.

### *Data sources*

Every attempt to calculate a living wage internationally requires considerable information from various national data sources or international databases on consumption patterns, food prices, and labour statistics. Even if data of the required quality can be obtained for a large set of countries, it is very likely to be outdated with limited use and without further adjustments. This paper uses the data base of prices collected through web-surveys in order to provide timely, reasonably accurate and globally comparable living wage estimates. The data base is collected by the website *Numbeo.com* which uses the knowledge of web visitors to obtain the prices of different items. Web visitors are invited to provide information on prices of about 50 items in a particular city. Users are aware that by updating information about their city they contribute to the project and help the others looking for information. The database collected by *Numbeo.com* is the world largest database of user-contributed information about cities and countries. The calculation of a living wage presented in this paper is based on prices posted at *Numbeo.com* from January, 2012 until November, 2013. All prices are converted to EUR with the exchange rate taken on the day of entry. For the estimate of a living wage the prices are taken at the mid-point of responses submitted for a given country. The final selection includes 100 countries for which the prices are provided from at least 50 web visitors.

### *Components of a living wage*

Whilst the definition of living standards can vary between countries and individual preferences, the emphasis is on ensuring comparability across the globe. The universal principle is applied to provide the estimation of a living wage in all countries. The living wage is defined as the amount of money for a single person, sufficient to cover food expenses, cost of accommodation, transportation and some discretionary income on a monthly basis.

Food expenses are based on a personal consumption of 2,830 food calories (kcal) per day recommended by the Food and Agricultural Organisation (Faostat, 2009). A balanced food basket is constructed following the food guide developed by Katamay et al (2007) for the Government of Canada.<sup>1</sup> Canada's food guide describes the types and amounts of foods that should be eaten in order to meet nutrient standards and to reduce the risk of nutrition-related chronic diseases. The guide divides all food into four groups: i) Grain products; ii) Meat and alternatives; iii) Milk and alternatives and iv) Vegetables and fruit, and prescribes the number of servings that should be eaten from each food group. The guide allows us to construct a diet model composed of food items for which *Numbeo.com* database collects prices. Table 1 in Column 1 lists 11 food items for which we observe prices. Columns 2 and 3 show the four food groups and the standard size of one serving. Column 4 provides the amount of food calorie equivalent for one serving and the information is taken from McCance and Widdowson (2002). Canada's food guide suggests a daily consumption for an adult person of 8, 3, 2 and 8 servings from the grain, meat, milk and vegetable food group respectively. Column 5 presents the diet model that delivers a daily consumption of 2,830 kcal and complies with the total number of servings per day recommended by Canada's food guide. The food calorie of the diet model is expressed in Column 6. Obviously the construction of the diet model is limited by the number of food items included in the *Numbeo.com* database and based on the assumption that observed food items are representative of its food group (in terms of price per food calorie). The calculation of monthly food expenses is then calculated as the cost of the food items specified in the diet model and multiplied by 30 days. The cost of food baskets varies with the diet model but the differences are small (e.g. when the diet model with less meat is evaluated, the maximum difference in monthly food cost is about 10 EUR).

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The cost of housing is the major component of a living wage and so the housing price has a substantial influence on the final estimates. The *Numbeo.com* data base includes the rental rate of a 1-room apartment outside an urban centre that is used as an estimate of housing cost. The living wage accounts for the cost of transportation, while most people commute to work or travel for their daily activities (e.g. shopping). In most places the transport service is available for use by the general public so the price of a monthly public transportation pass is taken as the cost of transportation. The average cost of a monthly pass varies between countries in the sample from 5 to 100 EUR but the price is higher when a city level is observed (e.g. the price of a monthly pass in London reaches 150 EUR).

**Table 1 The construction of a diet model**

Food item in Numbeo (1)	Food group (2)	One serving in kg (3)	Food calorie per serving (4)	Diet model in servings (5)	Diet model in kcal (6)
Bread	Grain	0.035	76.7	5.7	437
Rice	Grain	0.125	448.8	2.3	1032
Eggs (1pc=53g)	Meat	0.106	160.1	1.5	240
Chicken breast	Meat	0.125	221.3	1.5	332
Milk	Milk	0.250	165.0	1	165
Cheese	Milk	0.050	205.5	1	206
Apples	Vegetable	0.125	58.8	2	118
Oranges	Vegetable	0.125	46.3	2	93
Tomato	Vegetable	0.125	21.3	2	43
Potato	Vegetable	0.125	98.8	1	99
Lettuce	Vegetable	0.250	65.0	1	65
Total					2828

Source: Author's calculations

To summarise, the living wage is the sum of food expenses, housing rent, and public transportation pass. Following the practice observed in other studies (e.g. Anker, 2006; London Living Wage campaign) the final estimate of the living wage is increased by a 20 per cent margin to account for spending on non-specified discretionary purchases (e.g. clothing, health care, etc.). In other words, the assumption is made that expenses on food and housing account for 80 per cent of the total monthly budget.

### 3. Living wage estimates

Living wage estimates are provided for 100 countries for which the information is sufficient in the *Numbeo.com* database. The sample includes approximately two-thirds of all high-income; half of upper middle-income, and one-fifth of lower middle-income countries.

Zimbabwe is the only representative of a low-income country in the sample. In the future, the set of countries can be easily expanded when more data is available.

### *3.1. Living wage estimates in the 'Eurostat' countries*

Table 2 presents the living wage estimates for 30 European countries which are also included in the Eurostat database. We construct two estimates of a living wage; the first is the living wage for the country and the second is the living wage for the country's capital city (the only exceptions are Italy and Switzerland for which figures refer to Milan and Zurich respectively). Not surprisingly, in many countries, the cost of living is higher in the capital city. The largest difference is observed in the UK, where the estimated living wage in London is 50 per cent higher compared to the country average. Interestingly, the living wage estimate for London of 1,740 EUR is consistent with the hourly rate of £8.80 promoted by the London living wage campaign in 2013.

The poverty threshold, defined at 60 per cent of the national median, equalised disposable income in 2012 (in Column 3) and the official national statutory minimum wage (in Column 4) are included to provide a comparable metric of living standard. As one would expect, the poverty threshold is generally stated below the minimum wage, also because the minimum wage refers to a gross amount. The important observation is that living estimates are, in many countries, found close to the minimum wage level. It means that the living wage is capable of providing a practical basis for helping to set the level of a statutory minimum wage for a country, but also that statutory minimum wage is satisfactory and secures a decent standard of living. However, in a few countries of Eastern Europe (particularly in Bulgaria, Czech Republic, Latvia, Romania, and Slovakia) the living wage estimates are 50-120 per cent above the official minimum wage (and much more above poverty threshold). The living wage is normatively based and reflects the needs of workers and their cost of living, and therefore offers an additional metric of economic adequacy. By this metric, workers employed in the low paid occupations in Eastern Europe are likely to be earning below the level that allows an acceptable standard of living.

**Table 2 Estimates of a living wage for European countries**

Country	Living wage country	Living wage capital city	Income poverty threshold	Statutory minimum wage
Austria	860	860	1065	0
Belgium	970	1010	1000	1501
Bulgaria	360	360	143	158
Croatia	450	500	270	400
Cyprus	730	740	846	0
Czech Republic	510	550	389	308
Denmark	960	1070	1329	0
Estonia	460	530	299	320
Finland	980	1230	1134	0
France	960	1310	1030	1430
Germany	740	760	979	0
Greece	510	510	475	683
Hungary	350	360	237	332
Iceland	1180	1180	968	0
Ireland	1060	1240	986	1461
Italy	800	1090	800	0
Latvia	420	430	221	284
Lithuania	360	420	216	289
Malta	510	510	569	697
Netherlands	1070	1240	1028	1477
Norway	1680	1730	2001	0
Poland	480	580	253	368
Portugal	600	670	416	565
Romania	340	400	105	179
Slovakia	580	660	346	337
Slovenia	630	630	606	783
Spain	690	930	598	752
Sweden	970	1060	1231	0
Switzerland	1610	1700	1696	0
United Kingdom	1140	1740	856	1189

Source: Author's calculations.

Note: Figures are stated in EUR on a monthly basis. The living wage estimates for country capitals refer to Milan and Zurich in Italy and Switzerland respectively. The income poverty threshold is set at 60 % of the national median equalised disposable income as of 2012, published by Eurostat.<sup>2</sup> The statutory minimum wage for 2013 is published by Eurostat.<sup>3</sup>

<sup>2</sup> [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc\\_li01&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_li01&lang=en)

<sup>3</sup> [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=earn\\_mw\\_cur&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=earn_mw_cur&lang=en)

**Table 3 Estimates of a living wage for other countries**

Country	Living wage country	Poverty line	Statutory min. wage	Country	Living wage country	Poverty line	Statutory min. wage
Australia	1530	920	2095	Canada	1060	800	1430
Cambodia	310	199	0	United States	880	640	960
China	460	240	155	Argentina	510	280	593
Fiji	270	340	0	Brazil	480	240	283
Hong Kong	1020	640	505	Chile	500	440	325
Indonesia	410	240	68	Colombia	390	200	247
Japan	1090	1120	1087	Dominican R.	390	260	58
Malaysia	450	400	195	Ecuador	550	280	239
Mongolia	460	300	106	Guatemala	510	240	188
New Caledonia	1080	1080	0	Honduras	280	180	154
New Zealand	910	800	1460	Mexico	310	440	91
Philippines	260	240	95	Peru	250	180	214
Singapore	1710	720	0	Puerto Rico	540	720	0
South Korea	820	960	563	Uruguay	700	600	293
Taiwan	480	600	484	Venezuela	660	720	431
Thailand	400	200	189	Ethiopia	260	199	0
Vietnam	320	149	38	Kenya	520	199	43
Bangladesh	160	132	13	Namibia	590	260	0
India	170	99	43	South Africa	530	220	0
Nepal	120	116	70	Tanzania	510	199	19
Pakistan	150	99	80	Uganda	500	149	0
Sri Lanka	270	200	38	Zimbabwe	510	232	0
Egypt	210	140	0	Armenia	220	160	84
Emirates	960	480	0	Belarus	410	440	130
Iran	410	220	301	Bosnia&Herz.	270	200	158
Iraq	440	200	0	Georgia	280	200	41
Israel	680	560	841	Kazakhstan	520	480	94
Libya	430	400	269	Kyrgyzstan	250	132	13
Morocco	300	160	143	Macedonia	270	160	172
Oman	730	440	644	Moldova	250	160	56
Qatar	1070	520	0	Montenegro	370	440	186
Saudi Arabia	390	400	603	Russia	520	440	127
Syria	290	140	132	Serbia	290	180	170
Tunisia	180	120	100	Turkey	420	360	405
Yemen	250	182	0	Ukraine	360	180	112

Source: Author's calculations

Note: Figures are stated in EUR on a monthly basis. Statutory minimum wage is taken from Wikipedia websites. In countries with several minimum wages the lowest figure is chosen. The poverty level is estimated from the cost of food applying Engel's law (Anker, 2005).

### 3.2. Living wage estimates for the rest of world

Living wage estimates for the remaining countries are shown in Table 3. Countries are grouped by geographical regions and then listed alphabetically. The living wage estimates are compared with poverty lines and the official statutory minimum wage in the country. Since national poverty lines are not available for many countries, the Anker (2005) method is applied to estimate them consistently. In this way, the estimate of the poverty line is based solely on food prices, while the living wage estimate accounts for food, housing and

transportation costs. In countries with relatively low housing rents the living wage estimate is observed below the poverty line (e.g. Belarus, Mexico, Montenegro) while the opposite situation arises when housing rents are high relative to food prices (e.g. Australia, Qatar, Singapore). The important conclusion is that in most middle-income countries, the level of statutory minimum wage is set below the living wage and below the poverty line in the majority of countries.

#### **4. Conclusion**

Many workers in the world experience a large gap between the required level of monthly income and the existing regular wage received for their work. While a living wage might mean different things in different parts of the world, all living wage campaigns aim to ensure wages are sufficient to meet the basic needs of workers and their families. Despite its importance, internationally comparable estimates of living wage do not exist. This paper suggests a method to calculate a living wage globally, using prices collected through web-surveys. The living wage estimates are normatively based and provide a practical basis for helping to set the level of a statutory minimum wage in the countries.

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