Living Wage Report

Urban Brazil

Minas Gerais South/Southwestern Region Coffee Growing Industry

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Photo: Courtesy of UTZ - Paulo Roberto da Silva, worker at Fazenda Porto Alegre, UTZ certified since 2006 – Photographer Andre Berlink

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GLOBAL LIVING WAGE COALITION

Living Wage for Southern and Southwestern Minas Gerais State, Brazil with a Focus on the Coffee Sector[1]

Foreward

Brazil is an important country as it has the 5th largest population and the 7th largest economy in the world. This report is concerned with living wages in Minas Gerais State of Brazil with a focus on coffee production, since Minas Gerais is the most important coffee growing area in Brazil, which is the most important coffee producing country in the world.

Brazil provides an interesting case for investigating living wages and using our new methodology for measuring living wages in part because Brazil is an upper middle income country with a high Human Development Index. It is not a poor developing country where living wage studies are generally done; where wages are so low that most workers live in abysmal conditions and there is a large gap between prevailing wage and a living wage. In Minas Gerais as the authors show, permanent coffee wage workers do not live badly from the perspective of poor countries as most live in houses that have electricity, indoor water and toilet, and regular garbage collection; have diets that include egg and/or meat and bread more than once per day; and have reasonably good public options of public health care and children's schooling. On the other hand, this report also demonstrates that permanent coffee wage workers earn 25% less than a living wage for Minas Gerais for a basic living standard for this region of Brazil despite earning around 50% more than the minimum wage and around 2.3 times a poverty wage. These results demonstrate our methodology for measuring living wages works well in an upper middle income country such as Brazil.

This report provides a highly informative picture of local realities of the lives of coffee workers. We learn that almost all (9 out of 10) permanent coffee wage workers live in an urban area and not in a rural area as many readers might have expected given the product. We learn that children in Brazil receive a free meal at school and how this significantly reduces the cash wage needed to ensure a living wage since it significantly reduces the number of meals that need to be prepared at home. We learn that cash allowances, in kind benefits, and payroll deductions are all important and that it is not possible to understand prevailing wages and so the gap to a living wage without taking them into consideration. We learn that coffee workers live in healthy housing. We learn that real wages for coffee specifically and for

[1]We would like to thank, first of all, Richard and Martha Anker, who were always very kind in answering, so many times, methodology-related questions, plus providing enlightening comments on this report. Eduardo Sampaio and his team at UTZ Brazil were very helpful not only in setting up the logistics for the fieldwork, but also in sharing their views on the situation of the coffee sector in the region and making comments to this version. Professor Maria Sylvia MacchioneSaes followed the project from its beginning and contributed with her comments to different versions of this report. Noura Hanna and Mariecke van der Glas, from UTZ, and Michelle Bhattacharyya, from The Global Living Wage Coalition, provided careful guidance throughout the process of conducting the research and writing the report, plus comments on the report. The many stakeholders interviewed deepened our understanding of the coffee sector and its value chain structure. Last but not least, we would like to thank the workers, and their families, who talked to us in the field and opened their homes to answer unusual and detailed questions about their livelihoods. It is our intention that this report will help others in the value chain understand their working and living conditions and, ultimately, lead to their improvement.

agriculture in general have risen by more than 60% between 2004 and 2014. In short, this report is far from a mechanical cookie cutter exercise.

This report makes an important contribution to our understanding of the coffee industry and how it might be possible to raise wages of coffee workers to a living wage for Brazil. The authors pay attention to the full gamut of economic factors at work in recent years in the coffee sector in Brazil as they indicate and discuss recent changes in employment, productivity, wages, world coffee prices, and USD exchange rate. Based on this analysis, the authors make the valid point that if workers in the coffee sector in Brazil are to be paid a living wage, this will require involvement of standard setting/certifying organizations and the entire value chain up to consumers in high income countries and not just the involvement of government bodies and workers and farmer representatives in Brazil.

It is worth noting that although this report by Alex Barbosa and his colleagues is listed as number 5 in the Global Living Wage Coalition's series on living wages, it is in a sense a first. It is the first living wage report using our (Anker) methodology done by researchers other than ourselves. That it was done by Alex Barbosa and his colleagues is fitting, since Alex has played an important role in helping to implement our methodology as he has taken the main responsibility for backstopping future living wage studies for Latin America. This report on Brazil will be followed soon by many more living wage reports in this GLWC series from other well-known researchers. Somewhere around 20 other living wage reports and estimates are expected to be published in this series in the next six months or so for –Bangladesh (Dhaka), China (Chengdu, Hangzhou, Shanghai, Shenzhen, Suzhou, Zhengzhou), Ecuador (rural coast), Ethiopia (Ziway fresh flowers), Guatemala (rural coffee area), Nicaragua (rural) India (rural Uttar Pradesh and Tirupur, Tamil Nadu), Kenya (rural), Mexico (rural south), Nicaragua (rural), Pakistan (Sialkot rural and urban), Sri Lanka (tea estates), Tanzania (Arusha), Vietnam (HCMC and rural). In addition to these country living wage studies and estimates, a detailed manual on how to measure living wages using our methodology that we have written is expected to be published before the end of this year by Edward Elgar Publishing (Living wages around the world: Methodology for measurement). It is clear that the commitment of the Global Living Wage Coalition and its partner organizations to move forward on living wages is bearing substantial fruit.

Richard Anker and Martha Anker

June 7, 2016

1. BACKGROUND

This report estimates a living wage for the Southern and Southwestern mesoregion of the state of Minas Gerais, Brazil, for July 2015. It applies the methodology developed by Richard and Martha Anker (April 2015), which was based upon earlier studies conducted at ILO by Anker (2006a, 2006b and 2011). In order to estimate a living wage for this region, fieldwork was conducted in the coffee growing area surrounding the cities of Guaxupé and Alfenas. Data gathered in interviews with workers' families and several stakeholders,[2] complemented by secondary data, were the main empirical basis for the report.

This report was commissioned through funding provided by the Ministry of Foreign Affairs of the Netherlands, and relied on management support from UTZ, a member of The Global Living Wage Coalition. The Global Living Wage Coalition brings together Fairtrade International, Forest Stewardship

[2] The stakeholders include the plantation workers, the Guaxupé labor and employers' unions, EMATER (the state of Minas Gerais government agency in charge of technical assistance to farmers and their workers), one certifier, one auditor, one agronomic consultant, and two coffee cooperatives based in the region.

Council (FSC), GoodWeave International, Rainforest Alliance (RA), Social Accountability International (SAI), Sustainable Agriculture Network (SAN), UTZ, and the ISEAL Alliance, with the shared mission to see continuous improvement in wages for workers on farms, in factories and along supply chains, while participating in their respective certification systems and beyond, and committed to the long-term goal that workers be paid a living wage. Each living Wage Benchmark commissioned by the Coalition is made public to further this aim and to increase opportunity for collaboration toward payment of a Living Wage.

The Global Living Wage Coalition aims to develop living wage benchmarks in many countries based on a single definition and methodology designed to calculate a living wage, and as a critical step to enable industries and companies to move towards paying a living wage. The Coalition is working together with Richard Anker and Martha Anker, international specialists in living wages, to benchmark living wage levels in all areas covered by their standards using the new methodology developed by Richard and Martha Anker to measure living wages.

The Global Living Wage Coalition sees the calculation and release of Living Wage benchmarks as the first step in a long-term process. The Coalition does not believe the benchmarks will or should supplant collective bargaining rights, but will serve as a replicable tool to support social dialogue between workers and employers. For many producers in developing countries, wages make up an important part of the costs of production. As such, it is important to introduce wage requirements in the standards systems of Coalition members on the basis of dialogue with and engagement of stakeholders at every level of the supply chain.

It is important to stress that this report refers only to the estimation of the living wage for the chosen region and of the prevailing wages in the coffee sector. The compliance of the farmers with the social, labor and environmental standards set up in the different codes of conduct are under the responsibility of certifiers (in the case of certified farms) and of state and central government institutions.

The work of The Global Living Wage Coalition, including activities leading to this benchmark, is supported by the Ministry of Foreign Affairs of the Netherlands, Directorate-General for International Cooperation (DGIS).

2. LIVING WAGE ESTIMATE

Our estimate of a living wage for Southern and Southwestern Minas Gerais for July 2015 is R$ 1,629 (USD 440)[3] per month, therefore R$ 63 (USD 17) per workday. This value refers to what wage a worker needs to receive over the year in order to have a basic but decent living. However, for farmers and workers, the reference value is the “gross basic living wage”, which discounts the cash allowances and in kind benefits paid to permanent wageworkers. It amounts to R$ 1,414 (USD 382) in July 2015. For future periods, it needs to be updated according to the consumer price index (IPCA), which is used for indexing the minimum wage as defined by the Brazilian law. Table 8, at the end of the report, presents a summary of the process for calculating these values.

The research covers permanent wageworkers eligible to the labor rights provided for by the Brazilian 1988 Constitution. We are not considering workers living on-farm – to whom many in kind benefits are provided – but only those living in nearby urban areas. It was found out in this research, through interviews with local managers and other stakeholders, that in this region 9 out of 10 permanent workers

[3] The Brazilian currency was sharply devaluated during the period the research was being conducted. The foreign exchange rate used throughout the report (R$ 3.70 to USD 1) was reached in late November, lower than its peak levels but still much higher than the rates inJanuary2015.

live in urban areas where, in order to meet their needs, they depend upon the wage they earn. This is not only the case of the coffee industry, but also of most of the agricultural sector in Brazil, which has become increasingly capital-intensive, at least for farmers hiring wageworkers. Moreover, workers who are paid the wage agreed upon by collective bargaining and live on-farm with adequate housing do receive a living wage because of the value of the in kind benefits provided. These workers were not considered for the calculation of the living wage. The following estimate applies to permanent coffee wageworkers living in urban areas.

Despite the recent government policy aimed at increasing the real value of minimum wages in Brazil, we came to the conclusion that the gross living wage for this area is almost two times higher than the national minimum wage and 25% higher than the average monthly prevailing wage in the sector at the time the field work was conducted. The average monthly prevailing wage was calculated by taking into account: (1) pay set forth by collective bargaining agreement signed between employers and trade unions, which is paid 8 months a year; (2) earnings during the harvest season (May to August), which are above the monthly wage earned during the non-harvest season; and (3) cash payments required by the Brazilian labor law and in kind benefits. The prevailing wage refers to regular workers hired to perform "general services", an occupation at the bottom of the coffee farm wage ladder, who account for the vast majority of coffee wageworkers.

3. CONTEXT

Brazil has a population of 202 million people and ranks as the 7th largest economy in the world. In the post-2000s, it improved its human development index (HDI), which rose to the 79th position in the UNDP ranking, thus placing Brazil in the group of high human development countries. Most of the country's recent increase in HDI is related to improved education and health indicators. Poverty and inequality also fell over this period. However, 15% of the population is considered poor and almost 5% extremely poor, according to calculations by Rocha,[4] who considers consumption baskets for 25 different areas in the country (IETS, 2014). Yet Brazil's Gini coefficient is still very high (0.52) if compared with other developing and developed countries. For instance, the inequality adjusted HDI shows Brazil losing 16 positions in the world ranking (HDR, 2014).

Improvement of social conditions, at least up to 2013, when the country started experiencing an economic downturn, can be accounted for by higher economic growth rates when compared to the 1980s and 1990s, but most importantly by labor market performance in a context of rising minimum wages and expanding social policies, including cash-transfer mechanisms.

However, regional and social disparities remain very high. In rural areas, especially in the poorest regions of Brazil, like in the Northeast, it is more common to find informal wageworkers not getting paid the minimum wage. For temporary workers during harvest, informality varies across regions, and depends on the sector and the size of the farm, as well as certification status. For smallholders, the income earned is usually not enough to meet their family's needs, which happens all over the country, also depending on the region, sector and the size of the farm.

On the other hand, urban areas, with higher living costs, today concentrate the poor population (83% of the total) in Brazil (IETS, 2014) – made up mostly of informal workers and low-paid workers of the formal labor market.

[4] For the methodology, see Rocha (1997).

Table 1 – Economic and Social Indicators for Brazil (2013)

Population	202 million	5th largest population
GDP per capita	USD 15,038 (PPP)	74th in the world ranking
Human Development Index	0.744 (high human development)	79th in the world ranking
Population below poverty line	29.2 million	15.3% of total population
Population below extreme poverty line	9 million	4.7% of total population
Inequality (Gini Coefficient)	0.52	

Source: UNDP/World Bank/IETS.

The Minas Gerais Southern and Southwestern mesoregion, as classified by national statistics office IBGE (Brazilian Institute of Geography and Statistics), is not only the country's most important coffee growing area, but also the world leader. It accounts for 24% of the Brazilian coffee production (Informe Café, May 2015), most of which is exported. The mesoregion has a population of around 2.5 million people (2 million living in urban areas). Field research was conducted mostly in Alfenas and Guaxupé, located in the microregions of Alfenas and São Sebastião do Paraíso, respectively, which together have a population of 500,000 people, or 20% of the mesoregion's total. In terms of hectares, these microregions represent almost 40% of the mesoregion's total coffee growing area (MOREIRA & FARIA, 2010).

Even though larger cities within the mesoregion, such as Poços de Caldas, Pouso Alegre, and Varginha, tend to be more expensive than the smaller municipalities spread across the mesoregion, as in the case for instance of Cabo Verde,[5] also visited during the fieldwork, we may assume that the living wage estimate is generalizable for the whole region because basic expenditures like food and housing – and also non-food and non-housing expenses– do not vary substantially.

In Table 2 below, we can notice that the two microregions included in the fieldwork, as well as the Southern and Southwestern mesoregion of the Minas Gerais State, have an urbanization rate of slightly over 80%. The mesoregion's GDP per capita is very close to the Brazilian average, that is, 10% below average. Moreover, its human development index (HDI) is higher than the averages for both the country and the state of Minas Gerais, at least if we look at the data available for the 10 largest cities in the mesoregion. As the HDI includes, besides GDP per capita, education and health indicators, it can be implied that social conditions in this area are better than the average of the country.

Actually, it is a well-known fact that the HDI of those municipalities in the state of Minas Gerais whose economy is based on coffee growing is higher than the state's average (Revista do Comércio, March 28, 2012).

[5] In this case, wageworkers or smallholders usually live in rural areas.

Table 2 – Data for Brazil, State of Minas Gerais, Microregions of Alfenas and São Sebastião do Paraíso, and 10 Largest Municipalities in the Mesoregion – 2010

	Population (2010)			Urbanization Rate (%)	GDP per capita in R$ (2012)	HDI (2010)
	Total	Urban	Rural			
Brazil	190,755,799	160,925,804	29,829,995	84.4	22,642.4	0.744
Minas Gerais	19,597,330	16,715,216	2,882,114	85.3	20,324.6	0.731
Southern/Southwestern Mesoregion	2,438,611	1,980,222	458,389	81.2	20,347.6	
São Sebastião do Paraíso Microregion	265,777	214,289	51,488	80.6	21,346.3	
Alfenas Microregion	225,356	184,501	40,855	81.9	17,489.2	
Poços de Caldas	152,435	148,722	3,713	97.6	29,691.7	0.779
Pouso Alegre	130,615	119,590	11,025	91.6	28,306.8	0.774
Varginha	123,081	119,061	4,020	96.7	32,003.5	0.778
Passos	106,290	100,842	5,448	94.9	16,034.7	0.756
Itajubá	90,658	82,764	7,894	91.3	19,421.0	0.787
Alfenas*	73,774	69,176	4,598	93.8	21,932.4	0.761
TrêsCorações	72,765	65,826	6,939	90.5	25,894.4	0.744
São Sebastião do Paraíso	64,980	59,953	5,027	92.3	18,658.4	0.722
Três Pontas	53,860	46,280	7,580	85.9	15,837.3	0.731
Guaxupé*	49,430	46,480	2,950	94.0	37,070.5	0.751

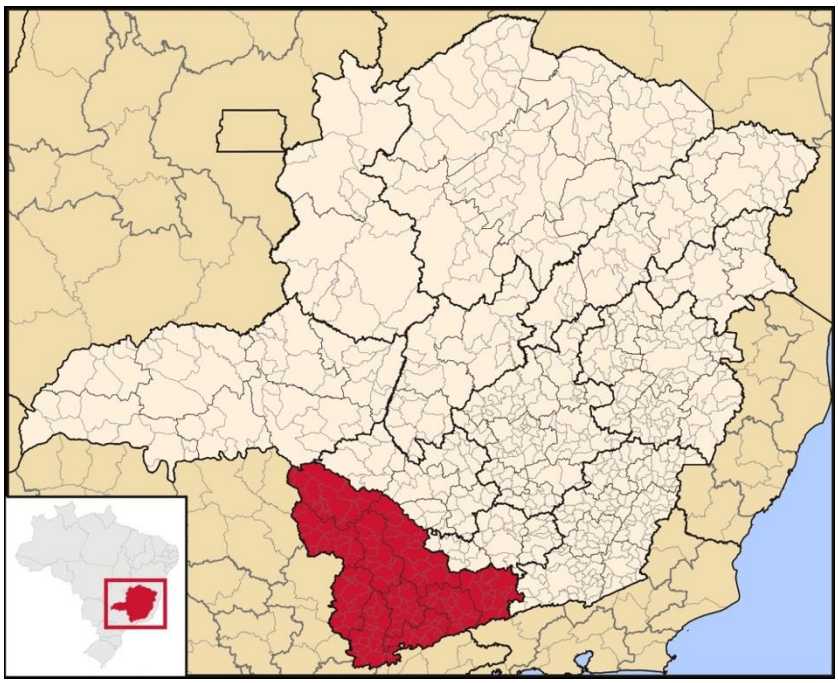
Source: IBGE, Demographic Census, 2010; UNDP, Human Development Atlas, 2013.
* Cities visited during fieldwork.

Below we can see a map of Brazil, with the state of Minas Gerais highlighted (figure 1); next, a map of the state of Minas Gerais, with the Southern and Southwestern region at the bottom (figure 2), and then two Minas Gerais maps, with the microregions of São Sebastião do Paraíso and Alfenas highlighted (figures 3 and 4).

Figure 1 – State of Minas Gerais in Brazil

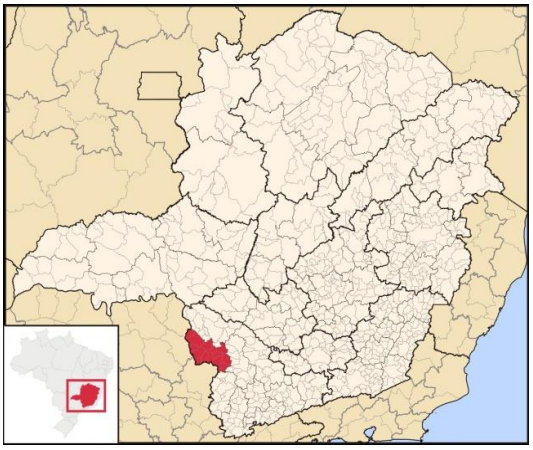
Source: Wikimedia

Figure 2 – Southern/Southwestern Mesoregion of Minas Gerais



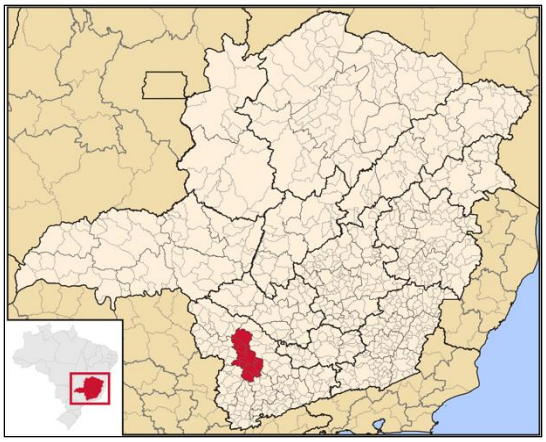
Source: Wikimedia

Figure 3 – São Sebastião do Paraíso Microregion



Source: Wikimedia

Figura 4 – Alfenas Microregion



Source: Wikimedia

4. CONCEPT AND DEFINITION OF A LIVING WAGE

The living wage has increasingly become an overarching concept with different meanings and therefore different methodologies for its calculation. The main idea behind the concept as used in this report is straightforward. It assumes that living costs vary a lot within the same country. So it avoids any attempt to come up with a single estimate, especially for a country as complex as Brazil. The living wage is calculated on the basis of what is necessary for a basic and decent living in a specific setting. Therefore, even though the living wage benchmark has been estimated for permanent wageworkers hired by the coffee farms, it is applicable to any worker living in urban areas of the Southern and Southwestern mesoregion of Minas Gerais.

Even though there is no agreed definition of living wage on a world basis, the methodology used in this report (Anker & Anker, 2016) provides a reliable way for measuring it. It assumes that a living wage is a right according to the international community; is place and time specific; and should both meet the needs of a basic and decent standard of living and ensure that the disposable income – earned during regular working hours – may meet a family's costs of living. Following from these assumptions, a common definition was agreed upon by Global Living Wage Coalition and its seven standard setting organizations and ISEAL:

"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& Anker, 2016)

So it is no longer acceptable to argue on the grounds of absence of a reliable methodology and concrete definition as a reason for companies not to pay a living wage, even if they abide by existing codes of conduct. The methodology and definition are already in place and this report is further evidence of this new reality.

However, paying a living wage may require a period of time before farmers are able to increase performance and changes across the value chain are undertaken in order to redistribute revenues between its main actors.

5. HOW A LIVING WAGE IS ESTIMATED

The methodology used in this report is based on the following principles: transparency in the process of calculating costs; normative basis for diet and housing standards (both international and national); mix of fieldwork and secondary data in order to make it more practical; and estimates of all relevant forms of worker pay.

Several steps – presented in the upcoming parts of this report – are required in order to come up with an accurate and reliable living wage estimate. The basic costs to be estimated include a nutritious low-cost diet, basic acceptable housing, and other expenses, here labeled as non-food/non-housing costs (NFNH). It is important to stress that we are not speaking of individual workers but of families, which are the basic unit in this study. Thus, an average family size needs to be estimated, and for that we will rely on secondary household data. The same applies to the number of permanent adult workers, as more often than not there is more than one person providing for the livelihood of the other family members. Furthermore, a margin for sustainability and unforeseen events should be taken into account. Lastly, statutory payroll deductions and taxes need to be added to the net living wage in order to reach a gross living wage. These steps are shown in figures 5, 6, and 7 below.

Figure 5: Components of a basic but decent life for a family

Figure 6: From cost of basic but decent life to net living wage

Figure 7: From net living wage to gross living wage

Source: Anker&Anker (2016).

Moreover, the estimates used in this report include not only foods costs, but also housing costs –both calculated on the basis of data collected during field research – and other important costs, drawing from government household surveys such as PNAD (National Household Sample Survey) and POF (Household Expenditure Survey). The latest PNAD survey was made available for 2013, while the latest POF survey was released in 2008/2009. Both surveys are conducted by the Brazilian Institute of Geography and Statistics (IBGE).

Calculations of the share of non-food/non-housing costs relied on secondary data. However, education, health and transport expenditures were subject to "postchecks" – using data collected during the field research – to assure the meaningfulness of the data. Statutory payroll deductions were added in order to arrive at a gross living wage estimate. (Anker and Anker, 2016, forthcoming)

It is worth noting that the gross living wage and the prevailing wage, that which is actually earned by workers, are reference numbers, which should be looked at in context. The process of assuring a living wage is paid to coffee plantation workers living in the urban areas of Southern/Southwestern Minas Gerais is not an immediate one. An understanding of how the value chain is organized and how value added is distributed along the chain, not only to workers and farmers but also to intermediaries and all the way up to the final retailers, seems the best way to ensure its application.

SECTION I.

Cost of a Basic but Decent Life for a Worker and Their Family

6. FOOD COSTS

6.1 General principles of model diet

The present section is aimed at estimating costs of living for workers in our region. Concerning food costs, some principles work as guidelines. The diet should be nutritious, as set by national and international standards, and follow local food habits. Also whenever possible, low-cost food items and brands have been chosen, as the main idea is a healthy but basic diet that is affordable. Total food costs, therefore, set a sort of threshold level for these expenditures, below which a wage cannot be considered a living wage.

6.2 Model diet

In order to estimate food costs, the several steps taken were based on the Anker & Anker methodology (April 2015). First, in order to obtain a model diet we started with the food guide for a healthy diet produced by the Brazilian Ministry of Health (MINISTÉRIO DA SAÚDE, 2008), which follows FAO and WHO recommendations. Below (Table 3), we can see the average number of calories for each group of food items.

Table 3 – Average Number of Calories for Food Groups and Corresponding Portions Recommended by Brazil's Ministry of Health

Groups of Food Items	Average number of calories	Number of daily portions	Calories per portion
Cereals, grains and tubers	900	6	150
Beans	55	1	55
Fruits and juices	210	3	70
Vegetables	45	3	15
Dairy products	360	3	120
Meat and eggs	190	1	190
Oils and fats	73	1	73
Sugar and sweets	110	1	110

Source: *Guia Alimentar para a população brasileira* [FoodGuide for theBrazilianPopulation], MINISTÉRIO DA SAÚDE, 2008.

The second step was to choose the items for each food group that make up the basic diet of the population of the state of Minas Gerais, for which we also benefited from the interviews with the workers' families. Household expenditure POF survey provided the data on food acquisition in this state and also worked as a frame of reference.

The number of calories for each person followed the calorie requirements form produced by Anker & Anker (2016 forthcoming). Here we used: (1) the average height of adults as reported in the household POF survey – 1.73 for men and 1.62 for women, on average, for urban areas in Brazil, (2) the reference family size, here assumed as 4 people, two adults and two children, as explained further in section 11, and (3) the physical activity level of the members of our average family: 1 vigorous member (adult), a hard worker on a coffee farm, for instance, and 3 members with moderate activity (1 adult and 2 children). Sedentary, moderate and vigorous lifestyles depend on the kind of "work" and the amount of energy spent during a day. This led to an average number of calories for each person of 2411 calories. The number of calories of the food items (and their respective portions) chosen for the basic diet was then recalculated in order to match total average calories. Also some checks were made in order to make sure that no essential changes had occurred in the minimum amount of calories of each food item. This was the third step.

It is important to mention that Table 4 below presents total edible grams per day for each person in the family used to estimate our living wage. This means that skins, seeds, bones, and shells were excluded from total grams. Calculations of the edible percentage of each food item were based on data from the USDA (United States Department of Agriculture, 2014). Inedible parts were, of course, included when we collected local food prices through a survey of local markets.

After these calculations, our model diet for each person included:

- 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)
- 43 g of eggs per day (close to 1 egg per day)
- 197 g of vegetables per day
- 115 g of fruit per day (1orange 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

Our model diet is consistent with local food preferences.

We also chose the least expensive items and brands for each group of food items. Rice and beans is a typical combination in Brazilian cuisine. For meat, we included the least expensive varieties, i.e., chicken breast steak, pork loin (very typical in the region), and also the cheapest variety of beef. Apart from not being typical of this region's diet, fish is quite expensive and thus was excluded from the diet.

As for vegetables, cabbage and kale are two of the most consumed green leaves in Brazil, apart from being less expensive than lettuces, for instance. Kale is also rich in proteins.

Cassava was included in the model diet because it is a relatively inexpensive root. Potato is also included, as it is heavily consumed in the region, yet its quantity was reduced because it costs three times more

than cassava. Following the same approach, we used less bread than recommended for cereals and replaced it with noodles.

Bananas and oranges are included in the model diet both because they have the lowest cost in the fruit group and are the most commonly eaten fruit in Brazil.

For fats, soybean oil was chosen because it is used for cooking most meals in Brazil. The quantity of sugar follows the recommendations of the Brazilian Ministry of Health.

For milk, children aged 1 to 14 years should have at least 2 glasses a day. Drinking milk is not a habit for adults in Brazil. In a family of four, as is our case, this would result in two glasses for every child below age 14.

Table 4 – Model Diet in Grams and Total Cost in R$ and USD per day

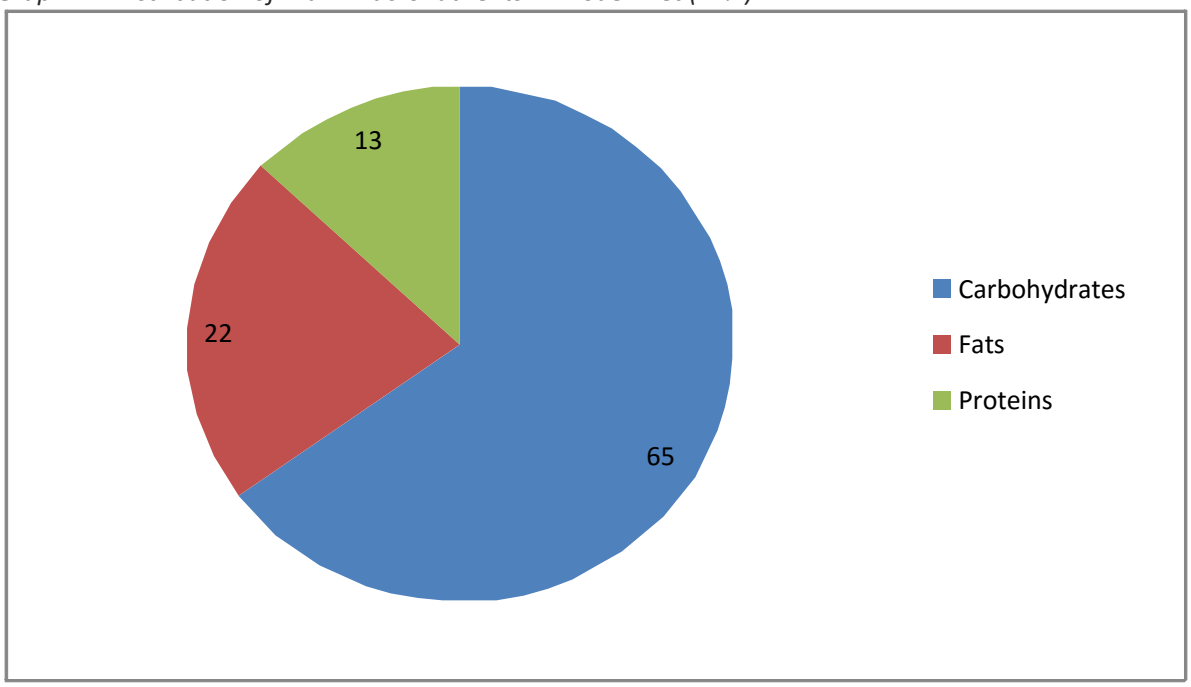
Food Item	Daily edible grams adjusted by average calories required by each person	Daily cost for one person (R$)	Daily cost for one person (USD)	Distribution of Costs in Model Diet (%)
Rice	135	0.27	0.08	6.1%
Maize	21	0.15	0.04	2.9%
Wheat flour	21	0.14	0.04	2.7%
Bread	50	0.27	0.07	5.3%
Noodles	26	0.11	0.03	2.1%
Potato	39	0.20	0.05	4.0%
Cassava	74	0.14	0.04	2.7%
Beans	56	0.26	0.07	5.0%
Nuts	6	0.15	0.04	3.0%
Milk	200	0.52	0.14	10.1%
Eggs	43	0.38	0.10	7.4%
Beef	29	0.41	0.11	8.0%
Chicken	70	0.62	0.17	12.0%
Pork	24	0.48	0.13	9.4%
Kale	50	0.14	0.04	2.8%
Cabbage	62	0.15	0.04	2.8%
Tomato	35	0.13	0.03	2.4%
Carrot	50	0.12	0.03	2.4%
Banana	49	0.15	0.04	3.0%
Orange	56	0.11	0.03	2.2%
Oil	30	0.09	0.02	1.7%

Sugar	24	0.05	0.01	0.9%
Coffee	3	0.05	0.01	0.9%
Total		5.09	1.38	100
Miscellaneous costs (plus 16%)		**5.90[a]**	**1.6**	

Notes: [a]To estimate our living wage, cost of this model diet was reduced to R$5.4 per day to take into consideration that free lunches for children in school reduce the number of meals that need to be prepared at home (see discussion on this in next section).
Source: The authors.

According to the Brazilian Ministry of Health's food guide, a healthy diet is one with the following distribution of macronutrients: 55% to 75% of carbohydrates; 10% to 15% of proteins; and 20% to 30% of fats. Graph 1 presents the distribution of our model diet, which is within the above-mentioned intervals. Furthermore, for middle-income countries, as is the case of Brazil, the recommendation made by Anker & Anker (April 2015) is that the level of proteins should be closer to 13-14%.

Graph 1 – Distribution of Main Macronutrients in Model Diet (in %)



Source: The authors.

6.3 Food prices

Food prices were collected at different points of distribution during the fieldwork, mostly in supermarkets where the workers interviewed said they shopped for their food once a month. Street markets were not used by workers. Two supermarkets were visited in Guaxupé, another two in Cabo Verde, a small city in the same microregion (São Sebastião do Paraíso), and another one in Campos Gerais, in the Alfenas microregion. Prices, in general, did not differ much. We chose the lowest prices. For items with greater price variation, an average price was calculated.

As prices were collected in the month of July, seasonality does not seem to affect their levels. Most of the food items – with the exception of eggs and beans, with higher levels for this month – were not far from their average yearly prices.

Table 4 presents the food cost per day per person for our model diet.16% is added to this cost for additional miscellaneous food costs. These costs cover spices and condiments, the amount of wasted and/or spoiled food, and ensure a minimum variety of food items. We used the following assumptions: 2% for spices and condiments as indicated in total food expenditure according to POF; 3% as the average level for wastage and spoilage (see Anker and Anker, April 2015); and 11% for variety of food, here again following the recommendations in the manual for estimating the living wage.

Our initial estimate of food costs for a family of four people came to R$ 23.6 a day. However, we may assume that children and teenagers attend public schools where they have free meals for 200 days a year, according to the Brazilian school calendar. These free meals, which are provided by public crèches and schools reduce the number of meals that need to be prepared at home and therefore food costs for families. Assuming lunch amounts to 40% of food costs per day and children eat less than adults, we applied the formula below, as recommended by Anker & Anker (2016, forthcoming):

> *Number of children*free lunch value*number of years they have access to free lunch/18*number of school days/365*

In Brazil, free meals are provided by the public education system from ages 0 to 17, totaling 18 years, that is, the highest number of years during which free meals can be provided. Our estimate is an average[6] of R$1.85 per day in free meals for every child/teenager. It should be said that this is not the cost of a meal in schools, but the amount which is saved by the family on account of children not eating at home during school days. Applying the formula, the value for two children getting free lunch for 200 days a year comes to 2.03 per day. This amount needs to be subtracted from total food costs of families per day from Table 4. The final step is to calculate monthly food costs for a family of four. The figure of R$ 656 can be seen below (Table 5). It should also be noted that with this adjustment the price of food per person goes down from R$ 5.90 (Table 4) to R$ 5.40.

Table 5 – Daily Food Costs, Value of Free Lunch at School and Total Monthly Food Costs in R$

	Values of Food Costs
Total Food Costs for a Family of Four People per Day If All Meals Were Prepared at Home	23.6
(-) Value of "Free Lunch" in School for Two Children for 200 days Prorated to Per Day	2.03
New Total Food Costs per Day to Family of 4	21.57
Adjusted Monthly Food Costs for a Family	656

[6] The Anker and Anker methodology (2016, forthcoming) includes a form for estimating food cost of a meal that meets the required calories as prepared at home for every single age from 0 to 17. We calculated an arithmetic average for children ages 0-17 in order to reach the free lunch value.

Source: The authors.

Image Set 1: Examples of Local Markets where workers shop.

Source: The authors.

7. HOUSING COSTS

7.1 Standard for basic acceptable local housing

In order to estimate the cost of local housing, we adopted both international and Brazilian (Secretaria Nacional de Promoção e Defesa dos Direitos Humanos, 2013; IBGE, 2004) minimum standards for healthy/adequate housing. Additionally, we also delved into the more detailed information found in publications specializing in minimum low-income housing standards for the Brazilian population (FOLTZ & MARTUCCI, 2005; BARBO & SHIMBO, 2006). Our standards can be summed up as:

- Housing should provide physical and structural safety and protect from the cold, humidity, rain, wind, and other health threats;
- Number of bedrooms should be enough to accommodate up to two people in one bedroom.
- For a family of four people, a 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 balcony and veranda;
- 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 a sewage system or, if not, to a septic pit; and
- Access to garbage disposal.

Houses visited during fieldwork were concentrated in the microregions of São Sebastião do Paraíso and Alfenas. All of them were located in the poorest neighborhoods of the cities where the coffee wageworkers live. However, they had adequate infrastructure and could not by any criteria be considered slums. The walls were painted and made out of bricks, having tiled floors. Not all the houses had a cement structure between the clay roof tiles and the inside area. Some had a wood roofing frame to support the clay roof tiles. For a family of four, the average size of the houses, including outside areas, was of 65 to 80 square meters, above the minimum standard.

Most of the dwellings were in good condition and clean, and had adequate ventilation and space. They were all hooked to electricity, water and sewage systems, and garbage disposal was available. All of them had flush toilets and potable drinking water. The number of bedrooms was enough to accommodate the members of the families and bedrooms met basic standards. In terms of household appliances, TVs and refrigerators were found in all houses visited. Computers were found much less often.

Almost every house had a small garden in the front yard, while a few also had a backyard where the workers grow vegetables and spices. There was also a concrete curb allowing space for a sidewalk. Some of the houses had a garage with either a motorcycle or a car.

Image Set 2: Examples of Acceptable Housing

Source: The authors.

7.2 Rent for basic acceptable housing

Houses visited met basic standards and, as they were mostly rented by the workers, they provided a range of housing rental prices. When this was not the case, residents were asked to mention the rental price of equivalent housing in the neighborhood. A relatively well-organized housing market made it possible for us to establish rental values, which ranged from R$ 450 to R$ 600 for houses meeting all the basic standards. We chose the lowest value. These values were checked and confirmed by two real estate agencies catering to low-income families and also with trade union representatives living nearby.

7.3 Utilities and other housing costs

The same process of visiting workers in their houses, interviewing them, and taking notes about their basic conditions was pursued in the case of utility costs. Average expenditure on electricity, water, and cooking gas amounted to R$ 180 for a family of four. Electricity usually accounted for more than half of total utility expenditures. As most of the houses rented by the workers were in good condition, we did not add any amount for maintenance and repair costs, which is more often than not the responsibility of the landlord.

It is worth noting that the share of house rental and utility costs (17.1% and 7.1%, respectively) used to calculate the cost of living is quite close to the percentages found for low-income workers in the state of Minas Gerais. That is, the cost-related housing data gathered during fieldwork is consistent with housing expenditure provided by the POF database.

We also visited workers whose houses had been built by the farmers for their employees on farm land. When such was the case, a worker's housing costs went down dramatically. The energy used was supplied for free, as was water. Rent was not charged. House conditions varied from one farm to another. Some met basic standards, while others needed some fixing up. However, even the latter met most of the standards, except for adequate space and ventilation in some very few cases. This means that the cost of living turned out to be significantly lower in the case of workers living on the farms. Yet, as we said, this is an exception to the rule. It is also worthy of note the fact that some of the coffee wageworkers who lived in the urban areas were quite aware of their high housing costs, stating that, if given the option, they would rather live in the countryside.

It is important to stress that rural areas in this region have become increasingly urbanized. Not only is there a housing market in the cities nearby, but also a farmland market in which a smallholder can even combine crops, for instance coffee and maize. Becoming a smallholder means upward social mobility for most of the coffee wageworkers employed by the plantations.

Table 6 – Housing Costs and Main Components in R$

	Values of Housing Costs
Rent	450
Utility Costs	180
Maintenance and Routine Repair Costs	0
Monthly Housing Costs for a Family	630

Source: The authors.

8. NON-FOOD AND NON-HOUSING COSTS

One of the main advantages of the methodology developed by Anker & Anker (2016) is that it investigates not only food and housing costs, but also non-food and non-housing costs. For instance, in most countries poverty lines are calculated by estimating food costs and then adding a non-food value, the latter accounting for the rest of the basic revenue a family should earn in order not to be considered poor. The approach followed here is different. The model diet should be nutritious and adequate in terms of calories; and housing should meet minimum standards. As we did in the previous sections, these values were calculated on the basis of data collected in the field in a region acknowledged as being a top coffee-producing area.

In order to calculate the non-food and non-housing (NFNH) cost, secondary data taken from the POF household expenditure survey was assumed as our point of departure, value which was adjusted and then checked again.

The POF data subset used refers to average consumption expenditure by families living in the state of Minas Gerais, for both urban and rural areas, the most disaggregated level provided by this data source. Data sets are distributed into seven different family income ranges instead of deciles. We chose the second income range from the bottom up –average family income of 2 to 3 times the minimum wage at the time–, which is roughly equivalent to the second and third deciles and is consistent with the estimates in this study for total family living costs. It is also worth mentioning that the urbanization rate for the state of Minas Gerais is 85% and that the rural-to-urban wage ratio increased over the 2000s. That is, the data is representative of expenditures in urban areas. Moreover, the region where we concentrated our fieldwork is, in terms of family income, halfway between the state's poorest urban areas, located in Northern Minas Gerais, and the metropolitan area, as represented by the state capital, Belo Horizonte.

The initial figure for NFNH was 43.8% of total household expenditures. We excluded several items in order to more accurately estimate the living wage. First, tobacco was excluded from NFNH expenditures (0.9%), therefore from total costs. The item "alcoholic beverages" (0.5% of the total) was shifted from food – as it is not in our model diet – to NFNH. Food eaten away is available in the same POF survey only for Brazil's urban areas and accounts for 5% of total expenditures. As in the case of Brazil food eaten away is included in the food expenditure group, we found it necessary to reduce the food cost

percentage as collected by the secondary data because our estimate was based on the assumption that all food was prepared at home. This is because the amount spent on meals eaten away from home does not refer only to the food itself but also to the profit made and the services provided by the establishment selling the meals. We assumed that only half of the cost of meals eaten away from home was actually for food itself, while the other half was for services and profit. This assumption was based on the fact that in Vietnam food is 70% of food eaten away, whereas the same percentage is 50% in Costa Rica and the Dominican Republic, and 30% in the USA (Anker& Anker, 2016), probably because, in the US, wages and profits are higher as a share of total sales. Brazil should be close to the Latin American countries mentioned above, so we added 2.5% to NFNF expenditure (50% of total food eaten away) in order to pay for services and profits related to food eaten away from home.

We also subtracted 4.78% from NFNH and total expenditures for the acquisition of cars, fuel, and maintenance, assuming workers only use public transportation, which is available and in good condition in the cities we visited. The total value under this category is 7.2%. We excluded 2/3 of the total value spent on passenger cars and motorbikes, as public transport costs are lower. So if workers use public transportation instead of private vehicles, they will spend only 1/3 of what they were supposed to.

A last adjustment was made to miscellaneous expenditures, another POF survey subset, which refer mostly to bets, gambling, other means of communication (apart from phones), renting of additional space, and contracting of professional services. Overall, we deducted 1.88% from total NFNH expenditures.

After all these calculations, the results were 39.3% for NFNH and 21.4% for food for the whole of Brazil. Thus, the NFNH to Food (F) ratio amounted to 1.83.[7]

NFNH preliminary adjusted cost is R$ 1,201, that is, 1.83 times 656, according to the formula below:

*NFNH to F (food) ratio*cost of model diet for a family of four*

9. POST CHECKS OF NON-FOOD AND NON-HOUSING COSTS

The next step was to check the secondary household expenditure data on transport, health and education against the expenditure data collected in the fieldwork. According to the secondary household expenditure data, these expenditures were:

- Transport (7.2% of total expenditures, R$ 218 per month)
- Health (8% of total expenditures, R$ 244 per month)
- Education (1.6% of total expenditures, R$ 47 per month)

The values above were estimated by multiplying preliminary NFNH costs by the percentage of each cost (transport, health and education) on adjusted NFNH percentage. ‘Post checks’ are needed because these expenditures vary widely across regions, sometimes reaching levels very different from the averages obtained based on secondary survey data.

[7] This ratio is probably overestimated. This has to do with the fact that for the calculation of food, housing and NFNH percentages we used secondary data from POF 2008/2009. However, from 2008 to 2015 – when the fieldwork was conducted and food prices collected – both food prices and housing prices experienced high inflation – 87% and 71%, respectively, if compared to average inflation of 59% according to IPCA, a Brazilian consumption price index. This change means that NFNH is, in practice, somewhat lower than the finding in this report.

In the case of our region, differences in expenditures estimated for health, transport, and education were very small if compared to the values obtained in the fieldwork. This fact confirms the accuracy of the data used in this report.

How were these values from our fieldwork calculated? We made some assumptions based on the data gathered in the fieldwork. In the case of transport, for instance, we assumed that coffee workers need to pay for bus rides in order to get to work. As the farms are not usually located in the city, they would need to take intercity buses 26 days a month (one-way ticket is R$ 3.60). Also the family would take an intra-city bus (one-way ticket at R$2.20) once every weekend to visit relatives or for leisure. The total commute cost is R$ 204, very close to the value estimated by the secondary data (R$ 218). In case the partner/spouse works 71% of full-time, we should add another R$ 81 (2 times the price of each ticket at R$ 2.20 over 26 days).

In the case of health care, we assumed a monthly expenditure of R$ 60 on medicines for the whole family, and 4 private medical appointments a year, one for each member of the family. We assumed that other health care needs are met by going to government facilities. The cost of each private medical appointment (R$ 250) was obtained in our interviews with the workers' families and trade union representatives. The total value for estimated health care costs was then R$ 143 per month, therefore about R$100 lower than that for health care included in the preliminary NFNH estimate. For education, we assumed a monthly cost of R$ 42. In our interviews, women in families with two children said they spent around R$ 500 a year on school supplies, which is consistent with the available secondary household expenditure data (R$ 47 a month).

The underestimate of transportation costs in the preliminary NFNH estimate – when compared to the value estimated during the fieldwork – is offset by the overestimate in health costs, as each of these figures are quite similar at around R$ 100. Hence, we can assume that our fieldwork data confirmed the accuracy of the health-, education-, and transportation-related data provided by the secondary source. Thus, we left total NFNH costs unaltered at R$1,201.

One should bear in mind that the education and health systems in Brazil are public and provide universal access. Some medicines are provided by the public system, which also covers total costs for health care, lab tests, and surgeries. However, since the public health system's quality is highly debatable, we saw it fit to include one private yearly medical appointment for each member of the family. It is necessary to keep in mind that according to the World Bank 52% of all health care expenses are private, out-of-pocket expenditures.

In terms of school, textbooks are offered by the public system. Therefore, a family's main education-related expenditure is on school supplies. In larger cities, children and teenagers may have to spend on transportation to school, which was seldom the case in the areas visited for this report.

The fact that Brazil's educational and health systems provide free services, in addition to textbooks and medicines, accounted for our decision not to increase NFNH costs above the levels estimated by the secondary data, particularly for a region with a higher-than-average Human Development Index, thus attaining higher education and health standards than the country's average. In other words, if it were not for the role played by the state in providing social services, the living wage would be much higher.

In the case of transportation, we assumed that, even though some of the workers and other members of their families had private means of transportation, the use of public transport, especially for cities not exceeding 100,000 people, would be sufficient for a basic and decent livelihood.

We should acknowledge that other consumption items – such as clothing, communications, leisure, consumer durables – are also included as NHNF expenditures. But they were not submitted to post checks, as they are not as important either in terms of total expenditures or for the sake of providing a decent livelihood. The values captured from secondary data were assumed as correct, or very close to the actual situation in the field.

10. PROVISION FOR UNEXPECTED EVENTS TO ENSURE SUSTAINABILITY

As Anker and Anker (2016) point out, a marginal value should be added to the living wage to allow for unexpected events. This is important as the living wage should not change due to short-term economic and social circumstances. Part of the scholarly literature on the subject adopts a value of 5%, which is added to total costs, i.e., to total food, housing, and NFNH expenditure. The living wage methodology being applied here works with a standard percentage of 5%. We decided to use approximately 2% because of Brazil's universal public education and health systems and the fact that permanent wageworkers in the coffee industry are mostly, at least in the region selected, formally hired, which means they are entitled to all core labor rights (sick leave, maternity leave, vacation, unemployment insurance etc.) set forth in the 1988 Brazilian Constitution. For similar reasons, Anker & Anker (2016) used the 2.5% in their living wage report on Kenya.

Table 7 – Monthly Total Living Costs in R$

	Values of Living Costs
Food Costs	656
Housing Costs	630
NFNH Costs	1,201
Unexpected Events	47
Total Living Costs	2534

Source: The authors.

SECTION II

Living Wage for Workers

11. FAMILY SIZE NEEDING TO BE SUPPORTED BY LIVING WAGE

The estimate for the family size used in this report was based on PNAD survey data for urban Minas Gerais. Based on the PNAD findings and excluding one-person households from our estimate, we came to 3.3 people per family. Another way of measuring that would be by adding urban Minas Gerais's fertility rate of 1.4 to the number corresponding to a couple (2), which gives us 3.4 people, still according to the same database.

However, these figures seem underestimated for purposes of determining an appropriate reference family size for a living wage for two reasons. First, they do not allow for the future replacement of the present adult population. Secondly, they fail to take into account that many families in Brazil are single-headed, meaning that only one adult is responsible for meeting the livelihood of the children. So the possible overestimation of food costs by using a family size of four people (two adults and two children) would be more than compensated for by the fact that in many families there is only one full-time worker – in the case of single-headed families – providing for the needs of the family. As we shall see below, we estimated that 1.71 is the number of adults working full-time in each family.

12. NUMBER OF FULL-TIME EQUIVALENT WORKERS IN FAMILY PROVIDING SUPPORT

Now we proceed to estimate the number of full-time workers in the family, as we should not assume that only one person is responsible for meeting the cost of living of our average family.

In order to do so, once again we followed the recommendations in the manual for estimating the living wage (Anker and Anker, 2016). The formula for obtaining the average rate of full-time work per adult is the following:

Average adult labor force participation rate*(1.0 – unemployment rate)*(1.0- [0.5*part-time employment rate])

The data refers to urban areas of the state of Minas Gerais, the lowest level of disaggregation available, according to national household survey PNAD. The values were calculated for 2013 for ages 25-59 for all the rates using the formula above. The cut-off level set for part-time work was 30 hours a week. Thus, a full-time worker is someone working more than 30 hours, either as a formal, informal or self-employed worker, irrespective of the wage earned. The calculated rates are shown below:

- Unemployment rate: 4.4%
- Part-time work rate: 16.3%
- Labor Force participation rate: 80.6%.

The average ratio of full-time work per adult is 0.71. As we have one adult already working on the coffee farms, the number of full-time equivalent workers in the family is 1.71. The main idea underlying the formula is that the higher the participation rate, the lower the unemployment rate, and the lower the part-time work, the more likely it is that another adult family member will be working full-time, which would result in a lower living wage.

For our case, this means dividing total living costs of R$ 2,534 by 1.71, resulting in R$ 1,482, or the net living wage for this specific region.

It should be acknowledged that in 2015, when the fieldwork was conducted, the first effects of the economic downturn in Brazil had already started to be felt. Should this data be updated (unfortunately we do not have more recent data for this level of disaggregation), we should expect a fall in the number of full-time equivalent workers, meaning the living wage would need to be higher. This is related to the fact that the unemployment rate and part-time work are going upwards.

13. TAKE-HOME PAY REQUIRED AND TAKING TAXES AND MANDATORY DEDUCTIONS FROM PAY INTO ACCOUNT

One final step is required. The living wage presented above was estimated having in mind the total costs workers should afford. It should be looked at as a net take-home pay for the urban areas in the region. However, the gross value, which needs to be actually paid, should take into account that workers contribute to social security and pay union tax.

In terms of statutory deductions, they have an 8-percent deduction in their gross wage for social security that, considering our net living wage, amounts to R$ 129. They also pay a legally mandated union tax of R$ 17.93 on a yearly basis, as mentioned by the employers we interviewed. This means their gross living wage should be set at R$ 1629. Let us also mention that this wage is below the minimum required for income tax to be charged in Brazil.

As stressed before, the actual wage that should be paid to wageworkers in the coffee sector is the gross basic living wage (R$ 1,414, USD 382), according to table 8, as it takes out the values of cash allowances and in kind benefits received by them. This value should also be updated in future using IPCA, the consumption price index used in this report.

SECTION III

Estimating Gaps between Living Wage and Prevailing Wages

14. PREVAILING WAGES IN THE COFFEE INDUSTRY IN SOUTHERN/ SOUTHWESTERN MINAS GERAIS REGION

In this section we describe the process for estimating prevailing wages and in kind benefits paid by employers in the coffee sector for the region analyzed.

14.1 Basic wage, cash allowances and bonuses, and overtime pay

Below we provide information on the distribution of labor in the coffee farms, stressing the different wages paid across occupations, and describing how living conditions differ for, on one side, permanent wageworkers living on the farm and, on the other, those living in an urban area. We also refer to the situation of migrants, temporary workers and smallholders.

The main objective of the fieldwork was to evaluate the different wage patterns. As indicated before, it is not the purpose of this report (and of the methodology it is based on) to assess whether the labor, social and environmental standards are met by the farmers, as this would require a representative sample. The main focus here are the permanent wageworkers, as in this case we can calculate a monthly average wage received over the year.

At the end of the section, we estimate the prevailing wage of the permanent wageworkers under the occupation of "general services" living in urban areas.

During the fieldwork, three coffee farms were visited: a big one, with 260 hectares, a mid-size one with 70 hectares, and a smaller one (around 10 hectares). It is important to point out that in the state of Minas Gerais 33% of the production takes place on farms with more than 50 hectares and 40% on landholdings of 10 to 50 hectares, while the remaining 28% are farmed in areas with less than 10 hectares (SAES, 2010). As a consequence, around half of the farms do not have wageworkers, as they are managed by smallholders. This is the reason why they do not fall within the scope of the report.

All of the farms visited were certified by a standards setting organization. The farms only had wageworkers, with the exception of the smallholding, meaning they abided by the Brazilian labor law. Three basic occupations were found: general services workers, tractor drivers, and managers. Most of the workers fell under the first category. They were responsible for sowing and caring for the coffee trees, and harvesting. Their basic wage was the minimum wage plus 10%, in compliance with the collective bargaining agreement. This level serves as benchmark for the whole region, as informed by the trade union representative. The "general services" worker's workweek is 44 hours.

Tractor drivers earned 18% more than "general services" workers, while managers were paid around twice this wage. Workers in charge of cleaning, cooking and keeping the owner's main house were also part of the "general services" category. Crop overseers (*fiscal de lavoura*), another occupation, earned a wage close to that of tractor drivers. All this information was checked with and confirmed by the trade unionists and the stakeholders responsible for technical assistance to workers.

There seems to be no coherent plan regarding careers and wages on the farms. The wage scale is very narrow. On the other hand, a number of farmers (we also interviewed the farmers' union) mentioned their intention of establishing profit-sharing mechanisms, a practice which is still not common in the area.

Relations between trade unions and employers were based on confidence. A unionist reported that sometimes they informed the farm manager that a dismissed worker's rights had not been adequately complied with and/or settled, a fact that would be immediately corrected. The workers' main demand is a pay scale and career scheme. They also demand the inclusion in the collective bargaining agreement of an in kind food basket for basic consumption. According to the trade unionists, the idea of a profit-sharing payment was never discussed with them.

Workers in the region also receive training provided by SENAR (National Service for Rural Apprenticeship), usually seeking to meet the farmers' or EMATER[8] requests. Training is mainly focused on how to make best use of machines, chemical products, and personal protection equipment.

Internal migration is important for Southern and Southwestern Minas Gerais's coffee plantations, but only during the harvest season. Migrants come mostly from the poorest regions of the state, located in the north. They should be paid in accordance with the law and sign specific contracts – the so-called "harvest contracts". It is not easy to estimate the total number of migrant workers, but it should be somewhere around 20% of total temporary workers during harvest season, according to some of the stakeholders interviewed. Their wages are higher in the harvest season, as for permanent workers. They sleep in dormitories provided and specially built for them by the farms, and are charged for the food they eat.

Migrant workers were not included in our living wage estimate because they do not work year round. Most are men, and some bring their wives along to work on the fields or perform other tasks, like cooking. Each group of 20 migrant workers has its own *turmeiro*, or crew leader, who coordinates the migrants' work and is responsible for their contracts. *Turmeiros* earn twice the wage of the migrants in the group they coordinate. Their contracts – just like those of permanent workers – establish that each overtime hour should cost 50% more than a regular hour for the employers. Even during the harvest season, the higher pay workers earn is not necessarily due to overtime. It was often mentioned by some stakeholders that migrants are displacing local workers, but when this is the case, it refers only to temporary workers during the harvest. It is also widely recognized that informality is mostly concentrated in this kind of job.

In the case of permanent workers living on the farms, should the in kind benefits – such as rent, utility costs (water and energy) up to a certain consumption limit, and some food produced by the farm for own consumption – be accounted for, the prevailing wage would be above the living wage calculated in this report. As these workers amount to less than 10% of total wageworkers in the region, these in kind benefits were not included in order to estimate the gap between prevailing wage and our living wage, as mentioned before.

In most families, female spouses are hired for other jobs or, at least, for the harvest. Retired workers usually stay on the farms where they have their own houses, sometimes even performing other tasks. Some members of the new generation also work on coffee growing. Because of the family income levels, at least of permanent wageworkers, it is very unusual to have beneficiaries of the Bolsa Família Program – the federal government-funded cash transfer policy aimed at poor people earning an income below a fixed level.

It sounds reasonable then to consider wageworkers living on farms in this region as earning a living wage, provided they earn the same wage as set forth in the collective bargaining agreement and live in houses

[8] EMATER is a federal institution, with branches in every state, which provides technical assistance to workers and smallholders.

that meet minimum standards, in addition to having access to water and electricity. Moreover, as they live on the farms, these workers spend neither time nor money on their commute to and from work.

That´s why our readers need to keep in mind that the prevailing wage calculated below refers only to permanent workers living in urban areas (90% of the total) and hired under the "general services" occupational label, the lowest paid job in the coffee sector. As in the case of the living wage estimate, we are using July 2015 levels for prevailing wage estimate, the period during which our fieldwork was conducted. Four different values were used to calculate the prevailing wage, as listed next:

- Basic wage of R$ 866.80 for 8 months a year (minimum wage value plus 10%)
- Harvest (4 months') wage of R$ 1540, the average value obtained in the fieldwork.
- Mandatory monetary payments made by employer to workers: a bonus of 1/3 of the wage during vacation, which is taken once a year (R$ 30.3) and the 13th month salary (R$ 91), both already converted to monthly values.
- In kind benefits of R$ 94, as explained in the next section.

The first two values above were multiplied by the number of months in which they were earned, then added together and divided by 12 to provide the monthly prevailing wage (R$ 1091.2). Then, cash allowances to workers defined by law (R$ 121.3) and in kind benefits (R$ 94) were added to the previous value. Thus, monthly prevailing wage is R$1307 (see graphs 2A and 2B).

It is important to stress that other payroll deductions paid for by the employers on behalf of their workers were not considered, as they do not add to the employee's disposable income. This is the case, for instance, of the severance pay amounting to 8% of gross wages, which is deposited in a worker's account at a Brazilian public bank. As the worker cannot cash it whenever he/she wishes for his/her monthly expenditures, it was not considered as a cash allowance to be added to the prevailing wage.

Thus, the total amount spent by employers for each worker is above the prevailing wage. This is an important point as, even though the costs related to hiring a worker, such as labor cost and payroll taxes, do not add to workers' consumption, they do increase production costs for the employers.

A last point should be made about smallholders. They correspond to 50% of the coffee area and to 45% of the production in the country and hire wageworkers mostly during the harvest season if at all. For this reason, the living wage estimate does not apply to them. However, this segment is the one in which we may find informal workers. Sometimes they develop partnerships among themselves in order to share fixed and also labor costs.

14.2 In-kind benefits as partial payment of living wage

It was found out during fieldwork that workers do not pay for transportation to go to work, as a bus paid for by the farmers picks them up and takes them back to their homes. If this service were paid by the workers, total transportation cost would amount to around R$ 188 per month. Following the recommendation by Anker & Anker (2016), in kind benefits for transportation should not be higher than 10% of the living wage. Our choice was to consider just half of the cost of public transportation for the workers to and from work as an in kind benefit (R$ 94, amounting to around 6% of total living wage).

The reason for this is that transportation provided by farmers should cost farmers much less than what workers would pay individually, as farmers do not supply this service on a for-profit basis, which would also be inappropriate. Farmers use their own buses and their own employees as drivers, probably not hired on a formal basis. Therefore, the cost of in kind benefits is not equivalent to the amount "saved" by workers for not having to pay for transportation to and from the farms.

Table 8, at the end of the report, presents the whole process undertaken to arrive at the living wage value. Table 9 brings the key values and assumptions that enabled the research team to estimate final values for the net living wage and gross living wage.

15. LIVING WAGE IN CONTEXT AND COMPARED TO OTHER WAGES

15.1 WAGE LADDER

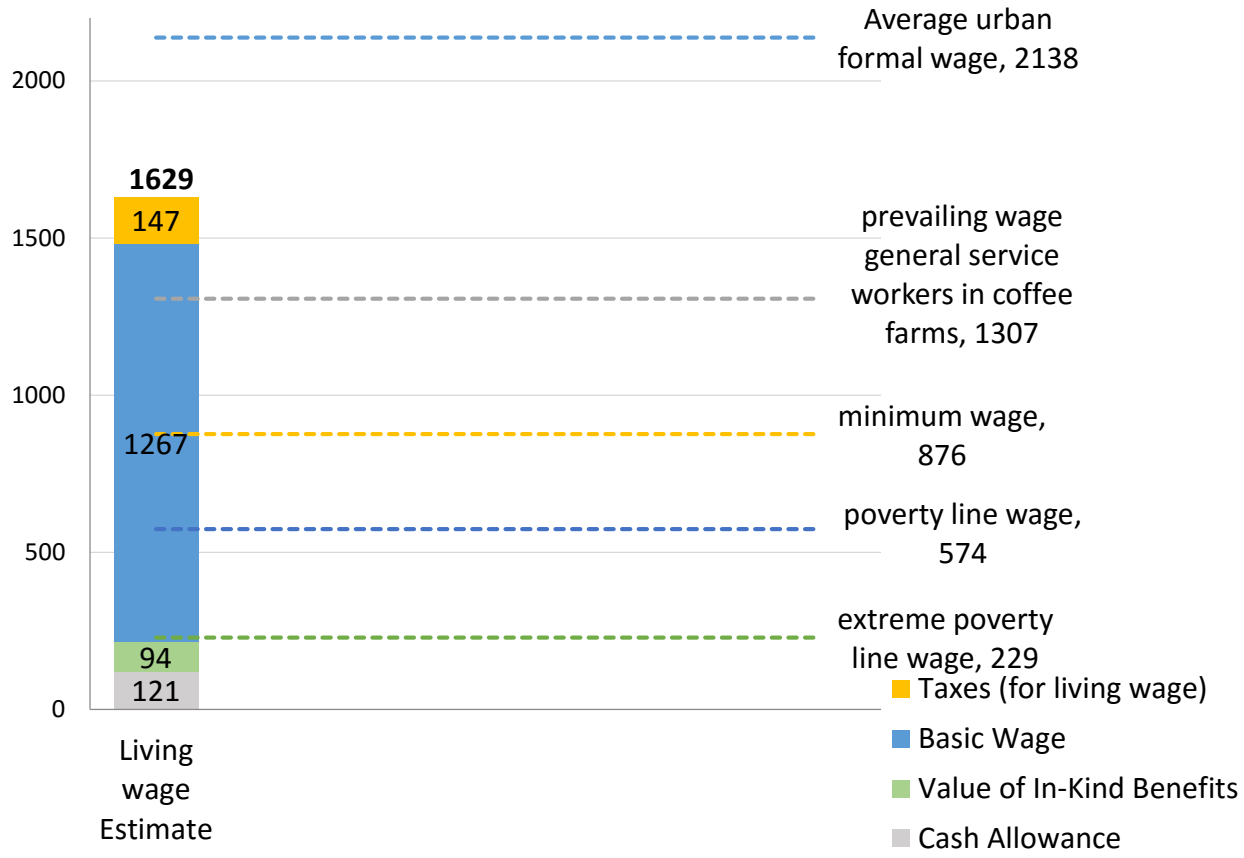
Below we present estimates for the living wage (R$ 1,629) and the prevailing wage (R$ 1,307) in Graphs 2A and 2B. In order to put them in perspective, we also included the minimum wage and the average urban wage of Southern and Southwestern Minas Gerais (data from RAIS/MTE),[9] to which we added cash allowances according to the law (1/3 bonus during vacation and 13th month salary) in order to compare them with our prevailing wage. Transport-related in kind benefits were not added as this is the case only for coffee and agriculture workers.

The poverty and extreme poverty lines – calculated on the basis of Rocha's methodology for urban, nonmetropolitan Minas Gerais – were also included. As they are per capita and net values, we multiplied these figures by 4 (the average size of our family) and divided the result by 1.71, the number of full-time equivalent workers. Next, we added statutory deductions (social security contribution and union tax), just as in the case of the living wage estimate.

Graphs 2A and 2B are exactly the same but for the way the data are presented.

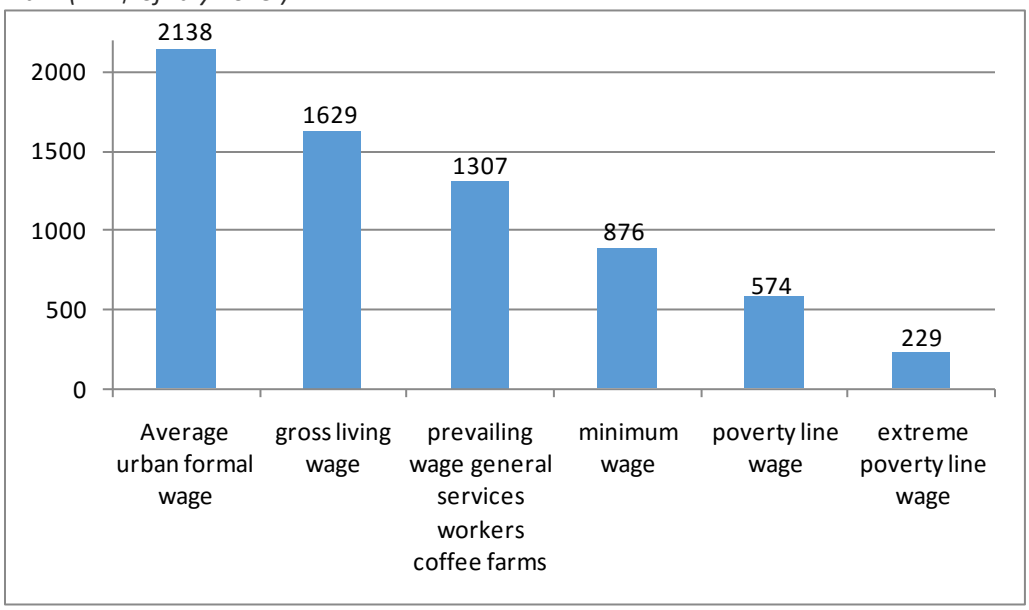
[9] Database of all formal workers based on data supplied by the employers to the Brazilian Ministry of Labor and Employment (MTE).

Graph 2A – Wage Ladder for Coffee Plantation Wageworkers in Urban Southern and Southwestern Minas Gerais, Brazil (in R$ of July 2015)



Notes: For better comparison to living wage, we added statutory cash allowances and statutory deductions to minimum wage and average wage; for poverty line wage, we added statutory deductions.
Source: The authors.

Graph 2B – Wage Ladder for Coffee Plantation Wageworkers in Urban Southern and Southwestern Minas Gerais, Brazil (in R$ of July 2015)



Notes: For better comparison to living wage, we added statutory cash allowances and statutory deductions to minimum wage and average wage; for poverty line wage, we added statutory deductions.
Source: The authors.

The first column in Graph 2A refers to the gross living wage for urban Southern/Southwestern Minas Gerais. As mentioned earlier, this pay provides a decent and basic life for all wageworkers living in the region's urban areas, assuming a family of four and 1.71 of the adults (spouses/partners) working full-time. Different lines cross this column with a total value of R$ 1629. It is worth noting that all the lines – including that of the prevailing wage for general services workers but excluding the average urban wage one – cross the column, which means they all, with the exception mentioned above, fall behind the gross living wage value.

By looking at graph 2B, it can be noticed that the gross living wage is 25%[10] higher than the prevailing wage for coffee workers hired to perform general services on the plantations. Thus, permanent wageworkers living in urban areas would need to have a 25% increase in their wages in order to get a living wage.

Moreover, in comparison with the minimum wage value (R$ 788 plus cash allowance and 13th month salary), the prevailing wage was 50% higher and the living wage estimate 86% higher.

This living wage estimate is also 2.8 times higher than the poverty line "wage" for the urban areas of the state of Minas Gerais excluding the metropolitan area. This is not much since having a decent, albeit basic, living standard, is very different from being non-poor, especially in urban areas, where housing costs are much higher than in the countryside.

[10] In January 2016, the minimum wage was adjusted for the previous year's inflation rate, and so will the prevailing wages. The rate approved by the Government was 11.6%. Even though the adjusted minimum wage will only be paid in January, we may assume that half of the rate is relative to the inflation from January to June, as the research was conducted in early July 2015. Hence, had the inflation rate been passed on to the workers in July 2015, the living wage would be 18% higher than the prevailing wage. Thus, the lower the inflation rate, the lower the gap.

Moreover, we can note that the living wage is around 24% below the average wage for formal workers in urban Southern and Southwestern Minas Gerais. So even if they get an increase in wages, coffee permanent wageworkers will still earn less than the average urban wage paid for formal workers in all sectors, including the manufacturing and services industries.

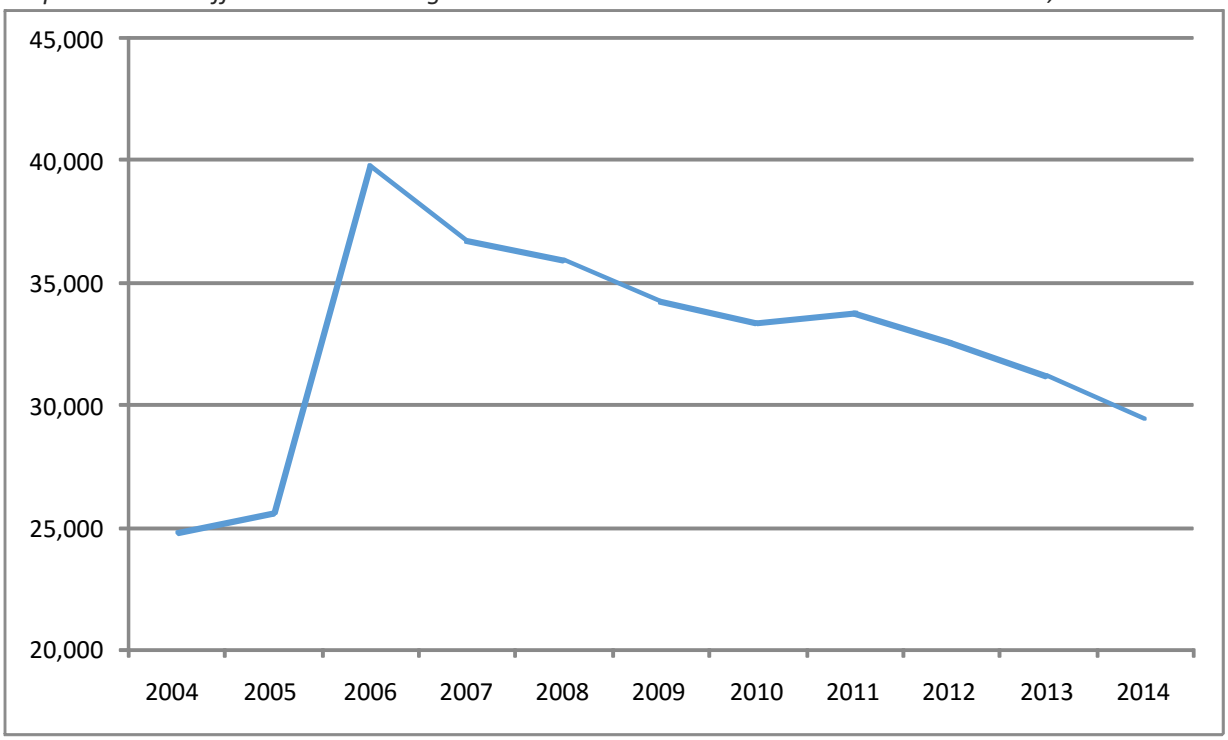
15.2 Recent wage trends

Now we present some recent trends in jobs and real wages for the same region with a focus on the coffee sector and its workers. The database used for this purpose, RAIS, captures only formal wageworkers. Therefore, it was not particularly useful in the past for analyzing the situation of agricultural workers. However, due to the job formalization process that affected this sector dramatically in the last decade, the data are representative at least of permanent wageworkers. Still, smallholders are not included, as their income is not derived from wages. This data refers to the South and Southwestern mesoregion of the state of Minas Gerais, including both rural and urban areas.

It should be mentioned that, according to RAIS, there were 29,415 coffee wageworkers in the Southern and Southwestern Minas Gerais mesoregion in 2014. This accounts for 55% of total coffee wageworkers (53,019) in the state of Minas Gerais, known for being by far the largest coffee producer and exporter in the country.

Data spanning from 2004 to 2014 show three basic trends worthy of consideration. First, from 2004 to 2006 there was an important leap in the number of coffee farm formal wageworkers in Southern and Southwestern Minas Gerais; then there came a decline. Looking at the extreme points of the period (2004 and 2014), nearly a 20% increase in total jobs can be observed (Graph 3). One should bear in mind that some of these jobs were not actually new, as some of the informal workers got formal jobs due to inspections by the Labor Ministry, which increased over the period. High fines were levied on farmers not abiding by the law, especially big and mid-size ones, as many stakeholders pointed out. Data on jobs, therefore only on permanent workers, refer to the month of December.

Graph 3 – Total Coffee Plantation Wageworkers in Southern and Southwestern Minas Gerais, Brazil

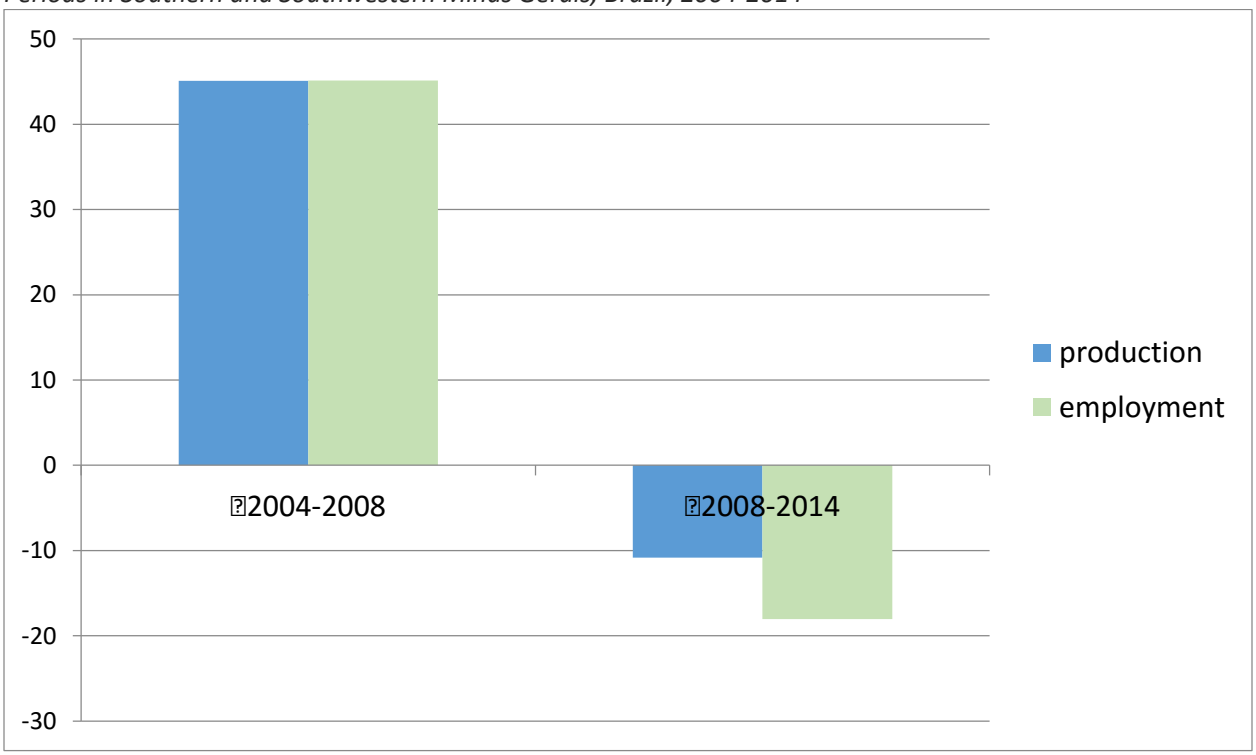


Source: RAIS.

Graph 4 shows that production (in thousands of coffee bags) and employment increased at the same rate in the region over 2004/2008; then from 2008 to 2014 both declined, yet employment fell more rapidly. This is related to productivity gains, which started increasing from 2003 onwards and peaked in 2013 (CONAB, 2015). Assuming that the job formalization process took place in the first period, the number of new jobs generated over the 2004/2008 period was probably lower than shown in Graph 4, thus allowing for productivity gains starting even before 2008. It should be stressed that coffee is a labor-intensive crop in Brazil and that the use of harvesting machines is reducing the number of workers needed especially during the season.

However, it seems this does not significantly affect labor demand for permanent workers, especially in general services, as noted by many stakeholders, due to the fact that in this region most of the production takes place in hilly areas. Moreover, productivity, in this case, can be equated to land productivity rather than labor productivity, however difficult it may be to separate the roles played by each production factor. It is also worth stressing that around half of the labor force in coffee farms over the year is made up of temporary workers during harvest. This is the segment which can be most affected by mechanization.

Graph 4 – Percentage Increase in Coffee Production (thousands of bags) and Wageworkers for Different Periods in Southern and Southwestern Minas Gerais, Brazil, 2004-2014



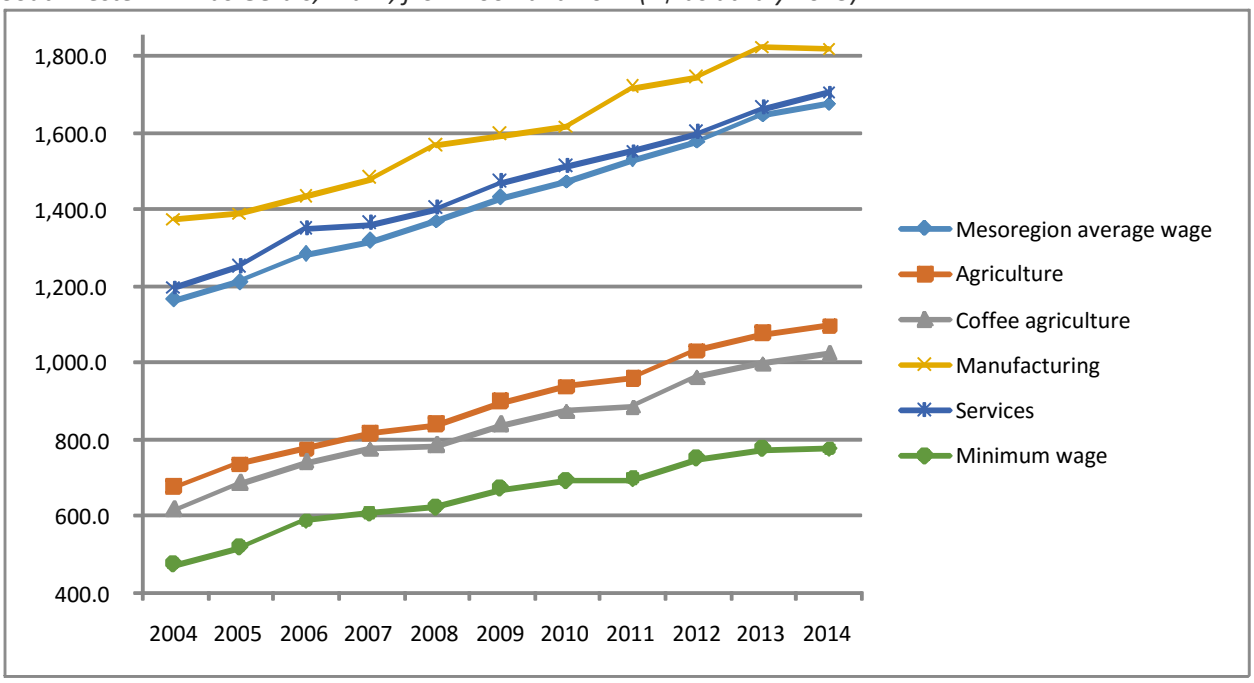
Source: RAIS and CONAB.

The second trend refers to the real increase in coffee workers' average wage in the region (Figures 5 and 6). The average wage found in December 2014 is very close to the one found in our estimate for prevailing wages,[11] down by just 6%. This is related to the fact that the average wage did not incorporate the 2015 wage raise in January according to the formula pegging the minimum wage to nominal GDP increase. This formula has been in place since 2005, but was only enacted by Congress in 2011.

As the wages of coffee permanent wageworkers – especially of those in the "general services" occupational group – are pegged to the minimum wage, over 2004/2014 minimum wage real appreciation directly affected wages of coffee farm workers, as we can notice in graphs 5 and 6. Wage curves in coffee production, and agriculture overall, mirrored the same trend for the minimum wage. Actually, coffee worker wage rose (66%) by slightly over the minimum wage (64%) and agriculture in general (62%) in real terms. If we compare the coffee average wage with the average wage in the region, over the period the gap narrowed from 50% to 40%, i.e., in 2014 coffee wages were 40% lower than the region's average wage for formal workers (Graph 6).

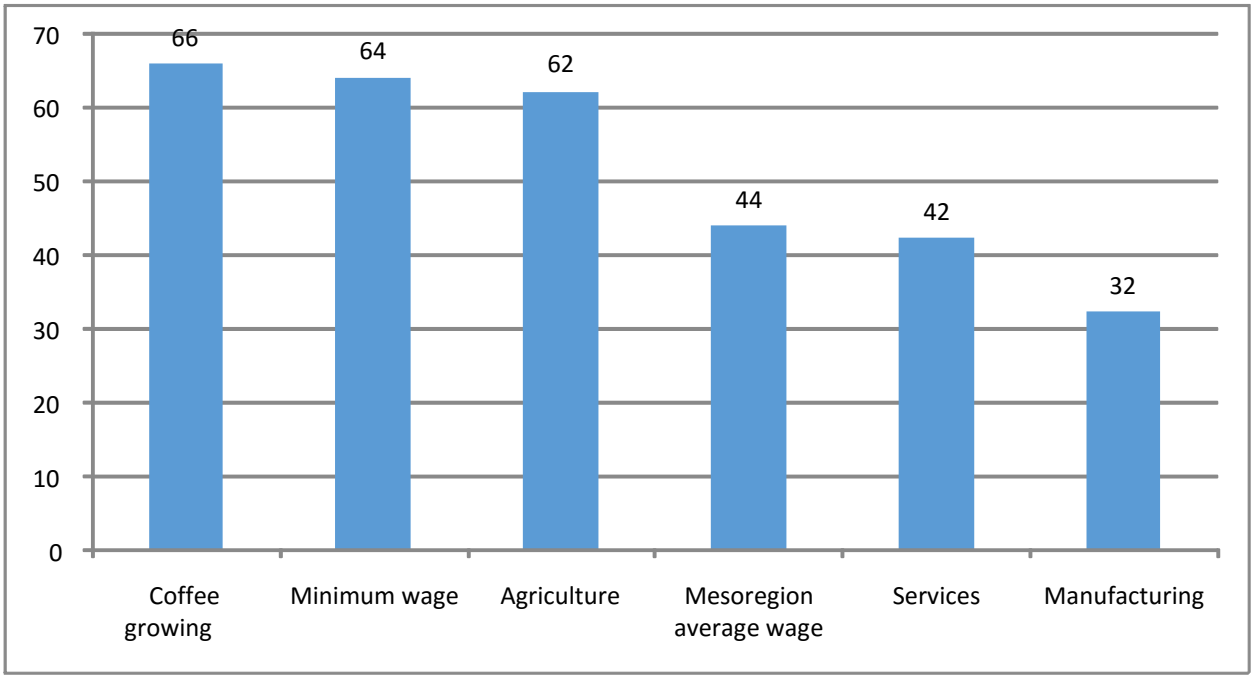
[11] Our prevailing wage was estimated for general service workers. RAIS data encompasses all coffee workers but, as the bulk of workers are in this occupational group, the average wage for coffee workers is very close to the general services workers' wages.

Graph 5 – Real Value of Minimum Wage and of Different Real Average Wages in Southern and Southwestern Minas Gerais, Brazil, from 2004 and 2014 (R$ as at July 2015)



Source: RAIS.

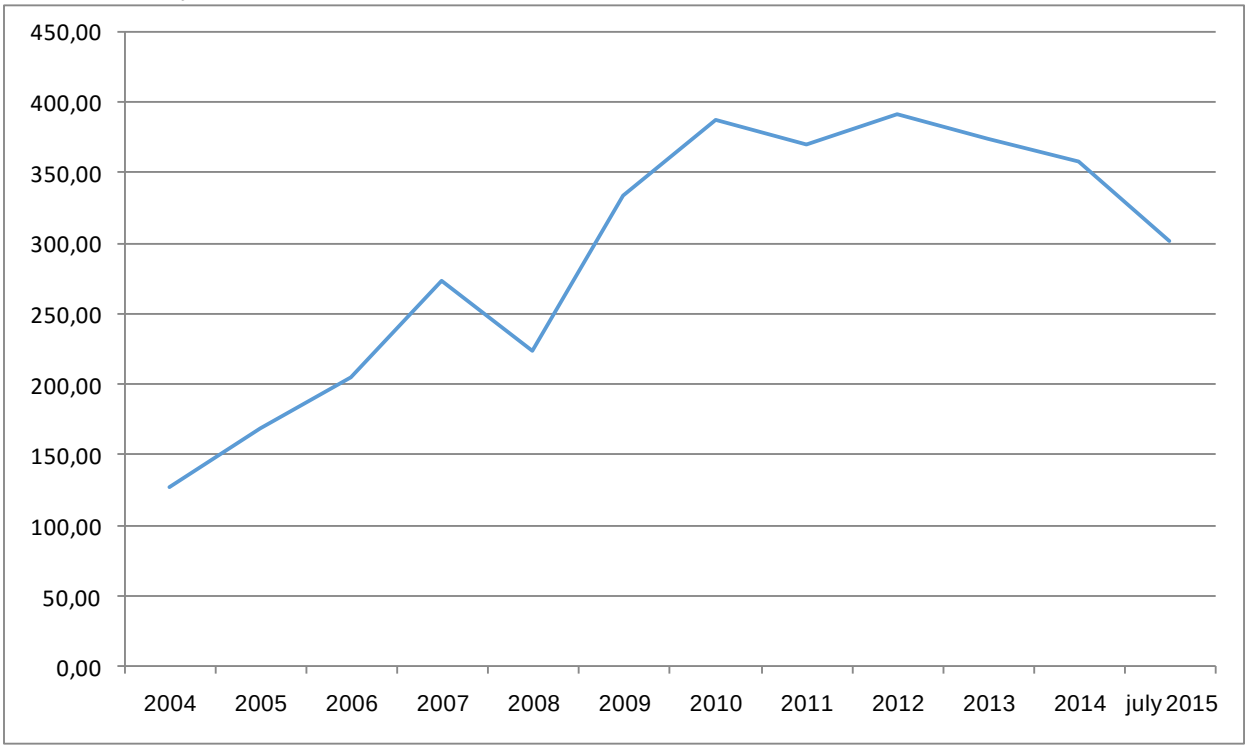
Graph 6 – Percentage Increase of Real Minimum Wage and Selected Real Average Wages in Southern and Southwestern Minas Gerais, Brazil, 2004 to 2014



Source: RAIS.

Thirdly, the most important measure of wages for farmers is the cost of labor as calculated in U.S. dollars, as most of what is produced in the region is exported. We can see below (Graph 7) that there is an overall upward movement. Fluctuation reflects exchange rate variation, which went up from 2004 to 2007, down during the international crisis in 2008, up once again from 2009 to 2011, and fell again after 2012, further declining in 2015 due to the political and economic crisis faced by the country. From 2004 to 2014, 36% of the wage spike in dollar terms (of around 180%) was related to the Brazilian policy of increasing real minimum wage, and the remaining 64%, to local currency appreciation.

Graph 7 – Average Wage of Coffee Workers in USD in Southern and Southwestern Minas Gerais, Brazil, from 2004 to July 2015



Source: RAIS and Brazilian Central Bank.

On the other hand, U.S. dollar prices of arabica coffee – the species grown in the region –rose by 140% over the same period, according to the New York Board of Trade, that is, not considering premium prices (BRADESCO, 2015). Moreover, productivity (bags per hectare) rose by slightly over 50% in the region (CONAB, 2015).

As ups and downs in productivy and prices are common in the coffee sector, rates of profitability vary considerably from year to year and also across producers. However, it can be pointed out that if average wages for coffee farm workers in U.S. dollars went up considerably from 2004 to 2014, economic productivity (prices plus physical productivity) rose a little faster. So, not all productiviy gains were passed on to coffee workers. This is true especially for the big farms, with their high productivity levels, which can sell their certified coffee at a premium price.

16. CONCLUSIONS

This report aimed to estimate the living wage for the urban areas in the mesoregion of Southern and Southwestern Minas Gerais, Brazil, by following the methodology developed by Anker & Anker (2016). This region has an urban population of 2 million people. Although focusing on coffee wageworkers, the living wage can be applied to every wageworker in the same region getting a monthly wage over the year.

The living wage estimate considered all the important costs that a family of four should meet in order to have a basic and decent livelihood. Its gross value is R$ 1,629 (USD 440), or 25% higher than the prevailing wage (R$ 1,307, USD 353) paid by coffee farmers to permanent workers hired under the label of "general services". If we consider that workers do receive cash allowances and in kind benefits, as it is in our case, the actual amount to be paid is R$ 1,414 (USD 382), which is the value of the gross basic living wage as labeled in the methodology. IPCA is the consumption price index to be used for updating it.

As discussed in the last section of this report, over the last 10 years coffee permanent wageworkers in the region experienced real gains in wages, as they are pegged to the minimum wages in Brazil, also trending upward in real terms. Dollar wages increased even faster due to the appreciation of the Brazilian currency over the period, a process that was partly reversed in 2015. On the other hand, over the period 2004-2014, productivity and prices in the coffee industry also went up. Still, actually the increase in labor productivity and coffee prices in USD exceeded the wage increase in USD.

It should be noted that the coffee value chain is made up of different actors, other than farmers and workers, and that most of the value added is concentrated not in the production sphere but in the intermediate and final stages. So considering that certified coffee is sold at a premium to consumers in developed countries, only a small percentage of the value added is distributed to farmers and workers. Hence, in the upper levels of the value chain, coffee prices tend to increase faster than the prices the commodity fetches downstream. This is what has been called the "coffee paradox" (Daviron & Ponte, 2005).

The main finding of the research is that, in Brazil's most important coffee producing region, the prevailing wage (actually earned by the workers) is close, albeit below, to what the region's living wage should be. This should not entail that workers need to seek an increase in their wages of up to 25%, as in relative terms their earnings would still be low in comparison with the revenues distributed across the value chain.

Workers are well above the poverty line, but this has not made it possible to ensure a basic and decent wage for this region of Brazil. Moreover, considering the value added generated along the entire value chain, coffee farm workers in Brazil are relatively underpaid. Especially if we assume that the coffee produced –the one grown by certified farms, in particular – follows environmental and social standards, allowing thus for higher prices in supermarkets and grocery stores selling high-quality brands, most of them located in developed countries.

In sum, bridging the gap between prevailing and living wages should not be the responsibility of coffee farmers alone, who are often price takers. In this specific market, prices are not decided solely by the interplay of demand and supply but, more often than not, by market segmentation, where some players have a visible hand that tends to hamper the need to reconcile higher productivity levels and higher wages in the developing world's producer countries. This is quite a burden especially for small producers (not studied in this report) who – due to low prices of the coffee they manage to sell – cannot afford to apply new technologies and production processes in order to increase their performance and income.

The multi-functionality of coffee agriculture should be taken into account. Apart from producing a tangible good, coffee, the industry needs to allow for the implementation of labor, social and environmental standards and also for the payment of a living wage. This intangible good (as it relates to consumers on the other extreme point of the value chain) can only be assured through the joint action of certifying agencies, government bodies and workers' and farmers' representatives, inclusive as well of the other parts of the value chain. This is strategic if the Brazilian coffee industry wants to take a leading role, not only as a great exporter, but also in improving living and working conditions for those who manage to produce, treat and collect coffee from the trees all the way down the value chain to consumers in developed countries.

Table 8 - Summary table for calculating a living wage

Item	Local currency	USD
PART I. FAMILY EXPENSES		
Food cost per month for reference family (1)	656	177
Food cost per person per day	5.4[a]	1.5
Housing costs per month (2)	630	170
Rent per month for acceptable housing	450	122
Utilities and minor repairs per month	180	49
Non-food/non-housing costs per month taking into consideration post checks (3)	1201	325
Preliminary estimate of non-food/non-housing costs	1201	325
Health care "post check" adjustment	0	0
Education "post check" adjustment	0	0
Other "post check" adjustments	0	0
Additional 2% (approximately) for sustainability and contingencies (4)	47	13
Total household costs per month for basic but decent living standard for reference family (5) [5=1+2+3+4]	2,534	685
PART II. LIVING WAGE PER MONTH		
Living wage per month, net take-home pay (6) [6=5/#workers]	1,482	400

Item	Local currency	USD
Mandatory deductions from pay (7) [b]	147	40
Gross wage required per month for Living Wage (8) [8=6+7]	1,629	440
PART III: LIVING WAGE BASIC WAGE IN INDUSTRY CONSIDERING VALUE OF TYPICAL IN KIND BENEFITS, CASH ALLOWANCES, AND BONUSES IN INDUSTRY		
Typical value per month of usual in kind benefits in industry (9A) [c]	94	25
Typical value per month of common cash allowances and bonuses in industry (9B) [d]	121	33
Net basic living wage when workers receive typical in kind benefits, cash allowances, and bonuses in industry (10) [10= 6-9A-9B]	1,267	342
Gross basic living wage when worker receives typical in kind benefits, cash allowance, and bonuses in industry (11) [11= 8-9A-9B]	1,414	382

Source: The authors.

Notes:
[a]Cost of the model diet per person per day was R$ 5.9 if all meals were prepared at home. This was reduced to R$5.4 per day to take into consideration that free lunches for children in school reduce the number of meals that need to be prepared at home.[b] Mandatory deductions from pay include the following items and percentages: *social security (8%=R$ 129) plus union tax of R$ 17.93*.
[c] Common in kind benefits include the following items and values: *transportation (R$ 94)*.
[d]Common cash allowances and bonuses include the following items and amounts: *1/3 bonus of the wage during vacation (R$ 30.3) + 13th month salary (R$ 91)*.

Table 9: Key values and assumptions for a living wage estimate

KEY VALUES AND ASSUMPTIONS	
Location	Southern/Southwestern Minas Gerais
Exchange rate of local currency to USD	3.7
Number of full-time workdays per month	26
Number of hours in normal workweek	44
Number of workers per couple	1.71
Reference family size	4
Number of children in reference family	2
Ratio of non-food/non-housing costs to food costs	1.83

Source: The authors.

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