



FACULTY OF
ECONOMICS AND
ADMINISTRATION

Estimating Living Wage Globally

Martin Guzi

Masaryk University, CELSI, IZA

AIAS 2017

What is living wage?

- Human right (since 1919 defined by ILO)
“ultimate objective is to ensure to workers a minimum wage that will provide a satisfactory standard of living to them and their families”
- In many countries minimum wage is not a living wage, and workers who earn minimum wage cannot afford a decent living standard.
- However there is no accepted definition of what a living wage is and no agreed methodology on how to measure it.
- Living wage as a metric of income adequacy.

- **The Mexican Constitution (1917)** states: *the general minimum wage must be sufficient to satisfy the normal necessities of a head of family in the material, social and cultural order and to provide for the mandatory education of his children.*
- **The Brazilian Constitution (1988)** stipulates: *national minimum wage be capable of satisfying their basic living needs and those of their families with housing, food, education, health, leisure, clothing, hygiene, transportation and social security, with periodical adjustments to maintain its purchasing power.*

Definitions of living wage

- **Global Living Wage Coalition:** “A 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”.
- **Asia Floor Wage** “proposes a wage for garment workers across Asia that would be enough for workers to live on”.
- **New Zealand** defines a living wage “as the income necessary to provide workers and their families with the basic necessities of life”.
- Campaign in **Vancouver** defines living wage “on the principle that full-time work should provide families with a basic level of economic security, not keep them in poverty”.



Good World **Solutions** Fair Wage Guide



GLOBAL
LIVING WAGE
COALITION



**Make
Minimum Wage
A Living
Wage!**



living wage
for families campaign



Living wage estimation (Engel's law)

- Households budget divided to food and non-food spending.
- German statistician Ernst Engel (1857) was the first to notice that poorer families tend to spend a higher share of their budget on food (*Engel's law*)

Living wage calculation:

1. Calculate food expenditure
2. Estimate non-food spending using Engel's law
3. Living wage is then the sum of food and non-food spending

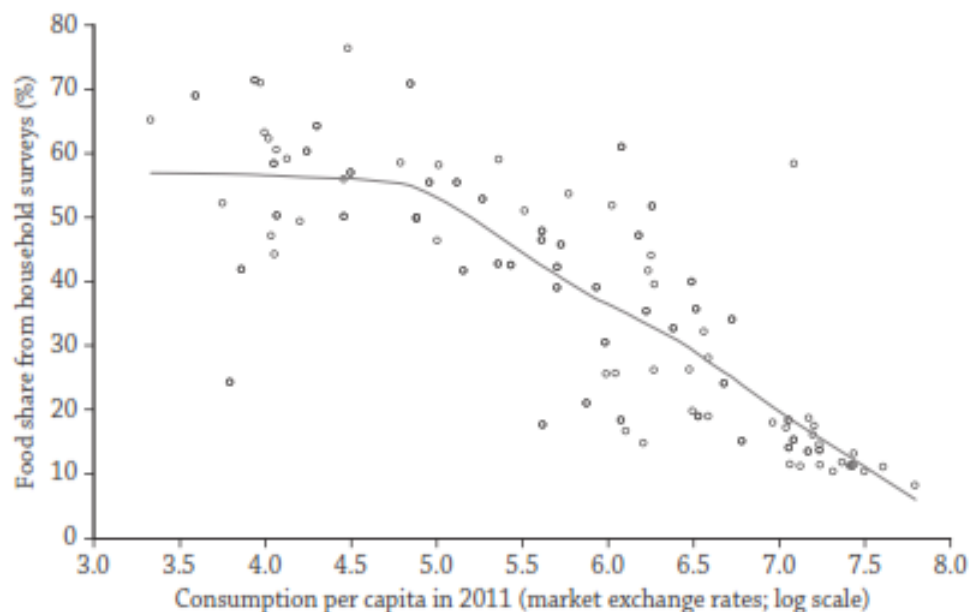
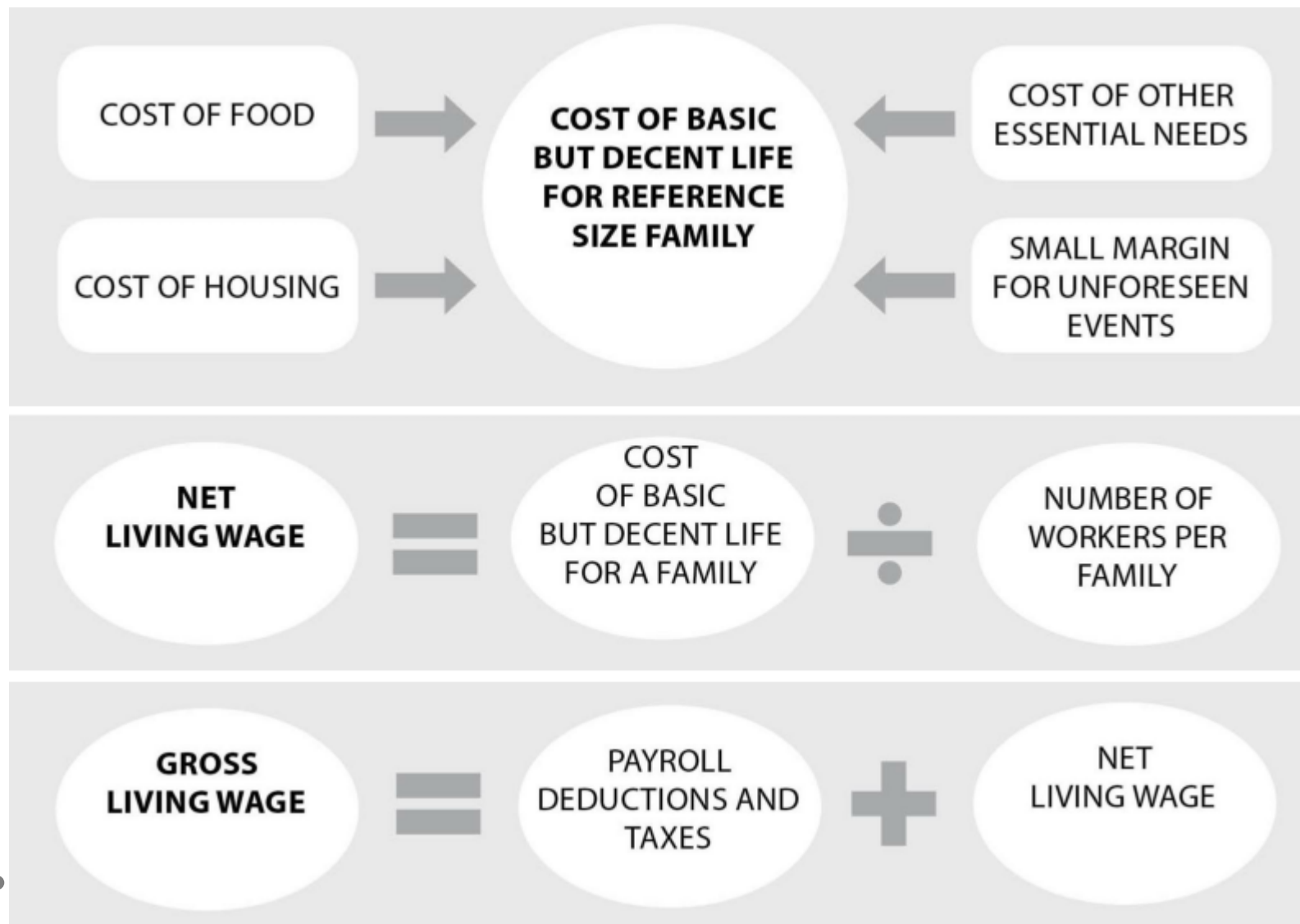


Figure B1.16.2 Empirical Engel Curve for Food across Countries. Source: Ravallion and Chen (2015).

Living wage estimation (Anker methodology)



Minas Gerais South/Southwestern Meso Region



Synopsis of Living Wage Study Conducted By
João Paulo Candia Veiga & Murilo Alves Zaccaro

Living Wage Estimated using the Anker Methodology

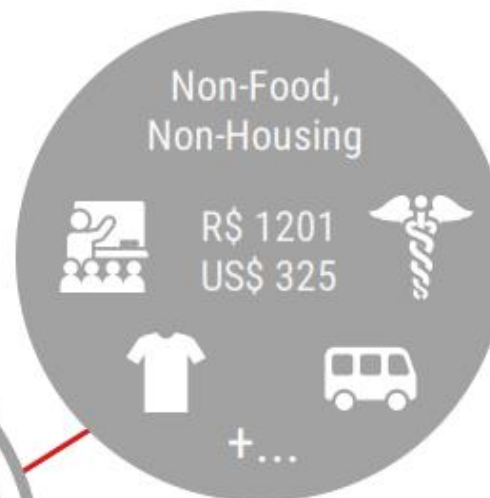


Family Size 4 | 2 Adults, 2 Children | 1.71 Workers Per Family

GLOBAL LIVING WAGE COALITION



**Mandatory
Deduction
from Pay**
R\$ 147
US\$ 40



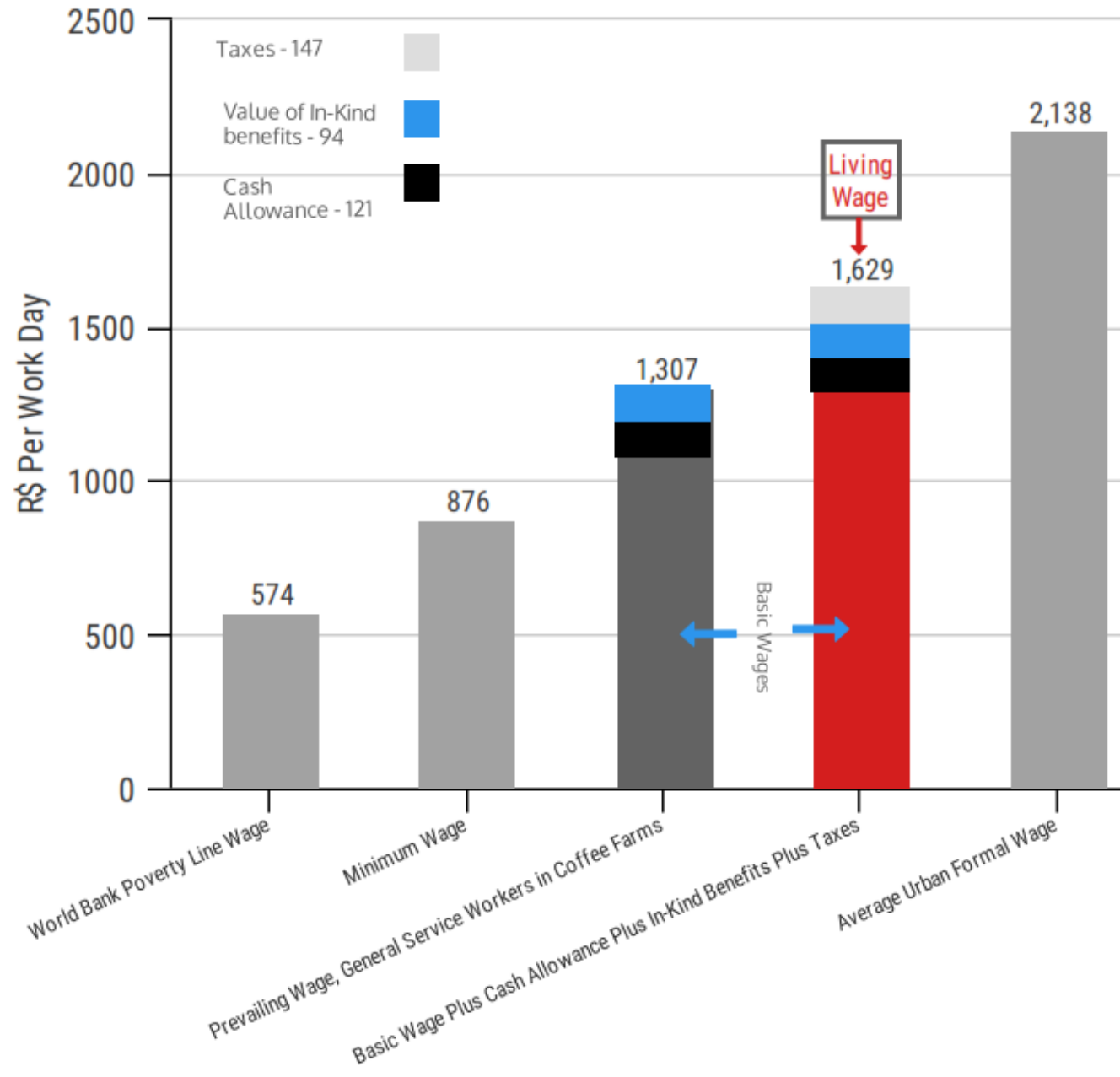
Local Housing Standard for Family of Four

- Housing should provide physical and structural safety and protection from cold, humidity, rain, wind, and other health threats;
- House should have a living room, two bedrooms, an indoor bathroom, and a separate kitchen. Total living space should be at least between the range of the interval of 44.5 to 55 square meters, including outside areas;
- Poor families should not spend more than 30% of their income on rent;
- Walls should be made of brick or plywood, yet stone and adobe walls, if adequately built, meet the standards for outside walls;
- For roofs, concrete slabs, zinc sheets, clay tiles, and plywood are adequate;
- Floors should be cemented, tiled or made of plywood;
- Access to electrical energy;
- Access to water supplied by a water utility;
- Access to sewerage system or, if not, to a public pit and

Model Diet

- 135 g of rice per day (around 1 cup)
- 21 g of maize per day
- 21 g of wheat flour per day
- 56 g of beans per day
- 50 g of bread per day (2 slices)
- 26 g of noodles per day
- 74 g of cassava per day
- 39 g of potato per day
- 123 g of meat per day (10 meals per week for the family)
- 43 g of eggs per day (close to 1 egg per day)
- 197 g of vegetables per day
- 115 g of fruit per day (1 orange or 1 banana)
- 200 g of milk per day (around to 2 glasses for every child daily)
- 24 g of sugar per day (6 teaspoons)
- 30 g of cooking oil per day (equivalent to 2 tablespoons)
- 1 cup of coffee per day for adults

Wage Ladder for Brazil



Living wage (minimum wage), 2016

- \$20.64 (10.85) in Vancouver (livingwageforfamilies.ca)
- 11.50 (9.15) EUR in Ireland (livingwage.ie)
- £8.45 (7.20) United Kingdom (livingwage.org.uk)
- £9.75 (7.20) in London
- \$19.80 (\$15.25) in New Zealand (livingwage.org.nz)

Living wage in the US

- US Federal poverty level is \$23,050, **\$10.60** per hour, minimum wage of **\$7.20** per hour
- **The living wage in the United States is \$15.12 per hour in 2015**, before taxes for a family of four (two working adults)
- Example: **Seattle**, Washington (livingwage.mit.edu)

Hourly Wages	1 Adult	1 Adult 1 Child	1 Adult 2 Children	1 Adult 3 Children	2 Adults (1 Working)	2 Adults (1 Working) 1 Child	2 Adults (1 Working) 2 Children	2 Adults (1 Working) 3 Children	2 Adults (1 Working Part Time) 1 Child*	2 Adults	2 Adults 1 Child	2 Adults 2 Children
Living Wage	\$12.19	\$25.62	\$29.99	\$38.75	\$19.55	\$23.84	\$26.29	\$31.65	\$28.09	\$9.21	\$14.04	\$16.29
Poverty Wage	\$5.00	\$7.00	\$10.00	\$11.00	\$7.00	\$10.00	\$11.00	\$13.00		\$3.00	\$5.00	\$5.00
Minimum Wage	\$9.47	\$9.47	\$9.47	\$9.47	\$9.47	\$9.47	\$9.47	\$9.47		\$9.47	\$9.47	\$9.47

The Living Wage Map

King County, Washington

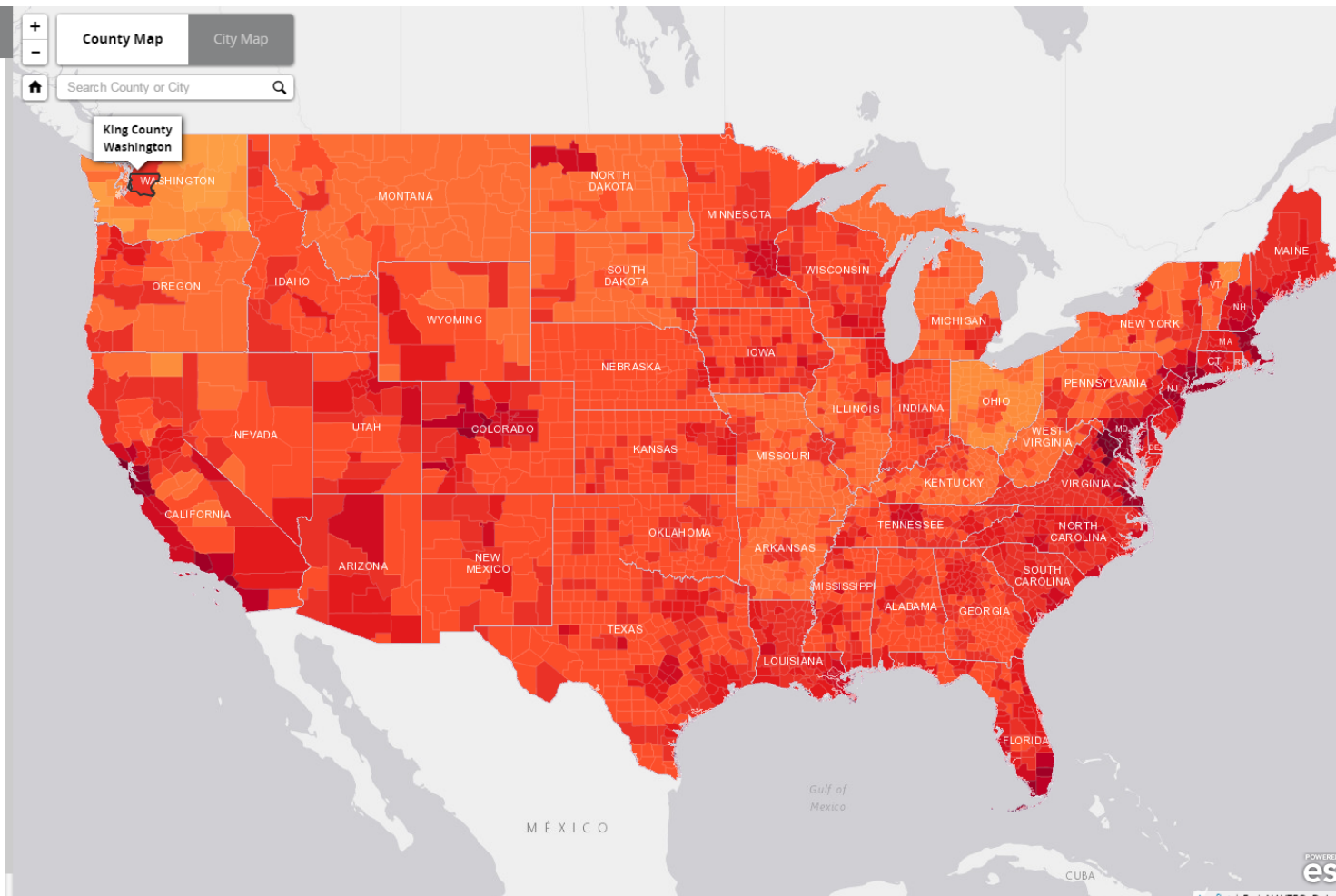
		
Parent with Spouse and Two Children		
\$24.09	\$9.32	\$14.77
LIVING WAGE	MINIMUM WAGE	THE GAP

Single Parent with One Child		
\$23.48	\$9.32	\$14.16

Single Adult		
\$11.19	\$9.32	\$1.87

MIT's [Living Wage Calculator](#) estimates the cost of living ("living wage") in each of the nation's counties and major metropolitan areas, and compares it to the minimum wage for a variety of household types. Mapped here are three types: parent with spouse and two children, single parent with one child, and single adult.

Variations in the gap between living wage and minimum wage occur for a variety of reasons. A city with a relatively high minimum wage, for instance, may still show a large gap due to a high cost of living. Conversely, living expenses tend to be lower in rural areas, making even a relatively low minimum wage come closer to meeting basic



<http://storymaps.esri.com/stories/2015/living-wage-map/>

Living Wage

We propose a method to calculate the living wage for a large number of countries with these characteristics:

1. Normatively based
2. Estimates sensitive to national conditions
3. Based on transparent principles and assumptions
4. Easy to update regularly
5. Estimates published online at



Elements of living wage

The living wage is defined as the amount of money sufficient to cover:

1. food expenses,
2. accommodation costs,
3. transport expenses,
4. provision for unexpected events,
5. mandatory contributions and taxes.

Living wage is calculated for different household types.

The approach is consistent with the Anker methodology used by the Global Living Wage Coalition.

Data

FAO food balance sheets include the national food consumption patterns in per capita units, distinguished for about 50 food groups.

Wage Indicator Cost-of-living survey started in January 2014.

- Prices are reported by web visitors
- Prices on 50 food items, rental prices, public transport, education and health expenditure
- Today we have sufficient data for 54 countries (more than 1,730,000 prices)
- Housing prices complemented from Numbeo.com

World Bank data on fertility and employment rates.

Cost of Living Survey

Tusalarario.es

• Usted comparte, nosotros comparamos

Salario

Leyes laborales

Carrera

Buscar



Conoce más sobre tu salario

- ¿Estás seguro de ganar lo que mereces? Compara tu salario
- Encuesta sobre salario y condiciones de trabajo
- Conoce el salario de celebridades



Conoce más sobre tus derechos laborales

- El recibo de la nómina
- El Salario mínimo
- Pensiones y Jubilación
- Leyes y Convenios
- Paro y desempleo
- Despido
- Tus derechos laborales
- Guía Laboral Ministerio Empleo



¿Orientación en tu desarrollo profesional?

- Empleo, Formación y Orientación profesional
- Másters y otros cursos
- ¿Adicto al trabajo?
- ¿Qué es la orientación laboral?

Cuál es el precio de...:
Papas dulces (1 kg)

Compara tu salario con el de puestos similares en nuestro comparador salarial

Rellena la encuesta sobre salarios y podrás ganar un salario mínimo!

Trabajo Decente Tu trabajo se ajusta a las leyes laborales de la España y a los convenios internacionales?

Cursos para Trabajar

Cuál es el precio de...:
Papas dulces (1 kg)

Si no conoces el precio de algún producto, puedes saltarlo

Encuesta, Salario para vivir

Región

→ **A Coruña (La Coruña)**
Lugo
Ourense
Pontevedra
Asturias
Cantabria
Álava
Guipúzcoa
Vizcaya (Bizkaia)
Navarra (Nafarroa)
La Rioja
Huesca
Teruel
Zaragoza

A Coruña
Ferrol
Santiago de Compostela
Una ciudad pequeña (10,000 - 100,000)
Un pueblo (10000 o menos)
Área rural

Encuesta, Salario para vivir

Región

A Coruña x

Si no conoces el precio de algún producto, puedes

Papas dulces (1 kg)

SAVE

Supermercado

Leche (regular) 1 lt

Hogaza de pan blanco fresco (500g)

Pan sencillo o pan pita (500 gr)

Arroz (1kg)

Huevos (12)

Queso local (1kg)

Crema (1kg)

Pechuga de pollo (sin hueso y sin piel), (1kg)

Food expenses

- Household food expenses are equal to the cost of a food basket valued at the current prices.
- Account for approx. 50 food groups.
- Food basket is scaled to 2,100 kcal/person/day
Handbook on poverty and inequality, World Bank 2009
- The food basket is checked whether it is consistent with WHO balance diet.

Food basket

Brazil

Food group	Food costs		Gram per day	Kcal per day	Price per item	
	Low	High			Low	High
Beer	25.1	35.8	119.4	42.7	7.0	10.0
Meat (pigmeat, poultry, bovine, others)	50.1	65.8	168.8	279.7	9.9	13.0
Seeds and kernels	0.0	0.0	0.0	0.6	5.0	8.0
Roots, Other	0.0	0.0	0.0	0.0	3.0	5.0
Sugar (Raw Equivalent)	11.9	18.8	104.3	273.8	3.8	6.0
Sunflowerseed Oil	0.1	0.1	0.5	5.2	4.0	5.0
Cassava and products	4.6	6.9	76.4	64.7	2.0	3.0
Oranges, Mandarines	6.2	9.3	103.0	27.8	2.0	3.0
Onions	0.7	1.1	12.4	5.2	2.0	3.0
Groundnuts (Shelled Eq)	4.1	5.7	27.1	42.1	5.0	7.0
Grapefruit and products	0.0	0.1	0.5	0.0	3.0	4.1
Citrus, Other	0.0	0.0	0.0	0.0	2.5	3.5
Rice (Milled Equivalent)	4.5	5.5	60.7	224.6	2.5	3.0
Cream	0.0	0.0	0.0	0.0	3.0	8.0
Milk - Excluding Butter	16.7	20.1	267.5	164.4	2.1	2.5
Lemons, Limes and products	0.4	0.7	7.3	1.3	2.0	3.0
Yams	0.1	0.2	1.1	1.3	4.0	5.2
Peas	0.0	0.0	0.4	1.3	3.0	4.0
Pulses, Other and products	0.0	0.0	0.4	1.3	2.6	4.0
Butter, Ghee	0.7	0.9	6.0	42.7	4.0	5.0
Apples and products	1.0	1.3	9.9	5.2	3.5	4.5
Plantains	0.0	0.0	0.0	0.0	2.0	3.0
Olives (including preserved)	0.1	0.2	0.9	0.6	5.0	9.0
Wine	1.8	2.7	3.7	2.6	16.0	24.0
Sweeteners, Other	0.0	0.1	0.7	2.6	2.0	3.0
Bananas	4.1	5.0	55.2	35.0	2.5	3.0
Maize and products	4.1	5.2	43.1	134.6	3.2	4.0
Coffee and products	1.0	1.2	5.5	2.6	6.0	7.5
Wheat, barley and cereals	11.9	22.9	99.1	258.3	4.0	7.7
Beans	3.1	3.8	29.1	97.7	3.6	4.4
Oils (soyabean, olive, palm, other)	2.7	3.6	30.3	269.9	3.0	4.0
Sweet potatoes	0.2	0.3	2.1	1.9	3.0	4.0
Tomatoes and products	3.8	4.6	36.2	7.8	3.5	4.2
Eggs	0.1	0.2	15.6	20.7	0.3	0.3
Soyabeans	1.0	1.4	6.7	12.3	5.0	7.0
Honey	0.1	0.1	0.2	0.6	10.0	15.0
Potatoes and products	2.6	3.4	34.1	22.7	2.5	3.3
Vegetables, Other	4.2	5.6	47.0	11.7	3.0	4.0
Fish products	8.5	11.3	18.8	10.4	15.0	20.0
Tea (including mate)	0.4	0.6	3.5	1.3	4.0	6.0
Total	176	244	1461	2100	169	243

Housing cost

- The cost of housing for a one-member household is approximated by the monthly rental rate for a one bedroom apartment.
- The housing cost for a family with children is derived from the rental rate for a 3-bedroom apartment.
- The housing cost includes utility and other housing costs
- We also use large database of reported housing prices from Numbeo.com (wisdom of the crowd)
- Because the quality of housing varies largely we predict prices.

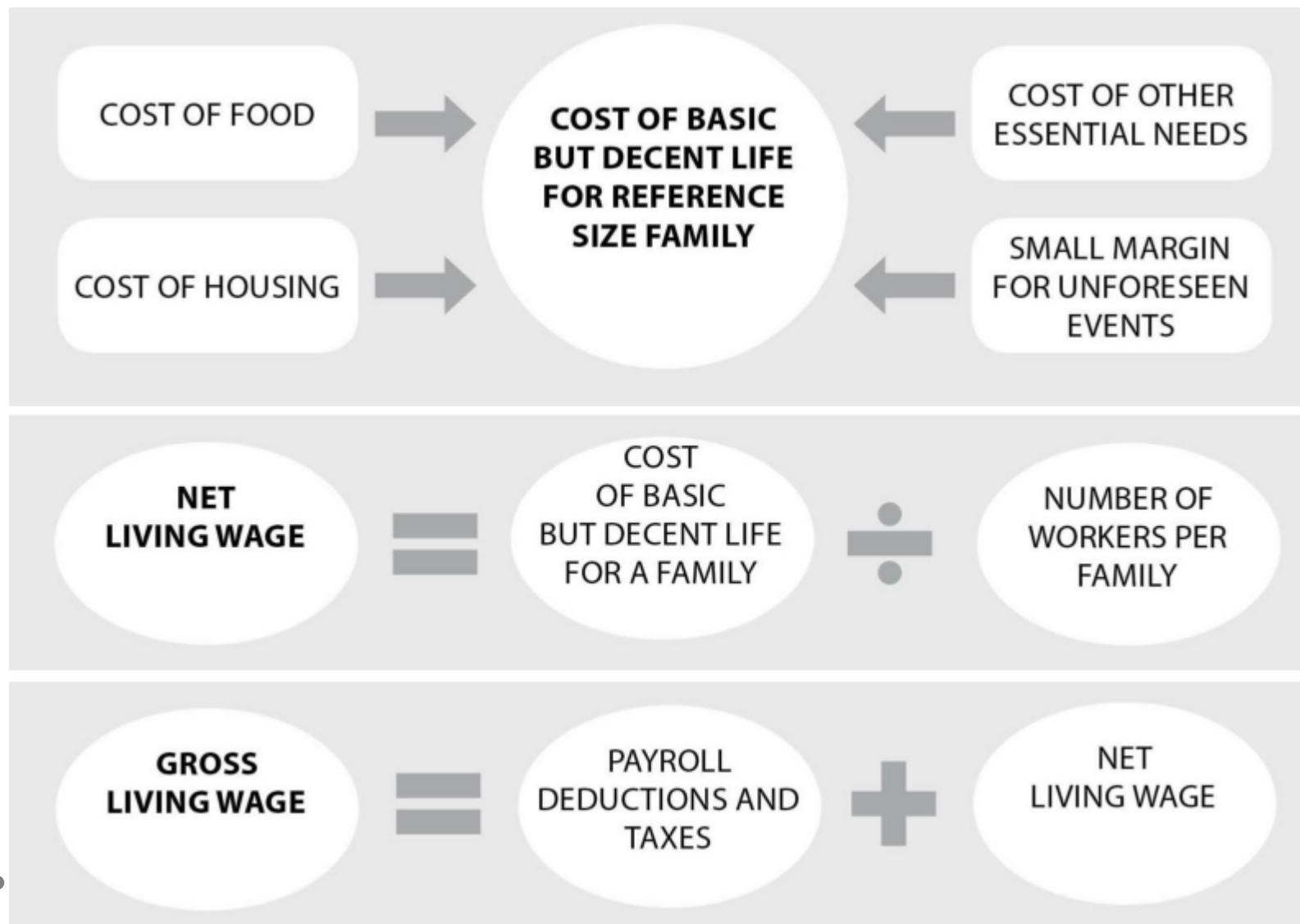
Transport costs

- Most people commute for work or travel for their daily activities (e.g. shopping).
- The price of a regular monthly public transportation pass is taken as the cost of transport.
- Children are assumed to travel for free.
- We use prices on public transportation from Numbeo.com.

Taxes and mandatory deduction

- WageIndicator asks respondents about their gross and net earnings. Using this information we calculate the share of earnings spent on taxes and mandatory deductions of low income workers.
- Gross living wage is constructed using this information.

Living wage estimation (Anker methodology)



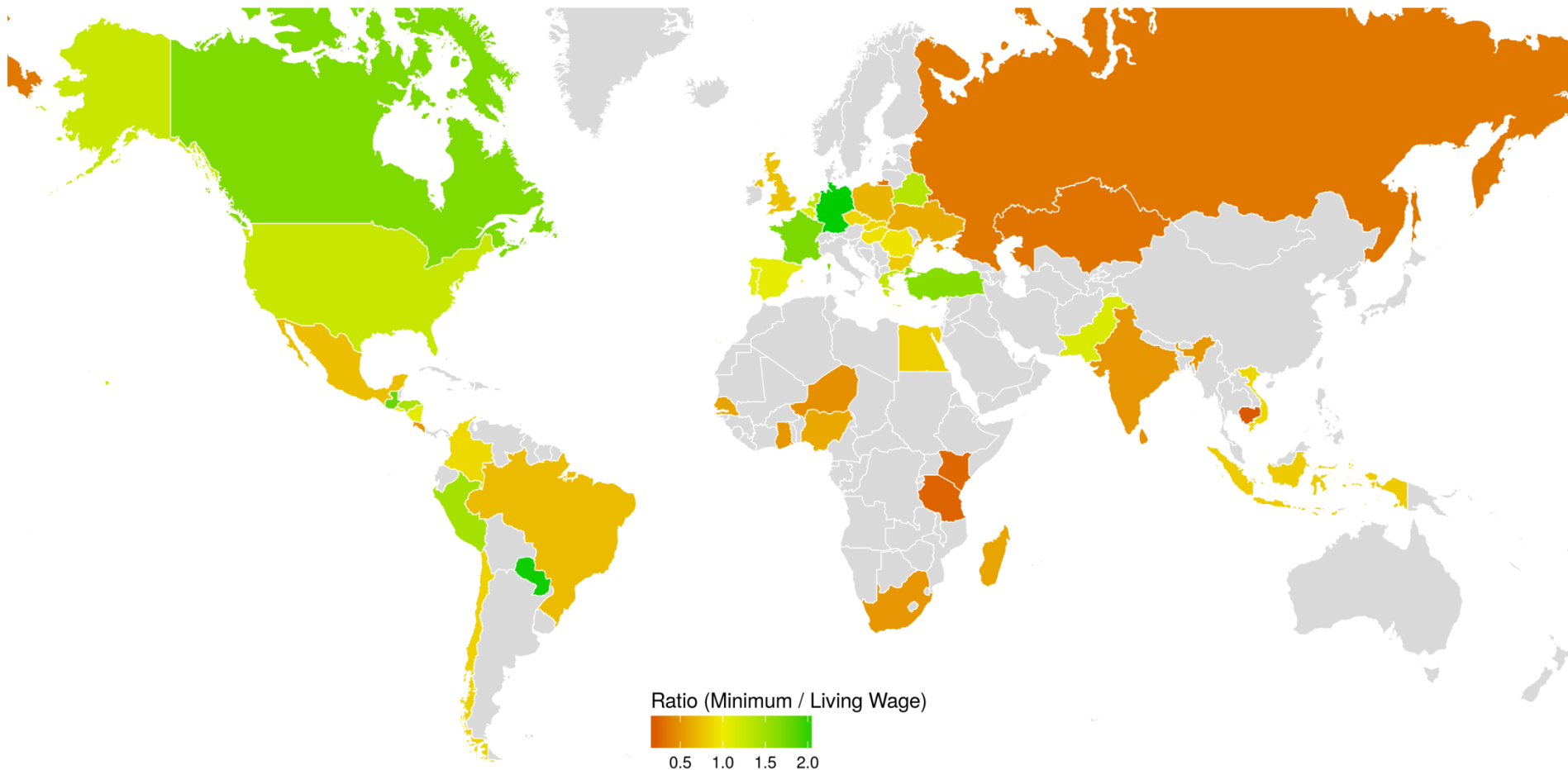
Wages in context: Brazil

Brazil	Individual		Family 2+2		Family 2+2
	Low	High	Low	High	Anker
World Bank poverty line	123		468		
National poverty line	450				
Minimum wage	880				
Wage low skill	970	1270			
Wage medium skill	1280	1780			
Wage high skill	2460	4130			
Living wage	1240	1610	1690	2220	1629
Food	176	244	704	976	656
Housing	676	873	1370	1760	630
Transport	120	145	240	290	
Other			231	303	1248
Taxes			232	304	147

Wages in context: the case of Netherlands

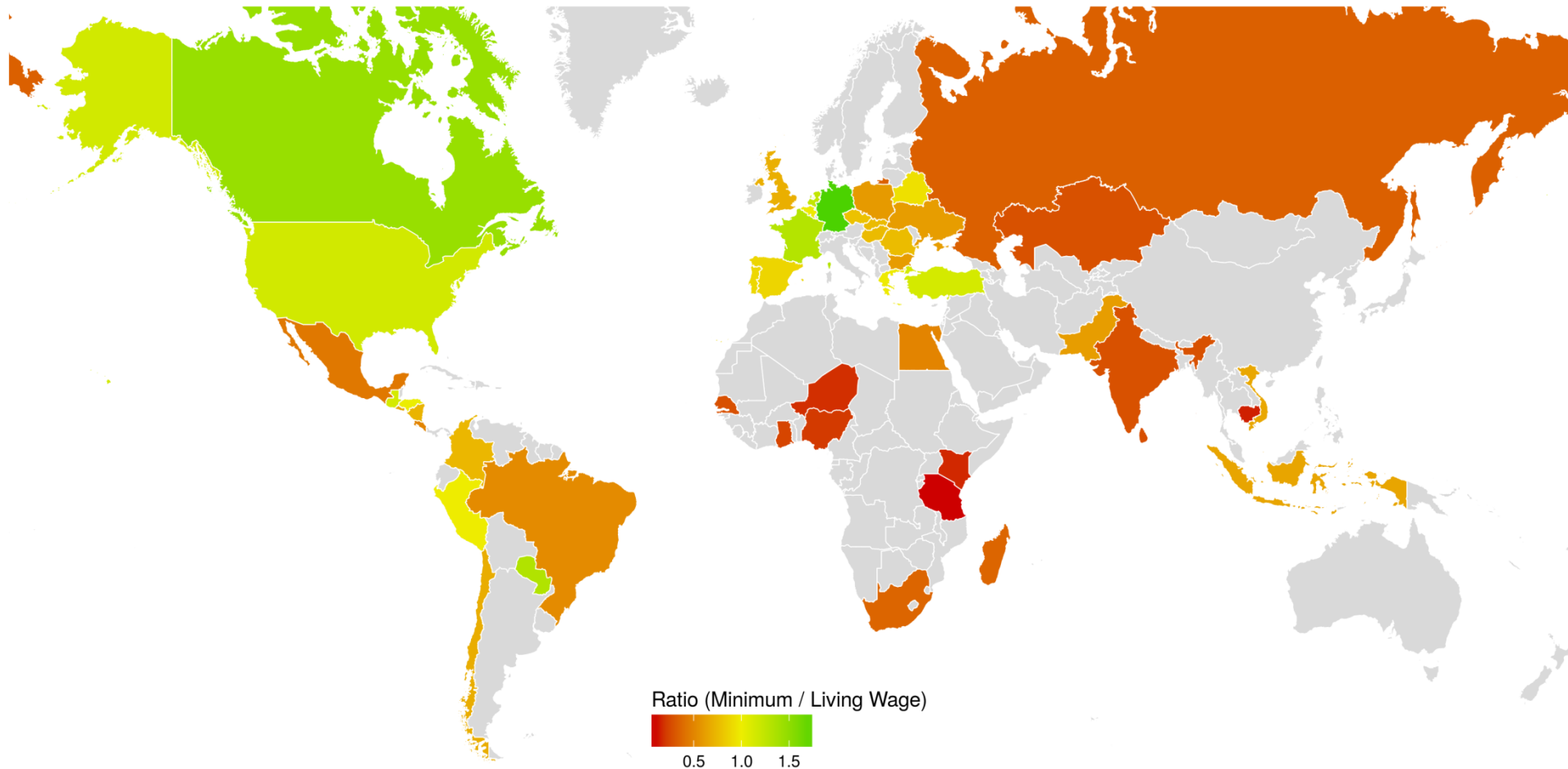
Netherlands	Individual		Family 2+2	
	Low	High	Low	High
World Bank poverty line	55		205	
National poverty line	1045			
Minimum wage	1125	1319		
Wage low skill	1400	1630		
Wage medium skill	1740	2100		
Wage high skill	2280	2860		
Living wage	844	1100	922	1230
Food	109	154	436	616
Housing	455	564	677	838
Transport	45	75	90	150
Other	61	79	120	160
Taxes	174	228	190	253

The ratio of minimum and individual living wage



The adequacy of minimum wage for 2+2 household

The ratio of minimum and family living wage



Country	Minimum wage	Living wage Individual		Living wage 2+2 family		Country	Minimum wage	Living wage Individual		Living wage 2+2 family	
		low	high	low	high			low	high	low	high
Angola	15003	39500	63600	93400	134800	Kazakhstan	24459	76600	100100	90300	123500
Argentina	8060	5680	7060	7500	9310	Kenya	5437	21800	29400	37300	52000
Australia	2915	1850	2260	2050	2580	Madagascar	144003	249100	354200	410800	571400
Austria	1387	886	1040	1090	1320	Mexico	2433	3370	4960	5600	7910
Azerbaijan	105	340	444	382	538	Netherlands	1125	844	1100	900	1200
Bangladesh	1500	6120	8930	12200	18000	Nicaragua	3481	3240	5110	4860	7120
Belarus	265	194	269	284	397	Niger	30047	64600	97100	184600	246200
Belgium	1051	946	1120	1080	1340	Nigeria	18000	29600	43400	93400	132300
Brazil	880	1240	1610	1700	2230	Pakistan	14000	12300	17000	23200	30500
Bulgaria	460	578	767	767	1000	Paraguay	1964507	958200	1326000	1464900	2009300
Cambodia	120000	668300	1091000	926500	1341900	Peru	850	578	849	859	1210
Canada	2184	1290	1520	1490	1780	Poland	1344	2000	2470	2280	2800
Colombia	737717	847300	1167800	1008200	1388400	Portugal	530	496	626	596	765
Costa Rica	286467	590400	787200	589600	824400	Romania	1400	1490	2000	1860	2410
Czech Repu	11000	12900	15800	14000	17700	Russian Fed.	7500	22200	35500	22700	34000
Egypt	1200	1470	2180	2460	3570	Senegal	38054	66500	97600	141600	181200
El Salvador	200	189	273	306	441	Slovakia	435	507	644	581	727
Finland		957	1220	1110	1460	South Africa	2603	5230	7220	7460	10000
France	1458	855	1060	1100	1370	Spain	655	616	871	747	1050
Germany	1839	892	1150	1030	1430	Sri Lanka	10000	21800	30900	38500	55600
Ghana	238	472	748	1040	1410	Sweden		8590	11100	10300	12700
Greece	511	399	475	522	623	Tanzania	40000	171700	262400	437200	648200
Guatemala	2418	1340	2090	2110	3170	Turkey	1778	1080	1660	1550	2410
Honduras	5870	4110	5250	5770	7930	Ukraine	3200	5170	7550	5310	7770
Hungary	127650	138100	180000	170400	230100	United Kingdom	598	804	1040	863	1150
Chile	264000	316200	407800	388100	521800	USA		991	1410	1070	1500
India	4160	8350	12100	15300	21000	Vietnam	2580000	2982600	4011400	3939000	5790500
Indonesia	1337645	1672000	2843300	2081400	3181200	Zambia		2040	2420	3150	4450
Italy		709	940	881	1190	Zimbabwe		259	411	306	490

• All figures in national currency on a monthly basis. Data 2014-2016. •

Conclusions

- We proposed the method to calculate the living wage for the large number of countries.
- The calculation is sensitive to country characteristics (e.g. food consumption, price variations, family composition, labor market conditions)
- Living wage could serve as an indicator of economic adequacy and a practical basis to set minimum wages.
- When information on prices is sufficient we calculate living wage for at regional level.
(currently we can estimate for 54 countries, 220 regions)

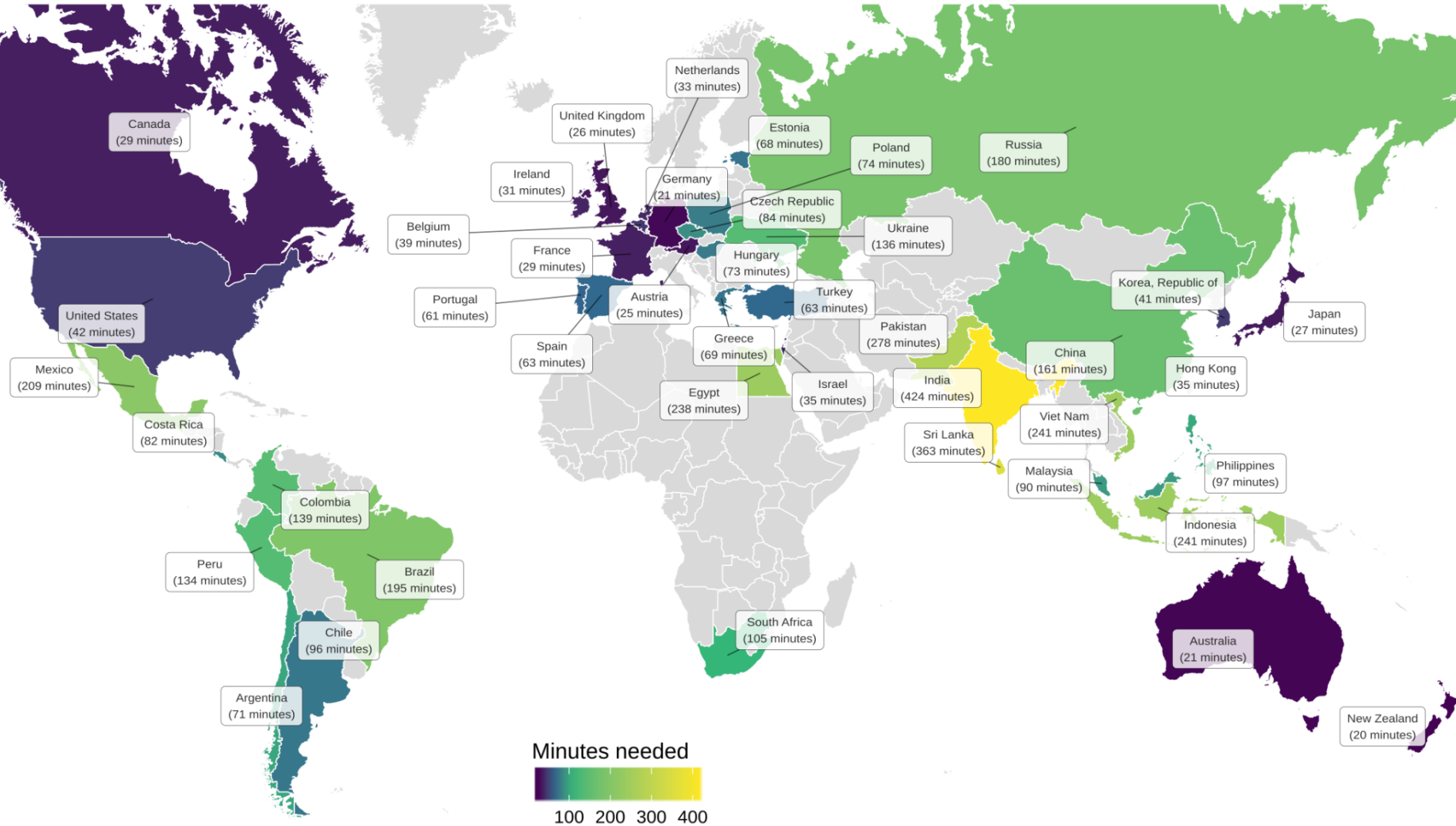




Comments are welcome:
Martin.Guzi@econ.muni.cz

Minutes Of Minimum-Wage Work To Buy A BIG MAC

How many minutes a minimum-wage worker would have to work to earn enough money to buy a Big Mac burger?



Notes: Big Mac prices are taken from The Economists and minimum wages are collected by Wage Indicator. The calculation assumes 173 working hours in the month.