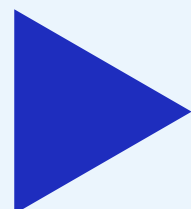




International
Labour
Organization



► **Estimating the needs
of workers and their families
in Costa Rica**



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The main authors of the report are Nicolas Maître and Erika Chaparro Perez, with contributions from Patrick Belser, Khalid Maman Waziri, Andrés Marinakis and Gerson Martinez. Michael Rose copy-edited the draft of the report. The authors wish to thank Pablo Sauma, an external expert from Costa Rica, who peer-reviewed the report. Special mention should also be made of Claire Piper for her excellent assistance in the publication process and the formatting of the document.

► Executive summary

Minimum wage-setting and adjustment is a task that seeks to protect workers and their families, while ensuring compliance and avoiding adverse effects on employment levels. The ILO Minimum Wage Fixing Convention, 1970 (No. 131) calls for a balanced and evidence-based approach to setting minimum wage levels that considers both the needs of workers and their families and economic factors. While the needs of workers and their families and economic factors are equally important in wage-setting, the present report focuses on a methodology for measuring the needs of workers and their families. As such, the report should be considered as complementary to the evaluation report on the methodology for adjusting minimum wages in Costa Rica, which focuses on the economic factors.¹

In order to estimate a wage sufficient to cover the needs of workers and their families, we should take into account various factors, such as family size, the number of wage-earners per household and the cost of living. Using an evidence-based approach, we formulate a methodological framework to establish how to estimate the needs of the workers and their families using data from income and expenditure surveys. These needs are implicit in expenditures on food, housing, health and education, and other essential goods and services.

First, we divide expenditures into different categories. For the first expenditure category – cost of food – we use the World Bank methodology on poverty lines. We construct a reference basket and estimate its cost based on observed national consumption patterns. First, for each household the equivalence scale of “adult equivalent energy intake” (AEEI), based on a caloric consumption of 2,950 kcal per day for a male adult aged 30–60, is used to convert the needs of the individuals in a household into those of male adults aged 30–60, following the Food and Agriculture Organization of the United Nations / World Health Organization recommendations. Next, information collected on the caloric content of each food item consumed by a household is used to calculate the caloric consumption for that household. After this, the reference food basket is constructed so that it reflects the consumption patterns of the households at quintile 2 of the distribution of monthly household expenditures per adult equivalent.² This informs us of the quantities of each food item consumed and therefore the caloric consumption per adult equivalent in those reference households. Because that consumption is smaller than the required calorie intake of 2,950 kcal per day, an adjustment coefficient is applied to the item food quantities consumed so that they provide the required calorie intake. Next, the adjusted quantities and the information on prices obtained from the survey are used to estimate the monthly cost of the reference food basket for an adult equivalent. Finally, that cost is estimated for a reference family size of 3,³ which translates to 2.49 and 2.53 adult equivalents for 2013 and 2018, respectively, based on the AEEI equivalence scale. Accordingly, the reference food basket costs 153,978 Costa Rican colones (₡) in 2018 (about 7.8 per cent higher than in 2013).

For 2018, our analysis shows that bread and cereal products account for the highest share of caloric consumption and expenditures, at 24 and 19 per cent, respectively, whereas fish and shellfish only account for 1 per cent of total calories, while oil and fat and other products such as condiments and sauces account for 3 per cent of total expenditures.

For the second category – cost of housing – the cost of monthly rent is estimated using a set of indicators on the quality of the dwelling. Based on those indicators, a system of scoring is designed to measure housing quality based on four dimensions of decent housing: durability, living space, access to water and access to facilities (including toilet and kitchen facilities). A

1 Pablo Sauma, “Evaluación de la metodología para la fijación de los salarios mínimos del sector privado de Costa Rica” (ILO), 2021.

2 In this case, quintile 2 represents the nearest benchmark to the goal of 2,950 kcal per day without exceeding it.

3 The average household in Costa Rica consists of about 3 members (after rounding up).

score from 1 to 5 for each dimension is obtained, with 1 corresponding to the lowest and 5 to the highest levels of quality. Summing the scores of the four housing dimensions provides a total housing quality score from 4 to 20. Next, we identify the total housing quality score that corresponds to a decent dwelling – a minimum score of 14 in the case of Costa Rica – with its associated rent and utilities levels per adult equivalent, which are estimated from a fitted regression. Finally, the monthly rent and utilities expenditures for a reference family size of 3 is calculated based on the adult equivalence scale of the Organisation for Economic Cooperation and Development. Accordingly, the total cost of decent housing including rent and utilities for a reference family of 3 amounts to ₡161,876 in 2018 (about 20.4 per cent higher than in 2013).

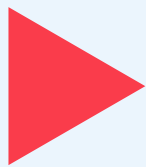
For the two remaining categories – cost of health and education and cost of other essential goods and services – our methodological approach is to take the average monthly expenditures per adult equivalent (per capita for health and education) corresponding to the reference quintile and then estimate the monthly needs for a household with 3 members. Accordingly, for a reference family size:

- (a) monthly expenditures for health and education are estimated at ₡16,503 in 2018 (almost 13.8 per cent higher than in 2013); and
- (b) monthly expenditures for transport are estimated at ₡34,843 in 2018 (about 18 per cent higher than in 2013); and
- (c) the monthly expenditures for other essential goods and services are estimated at ₡104,933 in 2018 (7.5 per cent higher than in 2013).

Next, we proceed to estimate the total needs based on the outcomes calculated from the different expenditure categories. We estimate the total needs for a family of 3 at ₡416,631 in 2013 and ₡472,133 in 2018 and for a family of 4 at ₡528,469 in 2013 and ₡601,976 in 2018.

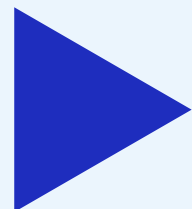
Having estimated the costs for the needs of a reference family, we are able to estimate what would be the level of a wage that would cover these needs on the hypothesis that there are 1.5 working adults in the family. Our estimates suggest that the needs-based wage level required to sustain a family of 3 with 1.5 working adults in 2018 is approximately ₡314,755. For a family of 4, our estimates suggest that this wage is approximately ₡401,317.

Finally, we compare the level and evolution of the minimum wage with the needs-based wages estimated for a family of 3 and a family of 4. In all cases, we find that the needs-based wage levels are higher than the lowest minimum wage rate in the country (minimum minimorum). Compared to the estimated needs-based wage level for a family of 3, the minimum wage is lower by about 11 per cent in 2013 and 5 per cent in 2018. For a family of 4, the estimated needs-based wage level is about 40 per cent and 34 per cent lower in 2013 and 2018, respectively, than the minimum wage. These results are rather positive as they highlight a significant improvement between 2013 and 2018. However, despite these positive trends, the results also suggest that there is still some room for improvement in order to allow workers earning the minimum wage to cover their needs and the needs of their families, especially if they have to support a large household.



1

Introduction



► 1. Introduction

Setting and adjusting the level is perhaps one of the most challenging parts of minimum wage fixing. If set too low, minimum wages will have little effect in protecting workers and their families against unduly low pay or poverty. If set too high, minimum wages will be poorly complied with and/or have adverse employment effects.

The ILO Minimum Wage Fixing Convention, 1970 (No.131) calls for a balanced and evidence-based approach for setting minimum wage which considers, on the one hand, the needs of workers and their families and, on the other, economic factors. An appropriate balance between these two sets of considerations is essential to ensure that minimum wages are adapted to the national context and that both the effective protection of workers and the development of sustainable enterprises are considered.

While needs of workers and their families and economic factors are equally important in wage-setting, the present report focuses on a methodology for measuring the needs of workers and their families in line with the Convention No.131. As such, the present report should be taken as complementary to the evaluation report on the methodology for adjusting minimum wages in Costa Rica which focuses on the economic factors.⁴ Together, these reports provide a set of information aimed at increasing the capacity of the governments and the social partners when negotiating wage levels.

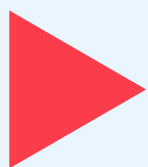
The present report falls within the scope of a technical cooperation project that seeks to develop indicators and methodologies on the needs of workers and their families, which – along with the consideration of economic factors – will strengthen the capacity of governments and social partners to negotiate and set adequate wage levels. The methodologies and tools developed at the global level in this project are currently being tested in five pilot countries (Costa Rica, Ethiopia, India, Indonesia and Viet Nam) and will be integrated in an ILO global toolkit for future technical assistance on minimum wage policies.

Assessing whether existing rates are enough to meet the needs of workers and their families can be challenging. First, the definition of needs is a relative concept. There can be basic needs, higher needs, and so on. The definition of these different types of needs can also vary across and within countries. The difficulty of pinning down what constitutes each type of need explains why there is no universal definition that is widely accepted. Secondly, whether a minimum wage is enough to cover the needs of a family depends on the size of one's family, which varies among workers. It also depends on how many family members are minimum wage-earners, as well as on the local cost of living. Some averaging is therefore unavoidable.

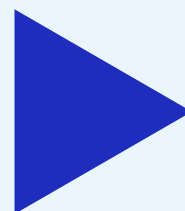
In this paper, we apply a methodological framework to estimate the cost of basic needs for workers and their families in Costa Rica using the *National Household Income and Expenditure Survey* (ENIGH) (Costa Rica 2019), implemented in Costa Rica in 2013 and 2018. The ENIGH is a nationally representative survey that collected data on 5,626 households and 19,090 individuals in 2013 living in rural and urban areas. In 2018, the survey numbers increased to 7,046 households and 22,691 individuals. It also provides information on different dimensions at the domestic and individual levels, such as demographic characteristics, education, health, housing, work and consumption, among others.

4 Sauma.

The paper is divided into six sections. While the first section summarizes the conceptual framework of the methodology and its underlying assumptions, the following three sections provide detailed analyses and estimate the cost of basic needs for each expenditure category – food; housing; health and education; and other essential goods and services – to enable a basic but adequate living standard. By aggregating outcomes from the previous three sections, the fifth section reveals the estimated needs-based wage level. This section also offers a comparison of needs-based wage levels estimated for households of 3 and 4 members. Finally, the sixth section compares the level and evolution of the existing minimum wage levels in Costa Rica with the estimated needs-based wage levels.



2 Brief overview of the methodology



► 2. Brief overview of the methodology

The “baseline” methodology – which is open to country-specific adaptation – sets out a general framework for assessing the needs of workers and their families through a multidimensional approach that separately estimates the cost of living for the following four dimensions.

- (a) *Cost of food* – A low-cost diet that provide sufficient amount of calorie, protein and fat and that is suitable for the target population in terms of composition. This is measured normatively based on the calorie and nutrient standards defined by the World Health Organization (WHO) and the Food and Agriculture Organization of the United Nations (FAO).
- (b) *Cost of housing* – A basic but decent dwelling with an acceptable standard. Following United Nations for Human Settlements Programme (UN-Habitat) recommendations, this is measured normatively based on national and international standards on adequate housing characteristics, such as living space, durability, facilities and access to water.
- (c) *Cost of health and education* – A basic level of health and education expenditure is considered as a separate group. Unlike food and housing needs, the cost of health and education needs are estimated using a relative approach that draws on the national distribution of expenditure for health and education.
- (d) *Cost of other essential goods and services* – We aggregate all other expenditure components (such as clothing and transportation) into one group. As for health and education estimates, the cost of other essential goods and services is estimated using a relative approach that draws on the national distribution of such expenditure.

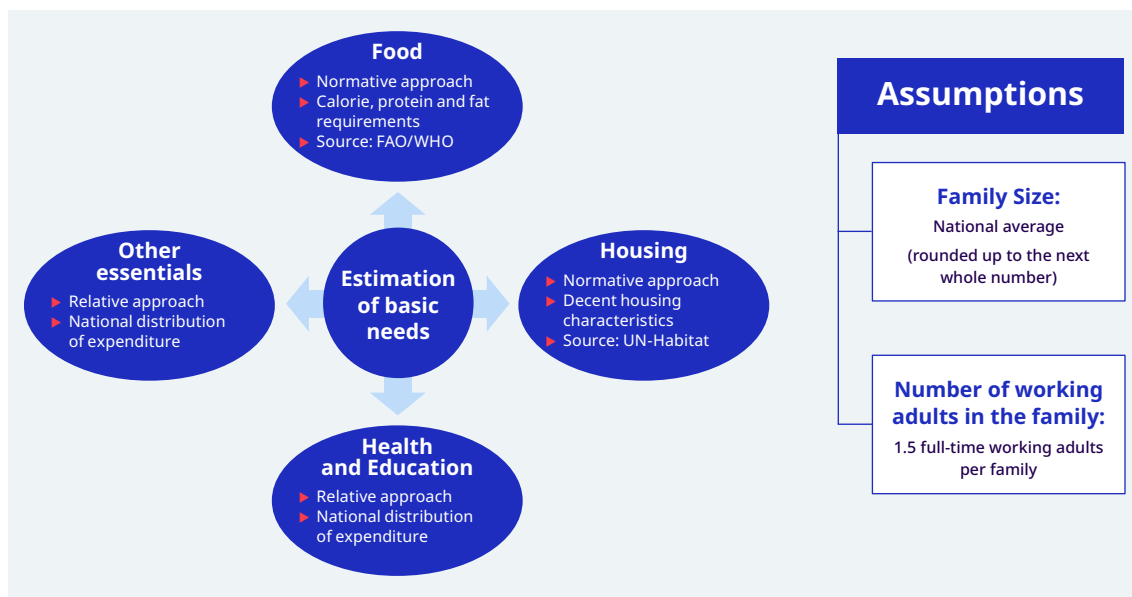
This methodology combines absolute measures for food and housing with relative measures for the cost of health and education and other essential goods and services – a combination that is well in line with the philosophy of Convention No.131. Indeed, by combining relative and normative approaches, the method has the advantage of taking into consideration both the socio-economic realities of the country and the living standards of other social groups.

Figures 1a and 1b illustrate the conceptual framework of the methodology. Figure 1a shows that the methodology is built around the four above-mentioned dimensions of the needs of workers and their families. The first step consists of estimating separately the cost of adequate food, decent housing, health and education, and other essential goods and services for 1 person (or 1 adult equivalent). Next, these separate estimated costs are summed up in order to estimate the total needs of 1 person (or 1 adult equivalent). In order to convert these individual needs into the needs of a worker and his family, an assumption with respect to the choice of a reference family size (and its corresponding number of adult equivalents) is needed. In this baseline methodology we propose to use the rounded average family size in the country or region considered. However, as discussed in the following section, the decision on what family size to adopt may ultimately be left to the discretion of the entity interested in applying a needs-based wage in their particular setting. Accordingly, estimates based on multiple family-size scenarios may also be presented and the assumption with respect to family size may constitute one of the adaptable elements of the methodology.

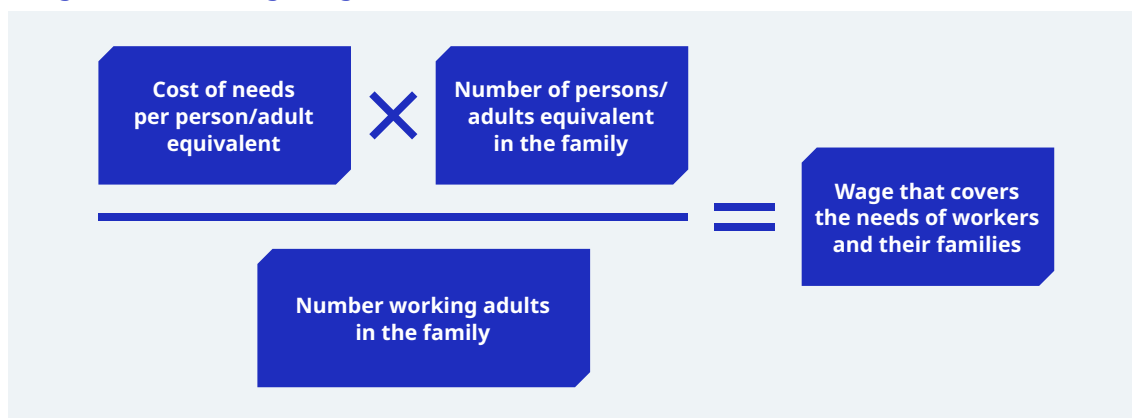
When estimating the needs of workers and their families in order to strengthen the capacity of governments and social partners to negotiate and set adequate wage levels, it is essential to convert the total needs of a family into a wage level that is sufficient to cover them – the so-called needs-based wage. However, this step requires making another assumption, with respect to the number of full-time working adults in the family. If two wages should be sufficient to cover the total needs of a family, these wages should be half the amount of the total needs. However, if 1 wage should be sufficient to cover the total needs of a family, this wage also should be equal to the total needs. Therefore, as figure 1b shows, in order to

convert the total needs of workers and their families into a needs-based wage, it is essential to divide the needs by the number of working adults considered in the family. In this baseline methodology, we propose to use a number of full-time working adults that is set normatively at 1.5 full-time working adults for any family of more than 1 person. This assumption is discussed further in the third section of the present chapter.

► Figure 1a: Conceptual framework of the baseline methodology



► Figure 1b: Estimating a wage sufficient to cover the needs of workers and their families



Reference family size and adult equivalence:

As *figure 1b* shows, the estimated cost of living for 1 member of the family is multiplied by a reference family size. Family size and composition is a crucial consideration when estimating a needs-based wage. Should we use average household size according to national statistics? Or should we use the size of households that are in lower tiers of the labour market? Or is there another referential household? This is obviously very important since a wage set to support a family of 5 is evidently going to be higher than a wage set to support a family of 3.

In the present baseline methodology, we use the national average family size rounded up to the next whole number, which is equal to 3 in the case of Costa Rica. However, it is worthwhile to note that poorer households tend to have larger families, which may translate into greater needs. Ultimately, while it is essential to provide a reference family size in estimating the needs of workers and their families, the decision on what family size to adopt should be left to the discretion of the entity interested in applying a needs-based wage in its particular setting. This is why, in this study, we provide estimation based on multiple family size scenarios in addition to the selected reference family size. Using a range of household sizes provides useful information for minimum wage fixing and there may be a need for debate on the most appropriate reference family size in a particular setting. It is also worth noting that in more traditional societies in which the bulk of production is for self-consumption, the prevailing structures are those of extended households rather than the nuclear households which tend to be the standard in urban economies.

Another question concerns the use of adult equivalence scales. Such scales are used to take into account the economies of scale that arise from people living together (for example one fridge is sufficient even for a family of 4), as well as the fact that children may have fewer needs than adults. Two types of equivalence scales are used here.

- **Equivalence scales for food and calorie needs.** As discussed in more detail in the section on estimating food costs, FAO/WHO calorie recommendations are used here to convert all household calorie needs into those of 1 male “adult equivalent energy intake” (AEEI). For example, if 1 male adult between aged 30–60 requires 2,950 kcal per day, while 1 woman aged 30–60 requires 2,400 kcal per day, the woman’s calorie requirement corresponds to 0.81 AEEI ($2,400/2,950$) and the total calorie requirement for such a family is 5,350 kcal per day or 1.81 AEEI ($5,350/2,950$).
- **Equivalence scales for total household consumption.**⁵ We use such scales for example when we partition and rank a country’s households into quintiles based on their total monthly expenditure per adult equivalent, which is calculated for each household in the survey. In this case, we can either use an adult equivalence scale at the country level formulated by national statistical offices (if available) or the Organisation for Economic Cooperation and Development (OECD) adult equivalence scale (also known as the “Oxford scale”),⁶ which typically assigns the value of 1 to the household head, 0.7 to each additional adult member and 0.5 to each child.

The use of equivalence scales for household consumption remains somewhat controversial. The main issue is whether such large economies of scale in household consumption really exist. And there is significant evidence in both directions. According to a number of recent studies, although children consume less food they consume more of other goods, such as education, health or clothing. Estimates of the needs of workers and their families are of course sensitive to the use of equivalence scales.⁷ Therefore, the use of different adult equivalences is not a panacea but rather a methodological decision.

Given the implications of using equivalence scales, in particular how they might affect the levels of estimated needs of workers and their families, our methodology uses different approaches to convert the needs of a single family member to those of the entire family. As shown in chart 1, adult equivalent estimates use the above-mentioned OECD and AEEI equivalence scales to estimate the needs of workers and their families for the dimensions of food, housing and other essential goods and services, for which the existence of economies of scale are assumed and commonly accepted.⁸ In contrast, per capita estimates are used

5 It is important to differentiate such scales from the “adult equivalent energy intake” (AEEI) scale mentioned earlier. While the AEEI scale is used strictly for calorie analyses, the OECD “adult equivalence” scale is used for adjusting all expenditure values.

6 OECD, “What are Equivalence Scales?”.

7 Martin Ravallion, “On Testing the Scale Sensitivity of Poverty Measures”, *Economic Letters* 137 (2015): 88–90.

8 OECD, “What are Equivalence Scales?”.

when there is no evidence of economies of scale for a dimension of needs, in which is the case for health and education needs since access to them or their consumption cannot be shared among different family members. Therefore, for such needs, each member of the family should individually be entitled to decent access.

The OECD equivalence scale is particularly important for our methodology, as it is used to classify households into quintiles based on their total monthly expenditure per adult equivalent. Such a classification allows the identification of the reference quintile that is used to determine the basic but decent consumption basket for food needs. It is also used for the relative approaches to estimating needs for health and education and for other essential goods and services.

► **Chart 1: Coefficients used to account for family size**

Type of expenditure	Coefficient used to account for family size	Comments
Total expenditure	Adult equivalent scale (OECD)	Used to create quintiles
Food expenditure	AEEI scale (FAO/WHO)	Economies of scale are assumed based on calorie needs
Housing expenditure	Adult equivalent scale (OECD)	Economies of scale are assumed
Health and education expenditure	Per capita measurement	No economies of scale are assumed
Other essential goods and services expenditures	Adult equivalent scale (OECD)	Economies of scale are assumed

Number of full-time working adults

To estimate the wage that meets the basic needs of workers and their families, it is essential to define how many wage and/or income recipients are assumed to live in the family considered. In contrast to family size, the assumption of the number of full-time workers has a reducing effect on the needs-based wage level. In order to obtain the so-called needs-based wage, the total cost of the needs of workers and their families is divided by the number of full-time working adults assumed to be employed in the family. As for family size, however, the number of full-time working adults assumed in the family of reference is subject to a methodological choice. Broadly, this choice concerns what constitutes the most suitable measure of the number of full-time working adults to use as the denominator in the calculation. Should we assume that there is only 1 full-time working adult in the family? Or perhaps 2 full-time working adults? Should we use the observed number of full-time working adults in the household? Or instead a fixed number of full-time working adults set normatively between 1 and 2? For the present baseline methodology, we select the last option and propose to use a fixed number of full-time working adults set normatively at 1.5 full-time working adults for any family of more than 1 person. There are three reasons for this decision.

First, following Anker and Anker (2017), we believe that using either 1 or 2 workers per family, as is done for most living-wage methodologies, is not realistic and that therefore the number of full-time working adults should always be set between 1 and 2. As Anker and Anker (2017) note:

► Many women are in the labor force all over the world, so the assumption of one (usually male) breadwinner per family is not realistic. Second, not all adult family members work full-time – some are unable to find work, some need or want to stay home for various reasons, and some work part-time. This means that an assumption of two full-time workers per family is not realistic. Therefore, the number of workers per family in our methodology is always between one and two.

Secondly, from a normative point of view it seems reasonable to assume that 1.5 full-time working adults should be sufficient to cover the needs of workers and their families. Assuming a family with children, this approach allows one of the parents (father or mother) to allocate a certain amount of working hours to essential unpaid family work. It also avoids shifting the full burden of low job opportunities and high unemployment rates to employers by requiring them to pay higher wages to compensate for these labour-market failures. In such a situation, it would probably be necessary to implement additional policies, such as a comprehensive social security system and other employment policies to protect workers and their families.

Thirdly, an empirical analysis based on the pilot countries in this project reveals that it appears reasonable to use 1.5 full-time working adults per family. In order to assess the validity of using 1.5 working adults per family, the average number of full-time working adults in the reference family sizes were computed in each of the pilot countries. In order to reflect the reality of families that might be potentially affected by wage policies, we decided to limit our analysis to those households comprising at least 1 wage-earner. As shown in chart 2, the number of full-time working adults varies significantly by country, from 1.34 in Ethiopia to 1.95 in Viet Nam. However, the average of the four countries is equal to 1.57, a number relatively close to our assumption of 1.5 full-time working adults per family.

In some cases these estimates reflect differences in the composition of households. For instance, in Viet Nam the relatively high number of working adults reflects the fact that in numerous households composed of 4 members we observed more than 2 adults working. However, in Viet Nam, estimating the same number with only those households composed of 2 adults and 2 children the average number of full time working adult is equal to 1.69, while still higher this number appear to be closer to our assumption of 1.5 full time working adults.

► **Chart 2: Average number of full-time working adults in the households of reference family size that include at least 1 wage-earner**

	National average of number of full-time working adults per household of reference that includes at least 1 wage-earner (including OAW + wage-earners)	Family size of reference
Ethiopia 2018/2019	1.34	5
Viet Nam 2018	1.95	4
Indonesia 2018	1.62	4
Costa Rica 2018	1.36	3
Average	1.57	

To summarize, while the decision to use 1.5 full-time working adults per family may to some extent appear subjective, it also carries a number of advantages. First, it allows the use of a number that is always between 1 and 2 working adults, which is a desirable result. Secondly, it is an attractive assumption from a normative point of view as it allows for workers to carry out essential unpaid family work, and avoids shifting all the burden of low employment opportunities to employers. Thirdly, it appears relatively coherent with the empirical realities of the family of reference observed in the pilot countries. Finally, it simplifies the calculation and avoids dependence on estimating the number of full-time working adults, which in some cases might be challenging to assess through income and expenditure surveys. Unlike labour force surveys that are designed to capture information about the labour market, household income and expenditure surveys are not designed solely for that purpose and as a result it can be challenging to identify labour market indicators with a strong degree of certainty. However, in the national studies, in addition to the results based on the hypothesis of 1.5 working adults

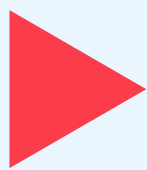
per family, we also include the extreme values – 1 working adult and 2 working adults – in order to provide the full range of needs-based wages relevant to minimum wage-setting.

The sample

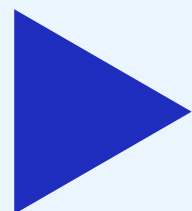
Another essential question to address in order to estimate the needs of workers and their families concerns the sample that should be used for the analysis. Should the analysis consider all households in a given country? Or should it instead consider a subsection of the labour force, such as households with at least 1 wage-earner? Or should it consider a regional subsample, such as households in a given geographical area? These are important and relevant questions when considering a needs-based wage and the choices can considerably influence the resulting minimum wage level.

In the context of estimating the needs of workers and their families to inform minimum wage-setting mechanisms, it appears legitimate to consider whether the sample population should be limited to those households with at least 1 wage-earner, given that they constitute the potential beneficiaries of minimum wage policy. However, in the present baseline methodology, we recommend using all households, irrespective of whether they include a wage-earner or not. This recommendation draws on a number of conceptual and practical considerations. First, we believe that the concept of the needs of workers and their families should not be dependent on the labour market status of the members composing the family and that, as mentioned in Convention No. 131, it should reflect the living standards of other social groups. Secondly, in some developing countries wage-earners represent a very low proportion of the employed population. Limiting the sample to the households with at least 1 wage-earner might therefore result in the exclusion of an overwhelmingly large share of the population and give rise to small-sample bias. For example, in the pilot country Ethiopia, according to the 2013 *National Labour Force Survey* wage employees represent only 10 per cent of total employment and the remaining 90 per cent of the employed population are own-account workers, employers or unpaid family workers. In such a context, limiting the sample to only those households with at least 1 wage-earner would create bias and the results would not be representative of the needs of workers and their families for the large majority of the population. Thirdly, another practical consideration is that the methodology relies on the use of household income and expenditure surveys in which, as mentioned above, it might be challenging to identify wage-earners with a strong degree of certainty.

With respect to regional considerations, keeping in mind that the present methodology seeks to strengthen the capacity of governments and social partners to negotiate and set adequate minimum wage levels, if minimum wage rates are set by geographical region in a country, we recommend that the methodology be applied separately for each relevant geographic division of the country. While some countries have only one minimum wage that applies to all employees in the country, other countries have different minimum wage rates based on sector of activity, occupation, age of employee or geographical region. In the case of Costa Rica, since minimum wage rates are set at the national level the estimates were carried out at the national level.



3 Estimation of food needs



► 3. Estimation of food needs

Food is frequently a relatively large component of expenditure for households. In fact, the food category is typically the largest expense that households will face in the developing world. As such, it is crucial to ensure an appropriate model diet that provides sufficient calories while taking into account the consumption patterns and food preferences of the target population. Building on the “cost of basic needs” methodology used by the World Bank to estimate national poverty lines, we estimate the cost of a food basket that fulfils a calorie requirement and also takes into account national preferences and consumption patterns.

To do this, we go through the following steps.

1. We identify the calorie requirements to be fulfilled, based on the recommendations of FAO/WHO. These requirements vary by gender and age.
2. Since there is no information on the nutrient value of each food item in household income and expenditure surveys, we retrieve data on the calories, protein and fat content of each food item externally and merge them into the household income and expenditure survey.
3. We construct a reference basket (quantity consumed of each food item) that provides sufficient calories based on the observed consumption patterns of households that are the closest to the required calorie consumption.
4. If necessary, we then adjust the reference food basket to ensure that it covers the requirements for other nutrients, including protein and fat.
5. We estimate the cost of the reference food basket by applying the implicit prices of each food item.

3.1 Setting the calorie requirement

What are the needs of workers and their families in terms of calories? A good starting point is the energetic and nutritional values recommended as a minimum by the health authorities of the country, which in general interact with the FAO/WHO recommendations for the definition of these values. This process takes into account a number of environmental and demographic factors, such as the age groups of the population, structural factors such as weight and height, the climate, the prevailing types of activity and their intensity and so on, which defines the daily requirements for energy (kcal) and nutrition (mainly with respect to protein and fat) per person.

According to the FAO/WHO recommendations, assuming a moderate physical activity level (PAL), 1 male adult aged 30–60 requires 2,950 kcal per day, while women, the elderly or children require fewer calories.⁹ We therefore propose to create a scale of male “adult equivalent energy intake” (AEEI) that measures the calorie requirement of each individual against the male AEEI baseline. The idea is to convert the calorie requirement of every household member into that of 1 male adult equivalent (aged 30–60) that requires 2,950kcal per day, as shown in table 1.

This scale is constructed using the FAO/WHO calorie requirement recommendation for each age range shown in table 1.¹⁰ We can observe, for example, that 1 female adult aged 30–60 requires 2,400 kcal per day (0.81 of male AEEI) and 1 female child aged 10–11 requires 2,000 kcal per day (0.68 of male AEEI). Hence, a family composed of these 3 individuals (1 male

⁹ See FAO, *Human Energy Requirements: Report of a Joint FAO/WHO/UNU Expert Consultation, Rome, 17–24 October 2001*.

¹⁰ See FAO, *Human Energy Requirements*.

adult aged 30–60, 1 female adult aged 30–60, 1 female child aged 10–11) would require a male AEEI of 2.49 ($1 + 0.81 + 0.68$), or 7,345.5 kcal per day ($2,950 \times 2.49$).

As mentioned above, this AEEI scale is used only for assessing food and calorie needs. When adjusting expenditure values to the adult equivalent, we use the scale proposed by the OECD. This is why the adult equivalent conversion factor used for the section on the cost of food differs from that used in the sections on housing and other essential goods and expenditures.

► **Table 1: Daily energy requirement by age and AEEI coefficient**

Age	kcal/day required		Coefficient	
Years	Female	Male	Female	Male
1–2	850	950	0.29	0.32
2–3	1,050	1,125	0.36	0.38
3–4	1,150	1,250	0.39	0.42
4–5	1,250	1,350	0.42	0.46
5–6	1,325	1,475	0.45	0.50
6–7	1,425	1,575	0.48	0.53
7–8	1,550	1,700	0.53	0.58
8–9	1,700	1,825	0.58	0.62
9–10	1,850	1,975	0.63	0.67
10–11	2,000	2,150	0.68	0.73
11–12	2,150	2,350	0.73	0.80
12–13	2,275	2,550	0.77	0.86
13–14	2,375	2,775	0.81	0.94
14–15	2,450	3,000	0.83	1.02
15–16	2,500	3,175	0.85	1.08
16–17	2,500	3,325	0.85	1.13
17–18	2,500	3,400	0.85	1.15
19–30 ^a	2,550	3,050	0.86	1.03
30–60 ^a	2,400	2,950	0.81	1.00
>60 ^a	2,200	2,450	0.75	0.83

Source: FAO, [Human Energy Requirements, Report of a Joint FAO/WHO/UNU Expert Consultation, Rome, 17–24 October 2001](#).

^a For these age ranges, we used the median weight (65kg for female and 70kg for male) and a basal metabolic rate of 1.75 for a moderate PAL implied by a normal lifestyle.

3.2 Retrieving information on calorie intake

As a second step, we may wish to establish a comparison between calorie requirements and the number of calories that households actually consume. Unfortunately, the information related to “how many calories households actually consume” is seldom available in household

income and expenditure surveys. However, to calculate households' calorie intake, we can retrieve information on the caloric values of each food item present in the database from secondary data. In particular, the Institute of Nutrition of Central America and Panama (INCAP) and the Pan American Health Organization provide food composition tables and databases for several countries, including Costa Rica (INCAP and PAHO 2012). Appendix I shows the calories for each food included in the Costa Rica income and expenditure survey. This information was included in the database, so we could calculate the calorie intake for each household.

3.3 Constructing and adjusting the reference food basket

Next, we construct a reference food basket that satisfies the calorie requirement defined in section 3.1, while simultaneously reflecting national tastes and preferences. That is, the basket should be pertinent and reflect the consumption habits of households in the country. Food consumption constitutes one of the oldest cultural practices of the human being. Conditioned by many environmental, seasonal and cultural factors, the way in which the food basket is composed can be arranged in a broad variety of different ways. Larger countries such as Indonesia and Viet Nam show great diversity in the composition of food baskets in the country. This imposes another limitation to adopting a normative approach based on a pre-determined diet.

Thus, when we simulate a reference food basket that satisfies the calorie requirements at a minimized cost, we use the following procedure.

First, we partition households into quintiles based on their total monthly expenditure per adult equivalent,¹¹ which is calculated for each household in the survey. For each quintile, the average calorie intake per male adult equivalent (using AEEI) per day is also calculated. Having converted all household members into male adults (aged 30–60), those households with a daily calorie intake per adult equivalent lower than 2,950kcal do not fulfil the FAO/WHO requirement, as defined in section 3.1.

The methodology is based on the quintile distribution constructed using the monthly household expenditure per adult equivalent. Although this methodology could have also been applied based on income distribution, we used expenditure distribution because: (a) most countries prefer to use data on household expenditure to measure poverty (according to a survey by the United Nations Statistics Division, of 84 countries almost 50 per cent base their poverty calculations on expenditure data, while about 30 per cent base them on income data only and 12 per cent use both); (b) statistical issues reinforce the advantages of using expenditure rather than income data due to the ease and reliability of data collection¹² since incomes are often underestimated when compared to expenditures. For example, in some of the surveys (mostly in African countries) the income section is not available or is difficult to aggregate.

As table 2 shows, even though on average households in quintiles 1 and 2 do not satisfy the calorie requirement, the quintile 2 average calorie intake is the closest to the 2,950-calorie benchmark in 2013 and 2018.¹³ As a result, we use these households to construct a reference food basket that yields 2,950 calories per adult equivalent per day. This is presumably an inexpensive way of attaining 2,950 calories since this basket reflects the consumption behaviour of relatively poor households in quintile 2 of Costa Rica's households expenditure distribution (per adult equivalent). In other words, it is likely that richer households will have more expensive ways of consuming 2,950 calories (with more meat, higher quality or greater variety of food items, for example).

11 Note that in this case, the OECD adult equivalence scale is used to adjust all expenditure values.

12 United Nations Statistics Division, *Handbook on Poverty Statistics: Concepts, Methods and Policy Use*, 2005.

13 Here, we strictly round-up (rather than down) towards the calorie requirement. For example, in 2018, even if the expected calorie intake of quintile 3 were the closest to the calorie requirement, quintile 2 have been selected as our reference food basket. This allows us to produce comparable estimates for 2013 and 2018 which uses both quintile 2.

► **Table 2: Average monthly household expenditure per adult equivalent (in Costa Rican colones), by category and quintiles, 2013 and 2018**

Quintiles ^a	Total expenses ^b			Food expenses ^b			Household size		Calories per adult equivalent (using AEEI)	
	2013	2018	growth rate	2013	2018	growth rate	2013	2018	2013	2018
1	267,292	311,024	0.16	66,249	84,800	0.28	4.00	3.82	1,693	1,866
	(1,364)	(1,768)								
2	472,447	493,991	0.05	109,357	110,857	0.01	3.62	3.46	2,735	2,555
	(1,172)	(1,465)								
3	666,599	69,7365	0.05	133,261	142,130	0.07	3.31	3.22	3,564	3,272
	(1,129)	(1,365)								
4	1,075,548	1,042,220	-0.03	162,954	153,274	-0.06	3.13	3.00	3,988	3,490
	(1,048)	(1,296)								
5	2,825,122	2,446,348	-0.13	190,309	200,126	0.05	2.82	2.72	3,903	3,882
	(913)	(1,152)								
Total	1,061,000	998,121	-0.06	132,402	138,229	0.04	3.38	3.24	3,176	3,013
	(5,626)	(7,046)								

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

Note: the number of observations is indicated in parentheses. ^a Quintiles are constructed using monthly household's expenditures per adult equivalent. ^b Nominal values.

In table 2, we can also observe the nominal growth between 2013 and 2018. While there is a positive growth in the nominal value of expenses in quintiles 1 to 3 of the expenditure distribution, growth was negative in quintiles 4 and 5. This can be explained due to the slowdown of the economy and lack of consumer confidence in 2018, when there was indeed a lower consumption of quantities in some groups such as transportation, furniture or entertainment (Costa Rica 2019).

Since the calorie consumption of quintile 2 averaged 2,734 calories and 2,555 calories in 2013 and 2018, respectively, rather than the targeted 2,950, an adjustment is required. The quantities consumed were "artificially" increased by a small amount to provide exactly 2,950 calories. This is done by multiplying the average quantities of each food item consumed by the households in quintile 2 by the adjustment coefficient ($2,950/2,734$) for 2013 and ($2,950/2,555$) for 2018, which is equal to 1.08 and 1.15, respectively. This adjustment is described in table 3.

In order to ensure that the adjusted food basket allows the fulfilment of not only the calorie requirements but also other nutritional requirements such as the requirements for protein and fat intakes, we estimate the nutritional values of the adjusted food basket and compare these with the protein and fat requirements provided by the WHO/FAO. Tables 4 and 5 show that the amount of protein provided by the adjusted food basket exceeds the minimum requirements of protein set by the WHO/FAO and the amount of fat falls into the recommended range.

► Table 3: Adjusted food basket that generates 2,950 calories per day

Products	Quantities consumed per day (unadjusted) (kg)		Calories consumed per day (unadjusted) (kcal)		Adjustment coefficient		Quantities consumed per day (adjusted) (kg)		Calories consumed per day (adjusted) (kcal)	
	2013	2018	2013	2018	2013	2018	2013	2018	2013	2018
Bread and cereals	0.26	0.26	920	911	1.08	1.15	0.28	0.3	992	1,052
Milk, cheese and eggs	0.14	0.14	168	164	1.08	1.15	0.15	0.16	182	189
Meat	0.09	0.08	196	187	1.08	1.15	0.09	0.1	211	215
Fish and shellfish	0.01	0.01	20	20	1.08	1.15	0.01	0.01	22	24
Oil and fat	0.04	0.04	312	333	1.08	1.15	0.04	0.05	336	384
Fruits	0.11	0.1	90	72	1.08	1.15	0.12	0.11	97	83
Vegetables	0.19	0.18	216	210	1.08	1.15	0.21	0.21	233	243
Sugar and sweets	0.09	0.08	338	298	1.08	1.15	0.1	0.09	364	345
Food products (condiments, sauces, etc.)	0.02	0.02	29	24	1.08	1.15	0.02	0.02	32	28
Non-alcoholic beverages)	0.13	0.13	128	110	1.08	1.15	0.15	0.15	138	127
Prepared food	0.08	0.05	318	226	1.08	1.15	0.08	0.06	343	261
Total (daily)	1.18	1.09	2,735	2,555			1.27	1.26	2,950	2,950

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

► Table 4: Nutritional values of the adjusted food basket

	Calories consumed per day (kcal)		Protein consumed per day (g)		Fat consumed per day (g)	
	2013	2018	2013	2018	2013	2018
Total (daily)	2,950	2,950	86	82	86	88

► Table 5: Threshold value of nutritional requirements

	Calories (kcal)	Protein (g)	Fat (15–35%)	
			Minimum fat (g)	Maximum fat (g)
Threshold	2,950	52.2	49	115

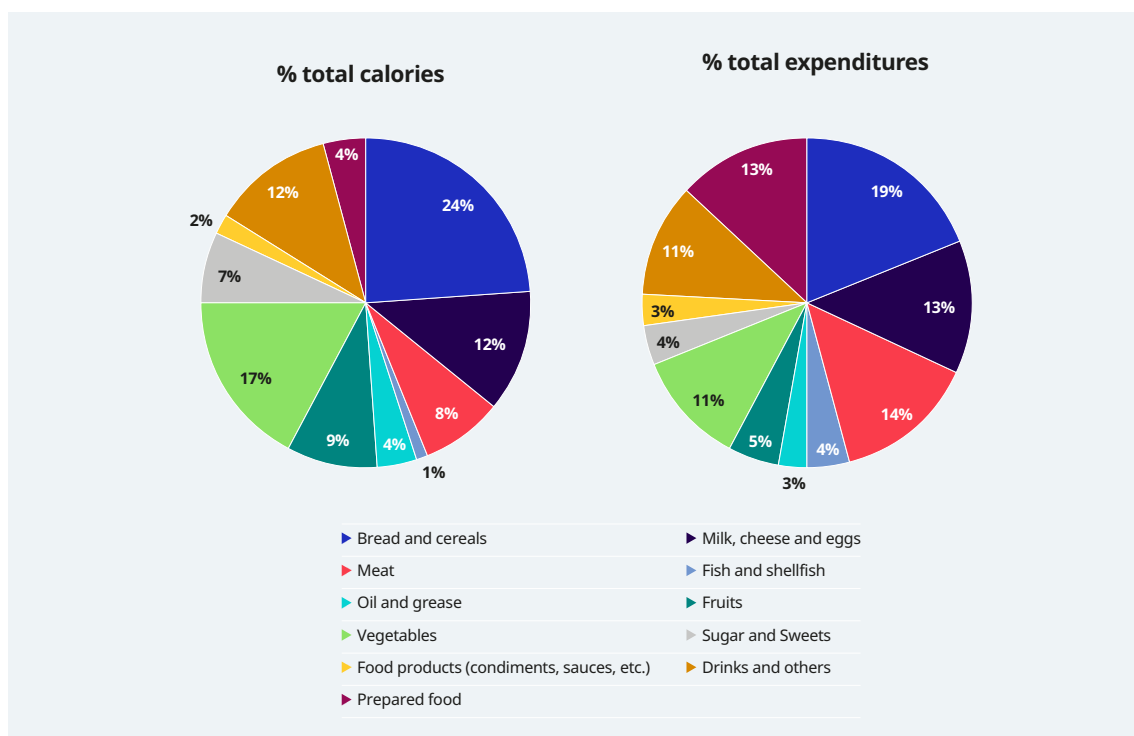
Source: FAO, *Fats and Fatty Acids in Human Nutrition, Report of an Expert Consultation, Geneva, 10–14 November 2008*, 2010.

Note: Requirements for fat range between 15 and 35 per cent of the calorie consumption. Therefore, with a total calorie consumption of 2,950 per day, between 443 and 1,032 calories should come from fat. As there are 9 calories in 1 gram of fat, we divide these numbers to convert these requirements into grams and end up with requirements for fat ranging from 49 g to 115 g per day.¹⁴

14 WHO, *Energy and Protein Requirements: Report of a Joint FAO/WHO/UNU Expert Consultation*, 1985, Ch. 8.

Figure 2 illustrates the patterns of calorie consumption and food expenses in 2018. The category with the highest share of caloric consumption, as well as highest share of total expenditures, is that of bread and cereal products (24 and 19 per cent, respectively), while the lowest share of calorie consumption is that of fish and shellfish (1 per cent) and the lowest expenditure is that of oils and fats and other food products such as condiments and sauces (both 3 per cent). An interesting pattern can be also detected in figure 2 in certain foods. For example, prepared food and fish and shellfish have a relatively low caloric value compared to their shares of total expenditures, which indicates that these food categories are characterized by relatively high prices per calorie. The opposite is true for food categories such as bread and cereal and vegetables, which are characterized by relatively low prices per calorie.

► **Figure 2: Average share of calorie consumption and food expenses in Costa Rica, 2018**



Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

3.4 Estimating the cost of the reference food basket for a reference family size

Implicitly, our reference food basket is a slightly “augmented” average basket of quintile 2 in 2013 and 2018, including only food items for which quantity information is available. In order to convert these quantities into monetary terms, we now need to calculate the price of each food item.

To do this, we divide expenditures for each food item by the quantity consumed. Then, for each household, an implicit price is assigned to each food item so that we can estimate the monetary value of monthly food consumption. Once these food prices have been computed at the household level, the national median price of each food item is used to calculate the cost of the constructed reference food basket. Using the national median price allows us to

take into account the fact that the poorest households likely buy their food items from the markets with the lowest prices.

The estimation results are shown in table 6. We found that the monthly cost of a food basket that satisfies the calorie requirement for 1 male adult aged 30–60 is approximately equal to 57,060 Costa Rican colones (₡) and ₡60,857, respectively, in 2013 and 2018.

► **Table 6: Food basket that produces 2,950 calories a day**

	Monthly quantity (Kg)		Calories per month (kcal)		Monetary value per month (₡) ^a		
	2013	2018	2013	2018	2013	2018	growth rate
Bread and cereals	9	9	29,764	31,550	10,697	11,655	9%
Milk, cheese and eggs	5	5	5,452	5,667	6,488	7,635	18%
Meat	3	3	6,334	6,464	7,612	8,626	13%
Fish and shellfish	0.4	0.4	652	708	1,765	2,126	20%
Oil and fat	1	1	10,084	11,518	1,873	1,758	-6%
Fruits	4	3	2,924	2,500	2,494	2,916	17%
Vegetables	6	6	6,987	7,288	5,152	6,421	25%
Sugar and sweets	3	3	10,929	10,336	2,276	2,635	16%
Food products (condiments, sauces, etc.)	1	1	949	837	18,69	2,068	11%
Drinks and others	4	4	4,127	3,814	7,179	6,905	-4%
Prepared food	3	2	10,297	7,818	9,654	8,113	-16%
Total (Monthly)	38	38	88,500	88,500	57,060	60,857	7%

Source: ILO estimates based on the *Costa Rican Socioeconomic Survey*, 2013 and 2018.

^a ₡ = Costa Rican colones.

At this stage, we have the cost of a basic but adequate food basket that is capable of covering the needs of 1 male adult aged 30–60. However, this does not provide any insight into the estimated food costs for households or family structures. Family size and composition are an important consideration in the calculation. Should we use average household size according to the censuses? Or what should be the typical household size? Or is there a referential household?

To estimate the total cost of food for a representative family size in our population of interest, we first calculate the average size of households in each quintile, as provided in section 3.3, as well as the corresponding AEEI in each year.¹⁵ Table 7 shows that the poorest families tend to be larger than richer families and therefore the basic needs of families in the lower quintiles may be greater.

To remain pragmatic and ensure that needs-based wage levels sufficiently reflect the needs of workers and their families for a realistic household size, needs are estimated for the national average family size rounded up to the nearest whole number. In the case of Costa Rica, needs-

¹⁵ For more information see appendix II, table 30, which shows the corresponding average male adult equivalent using the AEEI and OECD scales for each whole family size for 2013 and 2018.

based wage levels are assumed to cover the needs of a family of 3, which is the closest family size to the average in the country (3.38 in 2013 and 3.24 in 2018). Using the AEEI equivalence scale, the cost of food for a family of 3 corresponds to the costs of, respectively, 2.49 and 2.53 adults equivalent in terms of calorie requirement in 2013 and 2018, as shown in table 8; it also provides the adult equivalent scale based on the OECD methodology, which are slightly lower and will be used in the following sections on housing and other expenditure groups.

► **Table 7: Size, adult equivalent, full-time salaried workers, by household and quintiles, 2013 and 2018**

Quintile	Household size (Average)		Average adult equivalent household size (AEEI)		Salaried workers in the household	
	2013	2018	2013	2018	2013	2018
1	4.00	3.82	3.21	3.10	0.80	0.69
2	3.62	3.46	3.00	2.87	1.06	0.91
3	3.31	3.22	2.74	2.72	1.13	1.05
4	3.13	3.00	2.65	2.56	1.15	1.16
5	2.82	2.72	2.39	2.31	1.23	1.16
Total (average)	3.38	3.24	2.80	2.71	1.07	0.99

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

► **Table 8: Adult equivalent figures for a household of 3 and a household of 4, 2013 and 2018**

Household size			3	4
Average equivalent to 1 adult male	2013	OECD	2.25	2.79
		AEEI	2.49	3.25
	2018	OECD	2.27	2.84
		AEEI	2.53	3.33

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

Finally, table 9 shows that the monthly cost of food that covers the calorie requirements for a family of 3 in Costa Rica is ₡141,954 in 2013 and ₡153,978 in 2018.

► **Table 9: Monthly cost of food needs for a family of 3 (in Costa Rican colones), with their respective adult equivalents,^a 2013 and 2018**

	Monthly cost of the food basket that produces 2,950 kcal per day	Average number of equivalent adults per household	Monetary value per month
2013	57,060	2.49	141,954
2018	60,857	2.53	153,978

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

^a The value of the adult equivalent used to estimate the amount of food expenditure is obtained from the AEEI methodology.

3.5 Comparison of the results with the cost of the basic food basket elaborated by the National Institute of Statistics and Census

This section aims to compare our results with those provided by the National Institute of Statistics and Census (INEC).¹⁶ The cost of the basic food basket produced in 2010 was calculated using information on the minimum requirements for the whole population, based on variables such as occupation, age, average weight and sex using the FAO-WHO methodology (2001).

INEC estimated an average energy requirement of 2,213 calories per person per day at the national level in 2013, while our approach estimates energy requirements of 2,446.27 and 2,470.75 calories per person per day in 2013 and 2018, respectively. Our estimates are higher than those estimated by the INEC because a moderate physical activity level (PAL), regardless of the occupation, is assumed for all individuals, while INEC considers individuals' occupations and their associated PAL (low, moderate or high) when estimating average energy requirements. That PAL is mostly low for the whole population (see table 10).¹⁷ Accordingly, our approach assumes a higher PAL on average and therefore a higher average calorie requirement than that of INEC.

► **Table 10: Individuals classified by PAL (based on their occupation), 2013**

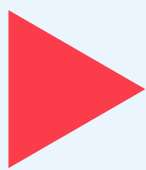
	Low	Moderate	High	Total
Total	77.2%	15.8%	7%	100%

Source: Calculations based on Costa Rica (2013).

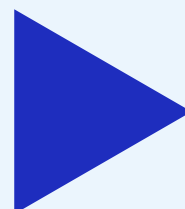
The monthly cost of the food basket estimated by the INEC at the national level was ₡41,721 and ₡46,057 per person in April 2013 and August 2018, respectively. Our monthly estimates per person for the food basket are higher and amount to 47,318 in 2013 and 51,326 in 2018. This is due to higher caloric requirements, which are explained both by methodological differences and the change in consumption habits between the years considered, as well as by increases in the prices of the products considered.

¹⁶ Costa Rica, INEC, *Actualización de los parámetros de la metodología para la medición de la pobreza con la Encuesta Nacional de Hogares*, 2013.

¹⁷ While INEC considers that based on individuals' occupations, 77 per cent work with a low PAL, 16 per cent work with a moderate PAL and 7 per cent with a high PAL, our approach assumes that all the individuals (100 per cent) work in an occupation with a moderate PAL.



4 Cost of housing



► 4. Cost of housing

After food, housing is the largest expenditure group for workers in developing countries (Anker and Anker 2017). And for good reason since the lifestyle and well-being of family members are significantly influenced by the quality of their dwelling. At the same time, housing has an environmental impact owing not only to the use of natural resources and land when constructing properties but also to the associated energy requirements to enable the use of household utilities (water and electricity, for instance) (UN-Habitat 2018).

Adequate and decent housing is a universal human right, recognized at the international level and in more than 100 national constitutions throughout the world. A secure place to live is also intrinsic to human dignity, as well as physical and mental health. According to Habitat for Humanity (2019), decent housing has the capacity to remove barriers to opportunity, success and health and more generally to improve individuals' quality of life. As a result, access to adequate, safe and affordable housing that ensures the provision of basic housing services is a key priority of the 2030 Agenda for Sustainable Development. This objective is perhaps most explicitly reflected in Sustainable Development Goal 11, "Make cities and human settlements inclusive, safe, resilient and sustainable".

Yet globally, inadequate housing remains widespread. It is estimated, for instance, that 3 billion people (40 per cent of the world's population) are in need of access to decent housing. What is more, this figure continues to grow as an estimated 96,000 new dwellings are needed every day.¹⁸ Moreover, millions of people worldwide live in extremely poor living conditions, such as overcrowded and informal settlements. It is therefore necessary to ensure that workers earn a wage sufficient to cover the cost of decent housing.

In this section, we introduce our methodology for estimating the housing expenditure category of a minimum wage that adequately covers the needs of workers and their families. Using a scoring system based on international housing criteria, we calculate separately:

- (a) *Monthly cost of a dwelling* – estimated based on available information on rent. In fact, actual rent paid has been used for households that rent their dwelling and an imputed value of the rent has been used for households that own their dwelling; and
- (b) *Monthly cost of household utilities* – including water, electricity, waste and phone utilization.

Once the two housing cost components have been computed, we sum up these elements and arrive at an estimated total cost for decent housing.

After estimating the cost of basic housing, we explore the distribution of rent paid across regions and subgroups to have a better picture of the actual expenditure on housing and how these results compare with average and median housing expenditures.

4.1 Rent

In the case of Costa Rica, the section on housing of the income and expenditure national survey (ENIGH) 2013 and 2018 (Costa Rica 2019) includes a significant set of indicators on the quality of the dwelling. This section includes information on the type of occupancy of the dwelling, the rent (if any); the number of rooms or the square m² per capita; the materials and quality of the walls, roof and floors; the type of toilet facilities; and the access to water.

Since only one in five households in the country rents a dwelling (see figure 8) and the rent is a key variable for this analysis, two variables were used to assess the rent values. The rent

¹⁸ See UN-Habitat website, <https://unhabitat.org/>.

values for households that own their dwellings can be found indirectly in the survey, since question 3 of section A of the questionnaire refers to the value of the rent of the dwelling if it were to be paid. With this in mind, the rent estimates were computed taking into account either the actual rent expenditures or else the rent value that a family would have paid. With these two variables, we could estimate rent values from a total of 5,534 households in 2013 and 6,839 households in 2018.

To estimate the cost of decent housing in Costa Rica, an important first step involves assessing the quality of each houses in the sample. One way to do this requires devising and implementing a scoring system that is based on the quality of housing characteristics. This information is available in the Costa Rican Socioeconomic Survey, 2013 and 2018. We then use the relationship between the quality of housing and the cost of rent to estimate the cost of a decent housing, which is identified based on national and international standards for decent housing characteristics.

Assessing the level of decency of a dwelling

The first step consists of selecting the indicators needed to identify a decent dwelling. In this regard, the methodology builds on four key dimensions used by UN-Habitat in the definition of what constitutes a slum, which is the most widely used definition worldwide. According to this definition, a slum consists of a household or a group of people living under the same roof and lacking one or more of the five characteristics listed in table 11 below. As most countries do not include information on tenure in their income and expenditure survey, our methodology excludes this dimension from the analysis. Therefore, we focus on four of the five categories – durability, living space, access to safe water and access to sanitation facilities.

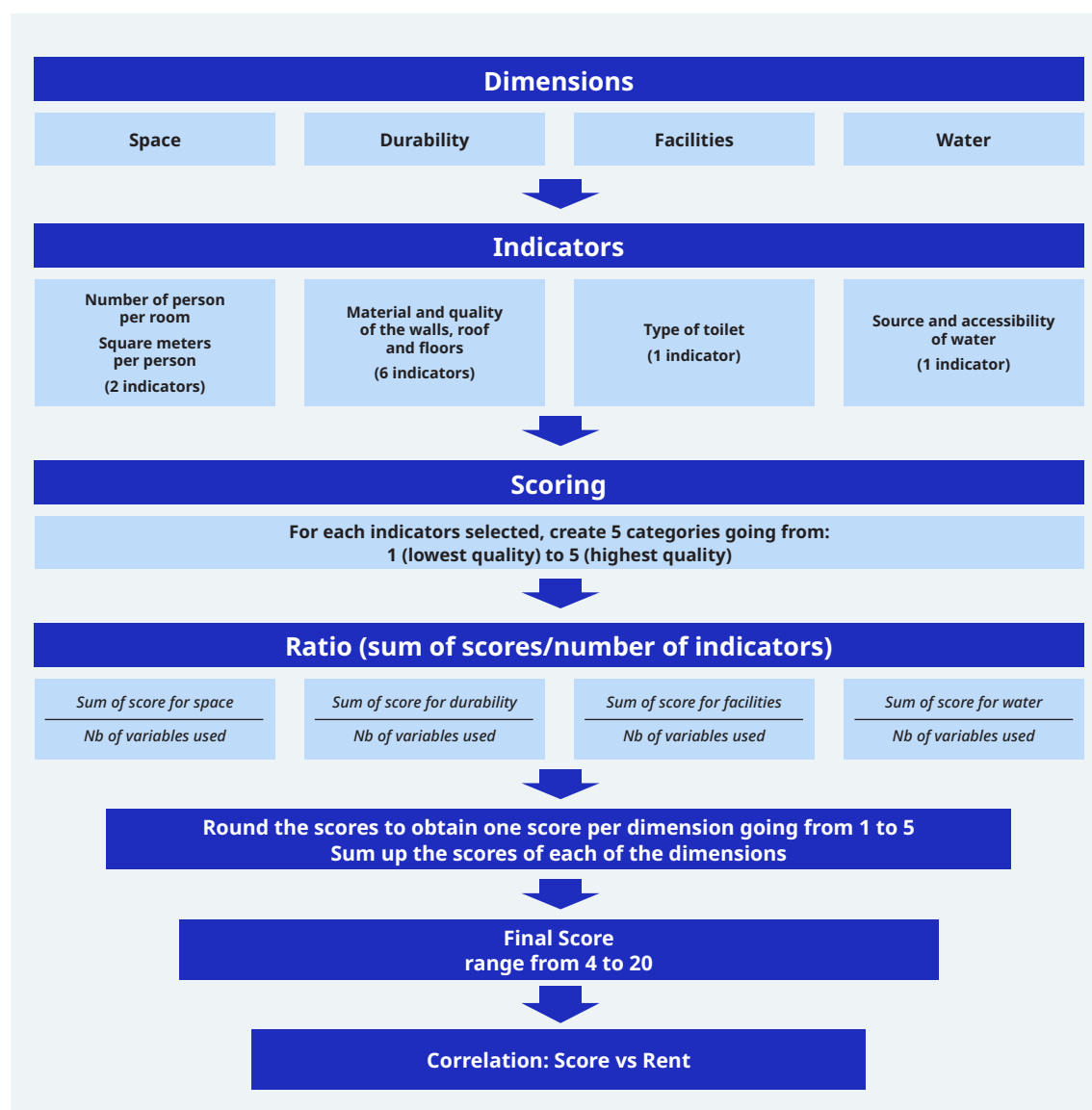
► Table 11: Five key dimensions for identifying slums

Durability of dwellings	A dwelling is considered durable if it is built on a non-hazardous location and has a structure that is permanent and adequate enough to protect its inhabitants from the extremes of climatic conditions such as rain, heat, cold and humidity.
Sufficient living area	A dwelling is considered to provide a sufficient living area for the family members if not more than three people share the same room.
Access to safe water	A household is considered to have access to improved water supply if it has sufficient amounts of water for family use, at an affordable price, available to household members without being subject to extreme effort, especially for women and children.
Access to sanitation	A household is considered to have adequate access to sanitation if an excreta disposal system, in the form of either a private toilet or a public toilet shared with a reasonable number of people, is available to household members.
Tenure security	De facto or de jure secure tenure status and protection against forced eviction

Source: UN-Habitat (2006; 2011; 2014). See also Appendix II, table 32.

We then use a scoring system to assess the quality of the houses based on the information provided in income and expenditure surveys. The variables available include the number of household rooms; the materials used for walls, roofs and floors; the types of kitchen and toilet facilities; and the water access source. It is important to acknowledge that although most income and expenditure surveys provide information on housing characteristics, questionnaires can differ by country, which may result in discrepancies across countries in the number and type of variables employed to estimate decent housing. Our scoring system method, which is summarized in figure 3, shows that the relevant indicators/variables are identified for each dimension. For example, to assess the durability of a house, one may use information on the material of the walls, roof and floors, while estimating the number of persons per room is a viable way to assess the living space. It is important to note that even though multiple variables are often available for capturing the quality of some dimensions (for example facilities, durability), for other dimensions there may be only one (for example living space, water).

► Figure 3: Scoring system method to assess the quality of housing



For each selected variable, we assign a score from 1 to 5 (lowest to highest levels of quality). Table 12 summarizes the system used to assign a score to each selected variable. For example, in the case of Costa Rica, “Natural sources” are the lowest ranked materials for both roofs and walls, while “No facilities” are lowest ranked with respect to “Toilet and water source”. In contrast, “Block and cement” is the highest ranked roof and/or walls material, while a “Flush toilet linked to sewer” or “Tap water reaching the house”, respectively, are the highest ranked types of toilet and water source.

► Table 12: Scoring system across housing dimensions and examples

Coding System (score) ^a	Housing dimensions							
	Space		Durability				Facilities	Water access
	No. of persons per room	m ² per capita	Material of walls	Material of roof	Material of floor	Quality of each material	Toilet	(Pipes / source)
1	Greater than 2	Less than or equal to 6	Natural sources ^b	Natural sources ^b	None / natural sources ^b	Bad	None	None/any ^c
2	]1.5 ; 2]	]6 ; 10.1]	Metal material ^d	Wood ^e	Wood ^e	N/A	Black pit or latrine/ditch	In- or outside/ well, river others
3	]1 ; 1.5]	]10.1 ; 20]	Wood/ prefab	Metal material ^d	N/A	Regular	with a common septic tank ^f	Outside/ aqueduct
4	1	]20 ; 39]	Zocalo ^g	Prefab	Cement	N/A	with a septic tank ⁷ with treatment	Near residential place/ aqueduct
5	Less than 1	Higher than 39	Blocks ^h / cement	Block	Ceramic	Good	with sewer	Inside/ aqueduct

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

^a Coding system: 1 (lowest quality) to 5 (highest quality). ^b Natural sources: bamboo, mud, reed, thatch, dung. ^c Any source of water: well, river, rain collection, among others. ^d Metal material: iron sheets, zinc. ^e Wood: wood-based material. ^f Septic tank. ^g Zocalo: wood, zinc and fibre cement. ^h Blocks: including bricks.

In order to evaluate each dimension equally, irrespective of the number of indicators available in the database, we divide the sum of scores by the number of indicators used. After rounding up the sum, a score ranging from 1 to 5 is obtained for each dimension.

To arrive at a final housing quality score, the values of each dimension are summed. The final scores rank the quality of dwellings from 4 (minimum score in each dimension) to 20 (maximum score in all dimensions). For a given score, various combinations of housing characteristics are possible. Indeed, a caveat of this approach is that it allows for compensation. This means that even though a dwelling may not have access to sanitation – which would technically classify it as a slum – it can still achieve an adequate score by performing very well in other dimensions. However, we assume that there are trade-offs between dimensions and households can in principle choose to reduce the quality of one dimension in exchange for improvements in another without increasing their housing budget.

The remainder of this methodology rests on the assumption that dwelling quality is the main determinant of household rent costs and consequently both variables should exhibit a strong positive correlation. We can test this assumption by estimating and charting the average cost of rent at each score level. As we can see in figure 4, in Costa Rica rent is positively correlated to the housing quality score of the dwelling and it follows a non-linear relationship.¹⁹ Using

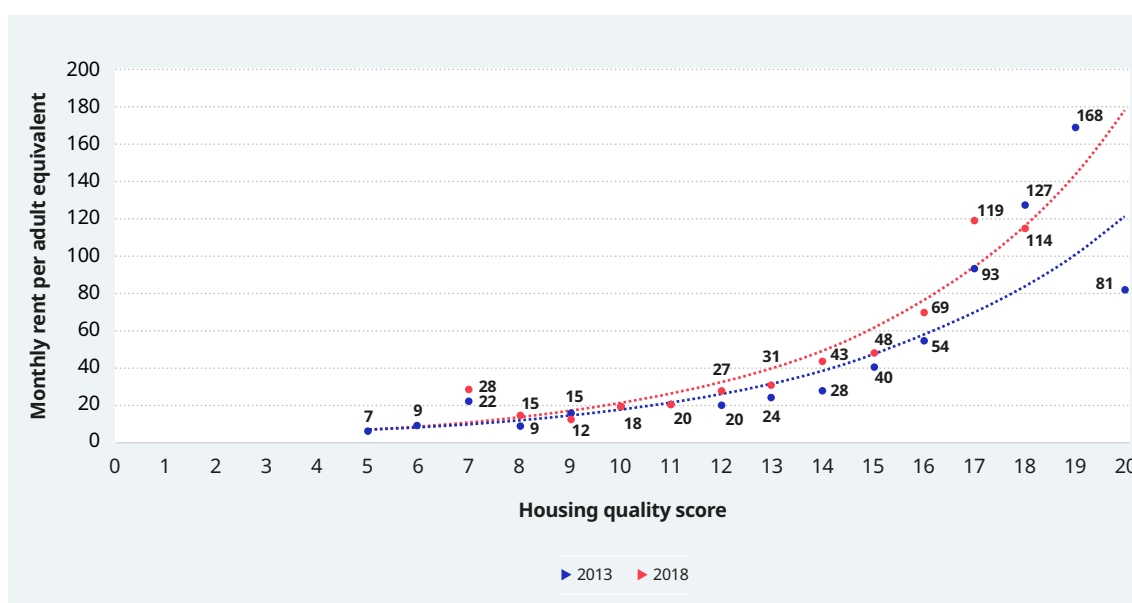
¹⁹ Results disaggregated by rural and urban areas are given in figure 13.

this relationship, we can estimate the monthly rent per adult equivalent for each level of housing quality scores. The final step is therefore to identify the minimum housing quality score that corresponds to a decent house and identify the corresponding rent level.

In the case of Costa Rica, we considered the minimum requirements for decent housing to be the score of 4 for sanitation facilities and durability, and the score of 3 for living space and access to water. The scores add up to a total of 14. The following explanation justifies our selection:

- (a) In terms of living space, contrary to the UN-Habitat definition of overcrowding (3 persons per room), we categorize the households that have between 1 and 1.5 people per room as the minimum decent housing level (score of 3). We consider this measure to be reasonable because of the specific context of Costa Rica as an upper-middle-income country (World Bank 2019). Moreover, following Anker and Anker (2017), who identify the minimum living space for a decent house as at least 11 m² per capita for Latin-American countries, the score of 3 is identified as the minimum level of living space in terms of m² per capita. This corresponds to dwellings with a living space ranging from 10.1 m² to 20 m² per person (table 12).
- (b) In terms of the durability of dwellings, for Costa Rica this is defined in terms of both the type and quality of material. The minimum decent housing score of material is based on its durability and the context of the country (table 12). For Costa Rica, the minimum decent housing level of material for walls was zocalo (made from either wood, zinc or fibre cement) and prefab for roofs (score of 4). For the floor, cement meets the minimum decent housing level (score of 4). In addition to the type of material, the survey has information available on its quality. We took as the minimum decent housing level the quality defined as regular for all the materials in the dwelling (score of 3), in line with Guevara and Arce (2016, p. 122).
- (c) In terms of access to sanitation facilities, the minimum threshold is those households that have a toilet connected to a septic tank with treatment (score of 4) (table 12). This is in line with the threshold defined by UN-Habitat (2006) as shown in table 12, whereby a

► **Figure 4: Monthly rent per adult equivalent (in thousands of Costa Rican colones) by housing quality score, 2013 and 2018**



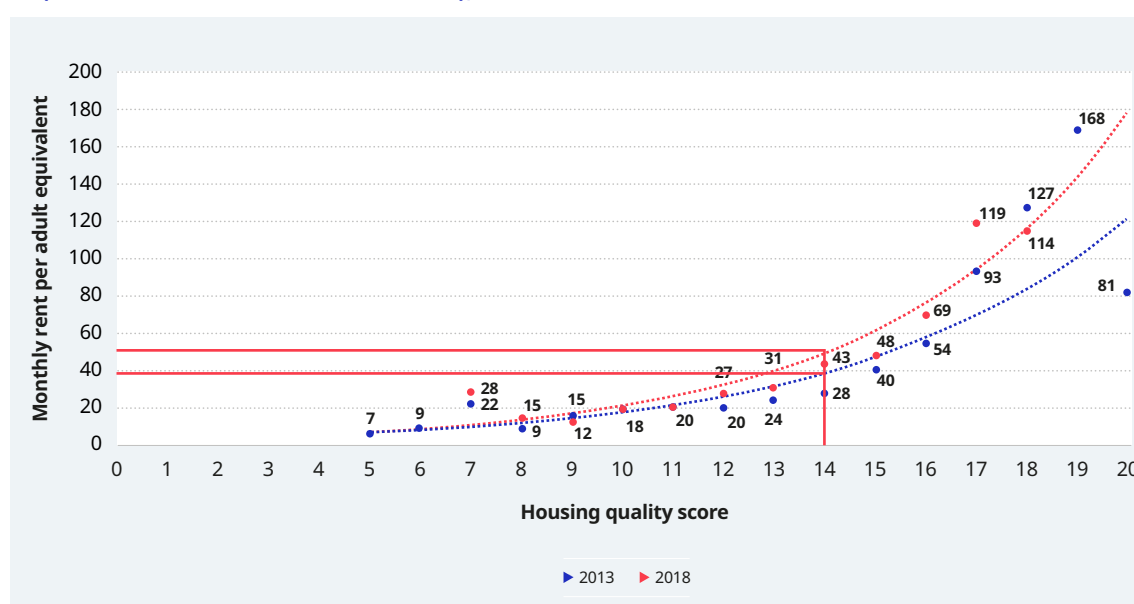
Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

household has access to basic sanitation, including sustainable access to safe, hygienic and convenient facilities for human excreta disposal.

- (d) In terms of access to safe water, the minimum decent housing level is defined by households with at least a standpipe available outside the dwelling (score of 3). This is in line with the minimum threshold defined by Anker and Anker (2017), whereby access to safe water must be in or near the house. Moreover, UN-Habitat (2006) states that households should have access to improved water supply with at least a public standpipe (table 12).

Having identified the minimum final housing quality score corresponding to a decent housing, which corresponds to 14 in the case of Costa Rica, the attached cost of rent for this score level is estimated from the fitted regression line. Rather than using the observed data points, the fitted regression line is preferable since it captures the estimated relationship between housing quality and cost of rent. Figure 5 shows that monthly rent for a dwelling with a score of 14 would cost about ₡39,035 and ₡50,033 per month per adult equivalent in 2013 and 2018, respectively.

► **Figure 5: Monthly rent associated with the decent housing score (in thousands of Costa Rican colones), 2013 and 2018**



Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

We have now obtained a score and an estimated cost of decent housing, but what does a decent dwelling look like? Table 13 summarizes examples of dwelling characteristics for a range of housing quality score for Costa Rica. Different combinations of housing characteristics correspond to a particular score and monthly cost. Our minimum decent-housing score of 14 is highlighted in red, where the monthly rental value for a family of 3 using the OECD adult equivalent values is ₡87,640 in 2013 and ₡113,423 in 2018.

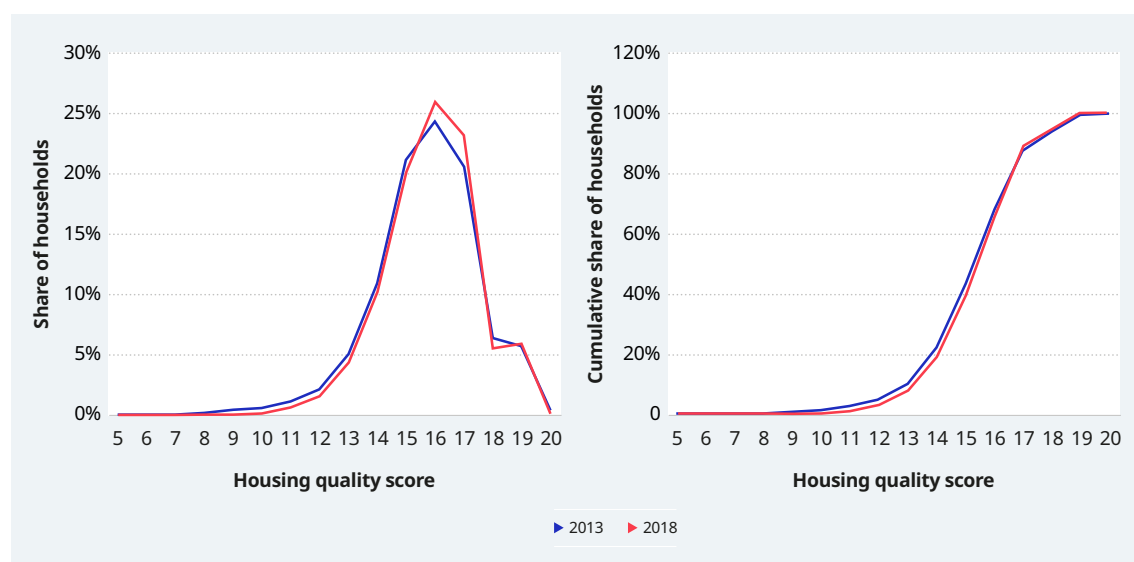
Figure 6 highlights the share and cumulative share of households by housing quality score, showing that about 20 per cent of all the households have a housing quality score of 14 or below. In fact, our results suggest that while about 10 per cent of households have a score equal to 14, an estimated 10 per cent of households have a score below the identified “decent-housing score” of 14.

► **Table 13: Examples of dwellings across a range of housing quality scores, with their respective monthly rents (in Costa Rican colones), 2013 and 2018**

Final score	Monthly rent per adult equivalent		Monthly rent for a family of 3 ^a		Example of house						
	2013	2018	2013	2018	No. of persons per room / m ²	Material of the walls	Material of the roof	Material of the floor	Quality of all material	Toilet	Access (pipes / source)
5	6,965	7,377	15,639	22,670	Greater than 2 / less than or equal to 6	Natural sources	Natural sources	None / natural Sources	Bad	None	None / any
10	18,146	21,368	40,741	48,440	]1.5 ; 2] /]6 ; 10.1]	Wood / prefab	Wood	Wood	Regular	Black pit or latrine / ditch	Outside / aqueduct
11	21,976	26,432	49,340	59,921	]1.5 ; 2] /]6 ; 10.1]	Wood / prefab	Metal Material	Wood	Regular	with a common septic tank	Outside / aqueduct
12	26,615	32,697	59,754	74,123	]1 ; 1.5] /]10.1 ; 20]	Wood / prefab	Metal material	Wood	Regular	with a common septic tank	Outside / aqueduct
13	32,232	40,446	72,366	91,691	]1 ; 1.5] /]10.1 ; 20]	Zocalo	Prefab	Cement	Regular	with a common septic tank	Outside / aqueduct
14	39,035	50,033	87,640	113,423	]1 ; 1.5] /]10.1 ; 20]	Zocalo	Prefab	Cement	Regular	with a septic tank with treatment	Outside / aqueduct
15	47,274	61,891	106,138	140,306	]1 ; 1.5] /]10.1 ; 20]	Zocalo	Prefab	Cement	Regular	with a septic tank with treatment	Inside / aqueduct
20	123,157	179,267	276,508	406,394	Less than 1 / Greater than 39	Blocks / cement	Block	Ceramic	Good	with sewer	Inside / aqueduct

Source: ILO estimates based on Costa Rican Socioeconomic Survey, 2013 and 2018.

^a For a family of 2.25 adult equivalents in 2013 and 2.27 adult equivalents in 2018 (average of a family of 3 in 2013 and 2018 using the OECD equivalence scale).

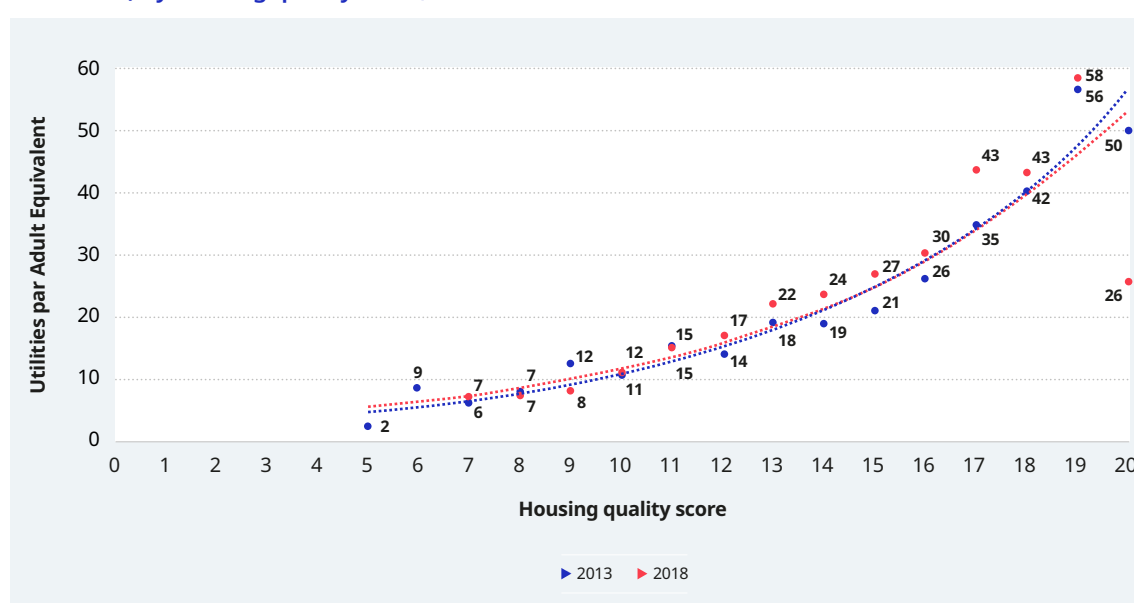
► **Figure 6: Share and cumulative share of households for each housing quality score, 2013 and 2018**

Source: ILO estimates based on Costa Rican Socioeconomic Survey, 2013 and 2018.

4.2 Utilities

Once we have constructed our scoring system for estimating the cost of a decent dwelling, obtaining the expected cost of utilities is relatively straightforward. We use the total expenditure on utilities for all households in the survey, which is the sum of the expenditures on water, waste, electricity, other sources of energy and other services at the household level.²⁰ As a second step, we calculate expected household utility costs by computing average utility costs for each housing quality score and obtain the value that corresponds to the minimum decent housing score of 14 identified in section 4.1 (Rent).

► **Figure 7: Monthly utilities expenditure²¹ per adult equivalent (in thousands of Costa Rican colones) by housing quality score, 2013 and 2018**



Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

Note: Based on a minimum decent housing score of 14, we calculate the mean of utilities expenditure per adult equivalent for these households, with an exponential approximation.

Table 14 shows the monthly cost of utilities for a family of 3 in Costa Rica, which has a monetary value per month of ₡46,849 in 2013 and ₡48,453 in 2018.

► **Table 14: Estimated monthly cost of utilities for a family of 3 (in Costa Rican colones), 2013 and 2018**

	Decent-housing score	Monthly cost of utilities per adult equivalent	Average number of adult equivalents per household (using OECD equivalence scale)	Monetary value per month for a family of 3
2013	14	20,867	2.25	46,849
2018		21,373	2.27	48,453

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

²⁰ Phone and Internet utilization were included in the communications group in the “other essential goods and services” category.

²¹ In the estimation of the rent and utilities cost per adult equivalent, the number of observations is higher for the level of utilities than for the rent. This is because there are some families who own their dwellings and therefore there is no data for rent.

4.3 Estimation of the total cost of housing

Finally, as shown in table 15, the total monthly cost of decent housing is equal to the estimated cost of rent plus the cost of utilities. Therefore, the monthly cost of decent housing is estimated at ₡134,489 in 2013 and ₡161,876 in 2018.

► **Table 15: Estimated monthly cost of decent housing for a family of 3 (in Costa Rican colones), 2013 and 2018**

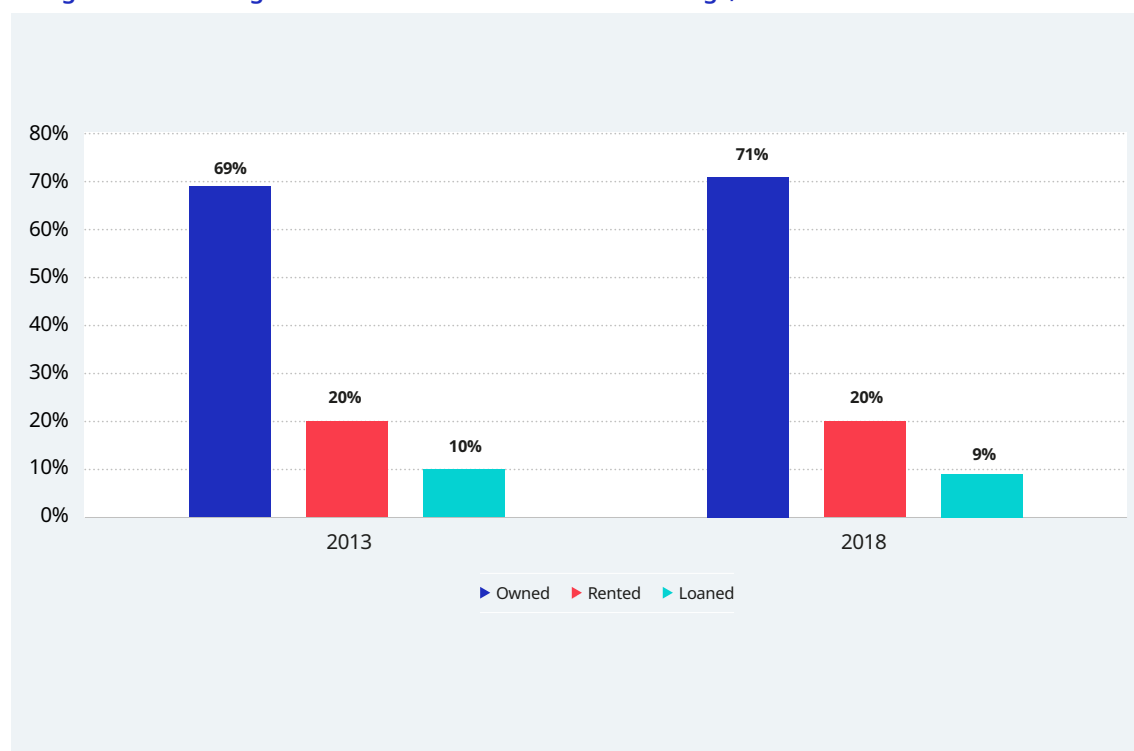
	Monthly rental cost	Monthly cost of utilities	Monthly cost of housing
2013	87,640	46,849	134,489
2018	113,423	48,453	161,876

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

4.4 How do these results compare to average and median expenditures

First, we consider the share of households that are renting their dwellings against those that own them. In Costa Rica, about 20 per cent of households were renting their dwelling in both 2013 and 2018, while 10 per cent of the households loaned their dwellings in 2013, a share which decreased to 9 per cent in 2018 (figure 8).

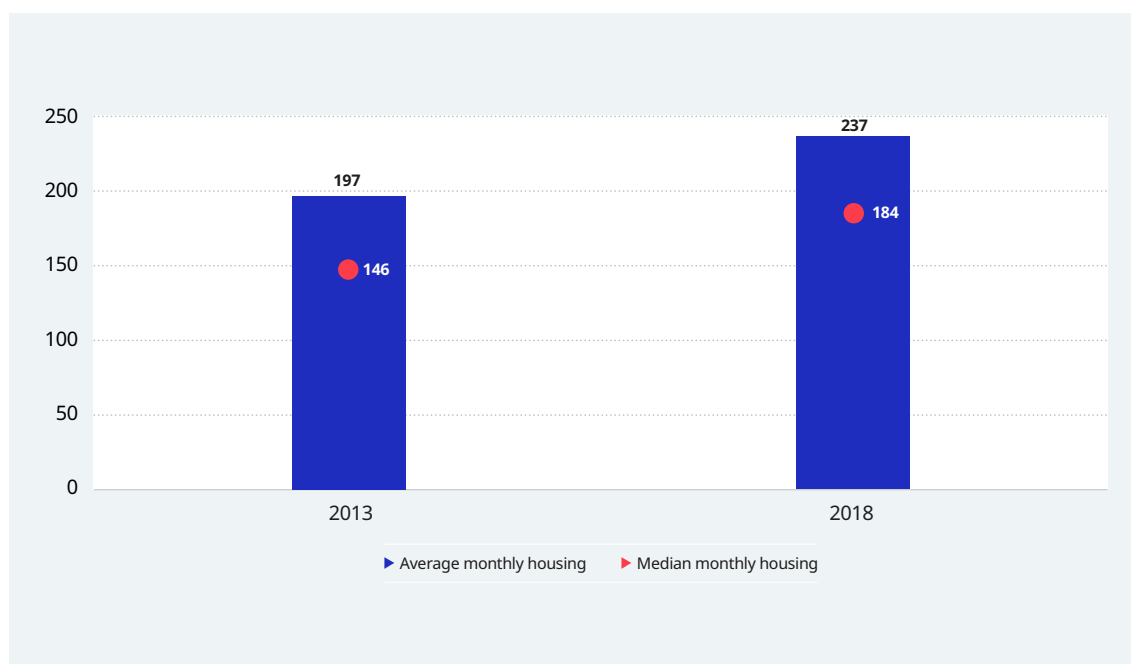
► **Figure 8: Percentage of households that rent their dwellings, 2013 and 2018**



Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

Based on the available information on households reporting the rent and utilities costs of their dwellings, we first explore the distribution of housing. At the national level, the average monthly housing expenditures is equal to ₡236,913 on average in 2018 compared to 196,565 in 2013 (figure 9). The housing cost of the decent-housing dwellings estimated above are equal to 92 and 88 per cent of the median in 2013 and 2018, respectively (table 16).

► **Figure 9: Average and median monthly housing expenditures (in thousands of Costa Rican colones), 2013 and 2018**



Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018. Elaborated with data from Appendix II, table 25.

► **Table 16: Percentage of national estimates over the average and the median, 2013 and 2018**

	Average	Median
2013	68%	92%
2018	68%	88%

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

In the context of minimum wage fixing, interest resides in those households including at least 1 wage-earner as they may face needs directly related to their employment status. For example, regarding housing expenditure, they may have to live in areas that are more expensive due to their job location. Moreover, they represent the direct beneficiaries of the minimum wage policy.

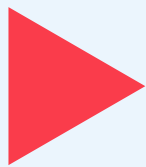
Therefore, table 17 shows the average and median monthly housing expenditures paid by households with at least 1 wage-earner, versus households without a wage-earner. The average housing expenditures paid by households with at least 1 wage-earner is higher than the rent paid by households without wage-earners in 2013 and 2018.

► **Table 17: Average and median monthly housing expenditures (in Costa Rican colones), by households and per adult equivalent by type of household, 2013 and 2018**

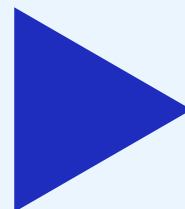
	Average monthly housing		Median monthly housing		Average monthly housing per adult equivalent		Median monthly housing per adult equivalent		Number of observations	
	2013	2018	2013	2018	2013	2018	2013	2018	2013	2018
Households without wage-earners	178,417	212,104	132,290	152,000	98,859	126,188	65,125	83,640	1,631	2,440
Households with at least 1 wage-earner	203,891	249,325	150,677	196,500	88,090	108,805	60,326	78,575	3,903	4,399

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

Note: The adult equivalent used here is constructed with the OECD methodology.



5 Other expenditures



► 5. Other expenditures

We have explicitly defined our methodology for estimating the amount of remuneration required to ensure that workers and their families can adequately cover basic needs in the two largest expenditure categories. There are, however, other types of household expenses that are important in everyday life and therefore cannot be omitted from the analysis. These include *health and education, transport and other essential goods and services*; in this section, we estimate their respective costs for a basic living standard.

In contrast to the food and housing expenditure categories, the remaining expenses are computed using a relative measure.²²

5.1 Health and education

Good health is fundamental to human happiness and well-being and also makes invaluable contributions to economic progress, as healthy populations live longer, are more productive and accumulate more savings. At the same time, education is central to sustainable development, is a potent driver of development and is one of the powerful instruments for alleviating poverty and regenerating health; it empowers people to be more productive, make a better living and have a better quality of life, while also adding to a country's overall economic growth.

To estimate the cost of health and education, we first calculate the average monthly household expenditure per capita by quintile for 2013 and 2018 (see table 18). Next, the estimated costs of needs in terms of health and education corresponds to the average monthly expenditure per capita of the reference quintile. That reference quintile is the one selected earlier because its calorie consumption is closest to the 2,950-calorie benchmark (quintile 2; see section 3.3).

Table 18 also shows the nominal growth rate for spending on education and health between 2013 and 2018. We can observe that although the growth rate is positive, the rate is larger in quintiles 1 to 3 than in quintiles 4 and 5.

► **Table 18: Average monthly spending on health and education per adult equivalent (in Costa Rican colones), 2013 and 2018**

Quintiles	2013			2018			Growth rate (health and education)
	Health	Education	Total	Health	Education	Total	
1	1,445	757	2,201	1,871	598	2,469	12%
2	3,044	1,792	4,836	3,899	1,603	5,501	14%
3	4,871	4,015	8,886	7,096	3,636	10,732	21%
4	11,196	8,863	20,059	12,185	9,722	21,908	9%
5	31,496	29,018	60,514	36,930	25,631	62,561	3%
All households	10,406	8,885	19,290	12,395	8,237	20,633	7%

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

22 See section 2 for a discussion of absolute and relative measures.

To ensure that the estimated cost of health and education in Costa Rica is for a representative family size, we multiply the estimated cost of health and education for 1 member of the household by the number of persons in the household as shown in table 19.²³ This is equal to ₡14,508 in 2013 and ₡16,503 in 2018. Unlike the estimation of food, housing and other essentials goods and services needs, the estimation of health and education needs uses per capita estimates rather than per adult equivalents because of the absence of economies of scale for such expenditures. Indeed, it doesn't seem appropriate to assume that an additional member in the family will spend less in term of health or education or that a child would spend less than an adult in these two categories. In fact, with respect to education, it is actually the opposite. However, for the sake of simplicity and so that the baseline methodology may be easily adaptable and applied, the same estimation method is used for health and education expenditures. This is why, all individuals in the family are considered equally for both expenditures through the use of per capita estimates.

► **Table 19: Estimated monthly health and education costs (in Costa Rican colones), 2013 and 2018**

	Average number of persons within a household	Monetary value per month for reference family size of 3	
2013	4,836	3	14,508
2018	5,501	3	16,503

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

5.2 Other essential goods and services

This section is based on the monthly consumption of other essential items such as clothing, shoes, telecommunications, culture and leisure, as well as other services and expenses not related to consumption.

► **Table 20: Average monthly expenditure on other essential goods and services per household (in Costa Rican colones), 2013 and 2018**

Quintiles	Other essential goods and services ^a		
	2013	2018	Growth rate
1	21,281	25,181	18.33%
2	43,360	46,288	6.75%
3	67,648	70,548	4.29%
4	117,168	121,326	3.55%
5	324,607	338,482	4.27%
Total	114,765	120,356	4.87%

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

^a Estimates of expenditure on other essential goods and services do not include expenditure on alcoholic beverages, tobacco, gambling, restaurants and hotels.

23 Please see section 2 for a description on equivalence scales and their use.

As for the methodology used for health and education expenses, the average monthly expenditure of quintile 2 is used here as a reference point to calculate the basic needs of other essential goods and services, which sum up to ₡97,349 in 2013 and ₡104,933 in 2018 for a family of 3, as shown in table 21.

► **Table 21: Detailed cost estimate of other essential goods and services per adult equivalent and in total for a family of 3 (in Costa Rican colones), 2013 and 2018**

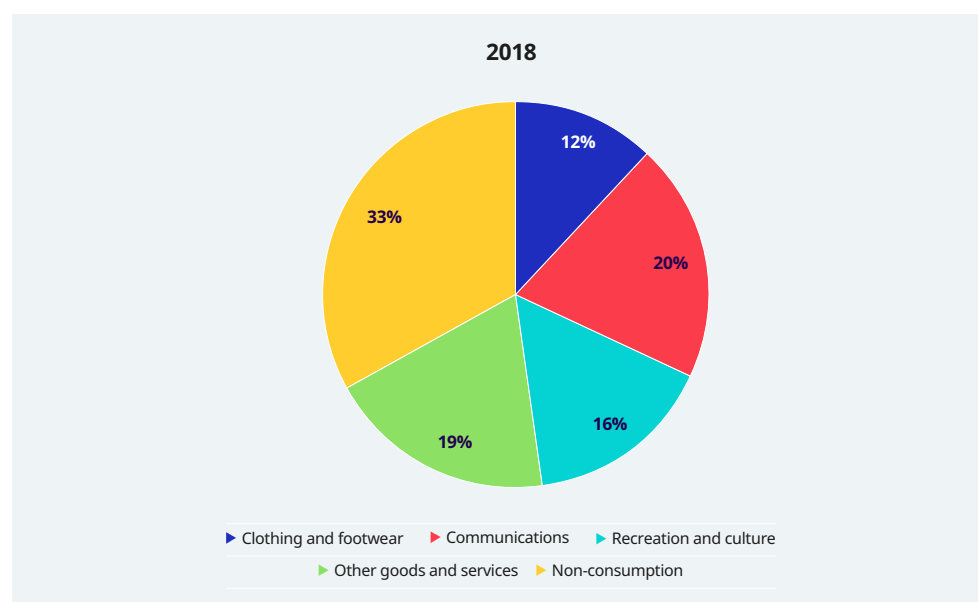
	Clothing and footwear	Communications	Recreation and culture	Other goods and services	Non-consumption	Average number of equivalent adults per household	Monetary value per month
2013	6,749	7,341	8,098	8,220	12,952	2.25	97,349
2018	5,807	9,134	7,307	8,790	15,249	2.27	104,933

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

Note: Appendix II, table 33, provides further details on each of the categories presented in this table.

Figure 10 shows Costa Ricans' consumption behaviour in terms of other essential goods and services in 2018, when their expenses per adult equivalent was larger in non-consumption items and smaller in clothing and footwear.

► **Figure 10: Share of expenditures on other essential goods and services per adult equivalent, 2018**



Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2018.

5.3 Transport

Monthly transport expenditures are divided into private and public. Private transport expenditures include vehicle purchase, maintenance and repair, and fuel. The total monthly transportation cost per adult equivalent in the reference group is equal to ₡12,618 in 2013

and ₡15,370 in 2018, as shown in table 22. Finally, table 23 shows the monthly transportation cost for a family of 3 in Costa Rica in 2013 and in 2018, which has a value per month of ₡28,330 and ₡34,843, respectively.

► **Table 22: Average monthly transportation cost per adult equivalent (in Costa Rican colones), 2013 and 2018**

Quintiles	Transport		
	2013	2018	Growth rate
1	5,089	7,096	39%
2	12,618	15,370	22%
3	19,357	20,810	8%
4	36,007	38,216	6%
5	138,993	117,167	-16%
Total	423,993	397,299	-6%

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

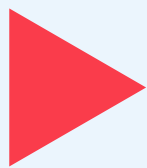
► **Table 23: Monthly estimate of transportation costs per adult equivalent and for a family of 3 (in Costa Rican colones), 2013 and 2018**

	Monthly transportation cost per adult equivalent	Average number of equivalent adults per household	Monetary value per month
2013	12,618	2.25	28,330
2018	15,370	2.27	34,843

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

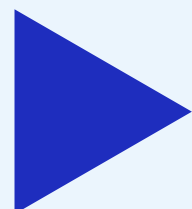


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6

A wage that meets the needs of workers and their families



► 6. A wage that meets the needs of workers and their families

Using the estimation of the costs of basic needs in terms of food, housing, health and education, and other essential goods and services as calculated above, we can estimate the cost of basic needs for a family of 3 in Costa Rica in 2013 and 2018. Table 24 shows that according to our estimates, ₡416,630 and ₡472,133 per month are needed, respectively, in 2013 and 2018 to cover the needs of a family of 3 in Costa Rica. In addition, table 24 shows that the estimated needs increased by approximately 12 per cent between 2013 and 2018.

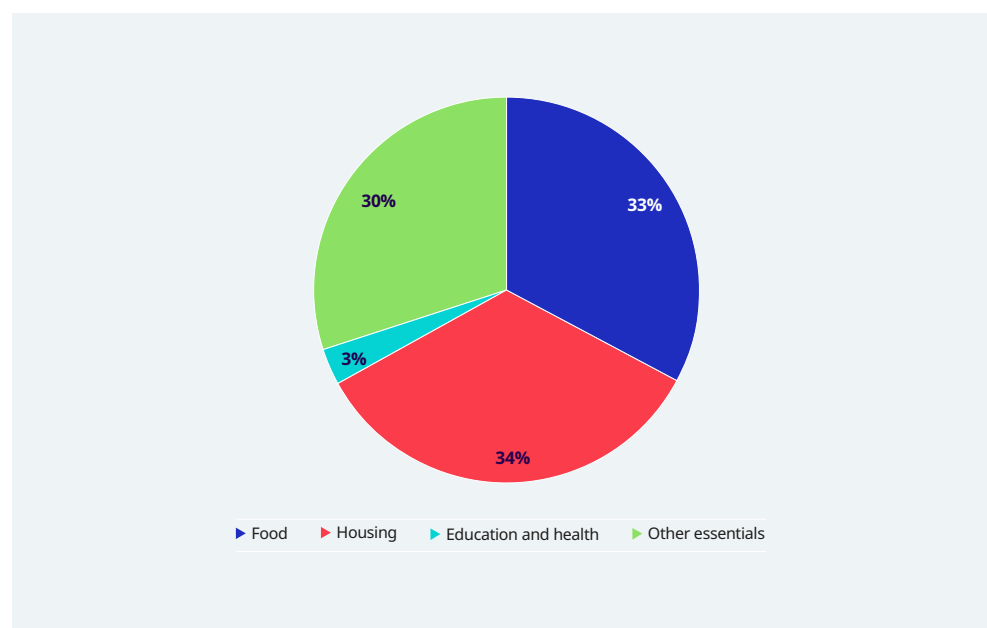
► **Table 24: Estimated needs for a family of 3 (in Costa Rican colones), 2013 and 2018**

	Food	Housing	Health and education	Other essential goods and services	Total
2013	141,954	134,489	14,508	125,679	416,630
2018	153,978	161,876	16,503	139,776	472,133
Growth rate	8%	20%	14%	11%	13%

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

Figure 11 shows that food and housing are the main expenditure in the estimated basic consumption basket in 2018. In fact, about 34 per cent of the total expenditures is estimated to be allocated to housing, followed by food (33 per cent), whereas only 3 per cent of expenditure is allocated to health and education. Finally, other essentials goods and services account for 30 per cent of the basic basket.

► **Figure 11: Composition of the basic consumption basket by category, 2018**



Source: ILO estimates based on Costa Rican Socioeconomic Survey, 2018.

In sum, table 25 shows estimated monthly needs, disaggregated by the main expenditure groups analysed above. These needs are presented as the monthly cost for an adult equivalent, a family of 3 and a family of 4 in 2013 and 2018.

► **Table 25: Monthly cost of each expenditure category for 1 member of the household, a family of 3 and a family of 4 (in Costa Rican colones), 2013 and 2018**

	Monthly cost of the needs for 1 member of the family		Monthly expenditures for a family of 3		Monthly expenditures for a family of 4	
	2013	2018	2013	2018	2013	2018
Total	177,776	199,421	416,631	472,133	528,469	601,976
Food	57,060	60,857	141,954	153,978	185,307	202,659
Housing	59,902	71,406	134,489	161,876	167,392	202,478
Rent	39,035	50,033	87,640	113,423	109,081	141,872
Utilities	20,867	21,373	46,849	48,453	58,311	60,606
Other expenditures	60,814	67,158	140,188	156,279	175,771	196,840
Education	1,792	1,603	5,376	4,808	7,168	6,410
Health	3,044	3,899	9,132	11,696	12,176	15,594
Other essential goods and services	55,978	61,657	125,680	139,776	156,427	174,835
Transport	12,618	15,370	28,330	34,843	35,261	43,583
Clothing and footwear	6,749	5,807	15,153	13,165	18,860	16,467
Communications	7,341	9,134	16,482	20,707	20,514	25,901
Recreation and culture	8,098	7,307	18,182	16,566	22,630	20,721
Other goods and services	8,220	8,790	18,455	19,927	22,970	24,925
Non-consumption	12,952	15,249	29,078	34,568	36,192	43,238

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

Note: For reference, estimated needs for 1 member of the household are converted into those for the whole family using the following equivalence scales: AEEI scale for food and OECD scale for housing and other essentials (see Appendix II, table 30). For health and education, as those costs are given in per capita value, there is no need to use equivalence scales, and therefore the number of persons in the household is used.

Finally, when estimating a needs-based wage, the total cost for a household is defrayed over the number of full-time equivalent workers assumed to work in a household. To obtain an estimate of wage levels that meet the basic needs of workers and their families, the total cost for a household is divided by the expected number of household full-time working adults. In contrast to family size, the assumption surrounding the number of full-time workers has a reducing effect on needs-based wages. Household total costs are divided by the number of full-time workers assumed to be employed in the family. As for family size, determining the most realistic measure of working adults to be used as the denominator in the calculations is an important methodological choice that impacts the overall needs-based wage level.

Broadly, this choice relates to what constitutes the most suitable measure of the number of full-time working adults to use as the denominator in the calculation. In the baseline methodology applied in this report, the number of full-time working adults is set normatively at 1.5 full-time working adults per family of more than 1 person. This decision is made for various reasons. First, it allows the use of a number for working adults that is always between 1 and 2, which is a desirable result as argued by Anker and Anker (2017). Secondly, it appears to be an attractive assumption from a normative point of view as it allows for workers to carry out necessary unpaid family work and avoids shifting the burden of low employment opportunities to employers. Thirdly, it appears relatively coherent with the empirical realities of the family of reference observed based on the expenditure survey. Finally, it simplifies calculations and avoids having to estimate the number of full-time working adults, which in some cases may be difficult to reliably assess through income and expenditure surveys, which are not designed to assess the status of labour markets. Also, in addition to the results based on the hypothesis of 1.5 working adults per family, we also include the extreme values of 1 working adult and 2 working adults in order to provide the full range of needs-based wage levels that may be relevant to minimum wage setting.

Accordingly, in table 26 explores three scenarios for the number of working adults within the household: (a) 1 full-time worker; (b) 1.5 full-time workers; and (c) 2 full-time workers. Under scenario (a), the monthly salary required to cover the needs of workers and their families would be equal to ₡416,631 in 2013 and ₡472,133 in 2018. However, under scenario (b), with 1.5 full-time wage employees in the family the monthly salary required to cover the needs of workers and their families would be equal to ₡277,754 in 2013 and ₡314,755 in 2018. Finally, scenario (c) suggests that the monthly salary that covers the needs of workers and their families if there are 2 full-time wage employees is ₡208,315 in 2013 and ₡236,067 in 2018.

► **Table 26: Salary estimate that covers the basic needs of a family of 3 (in Costa Rican colones), 2013 and 2018**

Monthly cost of basic necessities for a family of 3		Number of members with a minimum wage in the family	Monthly salary necessary to cover the needs of workers and their families	
2013	2018		2013	2018
416,631	472,133	1	416,631	472,133
416,631	472,133	1,5	277,754	314,755
416,631	472,133	2	208,315	236,067

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

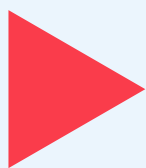
Finally, as poorest families are observed to be on average closer to 4 members than 3, table 23 presents similar results for a family of 4. The total needs are estimated to be equal to ₡601,976 in 2018 for a family of 4. Considering 1.5 working adults in the family, this would

imply that the wage needed to cover the needs of the workers and their family would be equal to approximately ₡401,317 in 2018.

► **Table 27: Salary estimate that covers the basic needs of a family of 4 (in Costa Rican colones), 2013 and 2018**

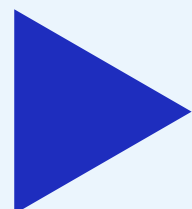
Monthly cost of basic necessities for a family of 4		Number of members with a minimum wage in the family	Monthly salary necessary to cover the needs of workers and their families	
2013	2018		2013	2018
528,469	601,976	1	528,469	601,976
528,469	601,976	1.5	352,313	401,317
528,469	601,976	2	264,235	300,988

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.



7

Levels of minimum wages versus needs-based wage-level estimates

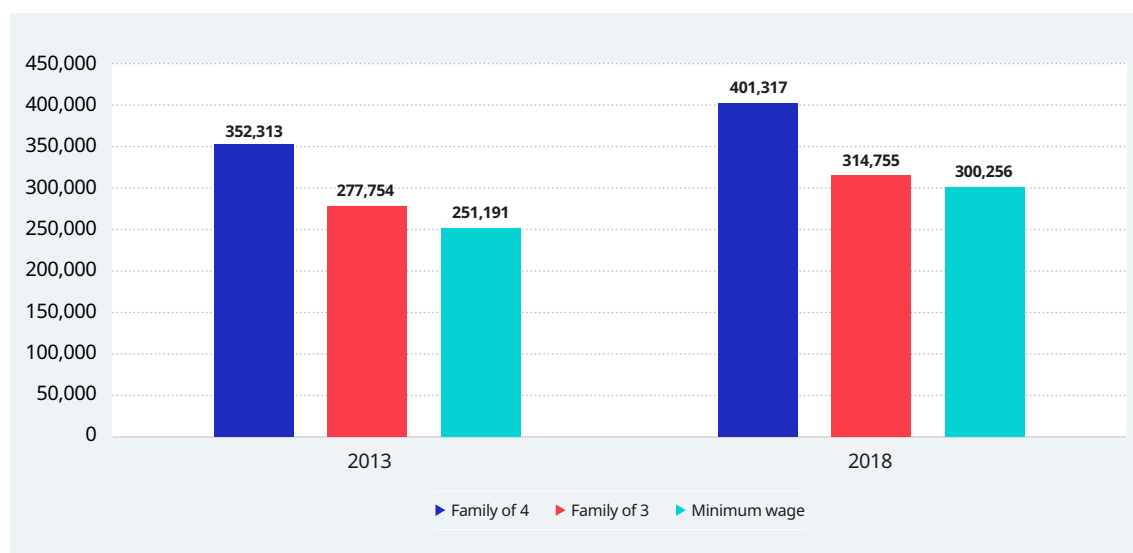


► 7. Levels of minimum wages versus needs-based wage-level estimates

This paper has provided estimates of the needs of workers and their families in Costa Rica that can be compared with the level of minimum wages in the country. Before doing so, it is important to remember that these results contribute only to one part of the criteria that need to be taken into account when setting minimum wage levels. This information needs to be balanced by the consideration of economic factors, including the requirements of economic development, levels of productivity and the desirability of attaining and maintaining a high level of employment. An appropriate balance between these two sets of considerations is essential to ensure that minimum wages are adapted to the national context and that both the effective protection of workers and the development of sustainable enterprises are considered. In this regard, the present report should be considered as complementary to the evaluation report on the methodology for adjusting minimum wages in Costa Rica, which focuses on economic factors.²⁴ This is particularly relevant given the current context of the global economic crisis that emerged due to the COVID-19 pandemic.

In Costa Rica, the minimum wage is set according to skill levels and selected occupations. We take the minimum wage for the group of unskilled workers (minimum minimorum) because it acts as the floor for all salaried workers. In order to estimate a potential minimum wage that is high enough to cover the needs of the workers and their families, an option that reflects the national characteristics is to estimate a needs-based wage that assumes a family comprising 2 adults with 1 working full-time and the other working half-time (1.5 working adult per family, see table 24 above). For such a scenario, the minimum wage levels in 2013 and 2018 are compared when considering estimates of needs-based wage levels for a family of 3 and a family of 4.

► **Figure 12: Needs-based wage estimates for 1.5 full-time workers versus level of minimum wage in Costa Rica (in Costa Rican colones), 2013 and 2018**



Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018. Minimum wages for 2013²⁵ and 2018.²⁶

²⁴ Sauma.

²⁵ See Costa Rica, [Decreto No. 37397-MTSS](#), *La Gaceta*, No. 226 (2012).

²⁶ See Costa Rica, [Decreto No. 40743-MTSS](#), *La Gaceta*, No. 228 (2017).

Although the nominal growth rate of our estimated needs-based wage is lower than that of the actual minimum wage between 2013 and 2018 (see table 28 below), both levels of the needs-based wages for a family of 3 or 4 are higher than the actual minimum wage as shown in figure 12.

Compared to the levels of the minimum wage, the estimated needs-based wage level for a family of 3 is about 11 per cent higher (a difference of ₡26,563) in 2013 and 5 per cent higher (a difference of ₡14,499) in 2018. When considering a family of 4, the estimated needs-based wage level is about 40 per cent higher (a difference of ₡120,874) in 2013 and 34 per cent higher (a difference of ₡101,061) in 2018. From these results, we can infer that while the lowest minimum wage minimum minimorum wage rate may be sufficient to cover the needs of a family of 2 adults, it may be insufficient to cover the estimated needs of a family of 3 members or more including 1.5 working adults (table 28). This analysis also highlights the importance of the underlying assumptions to be considered when defining the reference family size and the number of working adults expected to support the family.

► **Table 28: Comparison of estimated needs-based wages against minimum minimorum wage rate (in Costa Rican colones)**

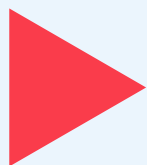
	2013	2018	Growth rate	Gap with minimum wage in 2013	Gap with minimum wage in 2018
Needs-based wage for a family of 3	277,754	314,755	13.3%	11%	5%
Needs-based wage for a family of 4	352,313	401,317	13.9%	40%	34%
Minimum wage (minimum minimorum)	251,191	300,256	19.5%	-	-

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

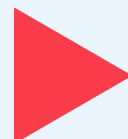
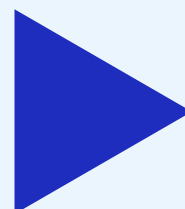
Note: Needs-based wage levels presented in this table are estimated using the average of full-time workers as the number of wage-earners in the family.

These results are rather positive as they highlight a significant improvement between 2013 and 2018. However, despite this positive trend, results also suggest that there is still some room for improvement in order to allow workers earning the minimum wage to cover their needs and the needs of their families, especially if they have to support a numerous household.

However, during the COVID-19 crisis, adjustments to minimum wages should be carefully balanced and calibrated through full participation of the social partners and evidence-based social dialogue. Criteria for adjusting minimum wages should take due account not only of the needs of workers and their families but also of economic factors. Therefore, while it may be essential to ensure that low-paid workers and their families are able to maintain their living standards by adjusting rates to compensate for price inflation, in the particular circumstances of some countries it may be difficult or risky to implement larger increases. This is particularly the case where minimum wages are already relatively high with respect to median wages and where employment and labour productivity have been severely affected by the economic crisis triggered by the COVID-19 pandemic.



Appendices



► Appendix I: Food composition of food items in Costa Rica

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Bonnet or salty dinner bread (bagel bread)	250.00	10.20	1.53	Soy sausage	79.41	11.76	0.00	Canned mushrooms	25.00	1.87	0.29
Croutons	407.00	11.90	6.60	Sausage stuffed with cheese	296.00	12.89	25.84	Canned sweet corn	64.00	1.95	0.50
Ear of bread with cheese	240.00	7.40	0.90	Chicken sausage	200.00	16.00	12.00	Canned palm heart	29.00	2.50	0.60
Pizza base bread	256.00	10.90	11.90	Beef or pork sausage	308.00	15.20	24.59	Canned pickles	11.00	0.33	0.20
Baguette bread with cheese, sesame, etc.	234.00	12.80	7.40	Soy sausage	327.00	15.00	26.00	Canned tomatoes	82.00	4.32	0.47
Plain baguette bread or Italian bread	273.00	10.80	2.40	Spam or devilish ham	155.00	9.00	10.50	Canned mixed vegetables	19.00	0.63	0.09
White bread, manita or pineapple (French bread)	243.00	8.20	0.70	Bacon	600.00	33.30	46.67	Other canned vegetables	62.10	2.37	1.91
Ciabatta bread, Spanish bread and black bread	273.00	10.80	2.40	Turkey bacon	221.43	14.29	17.86	Brown sugar	377.00	0.00	0.00
Frozen bread (ready to bake)	213.00	7.40	6.10	Chicken Chorizo	187.00	14.52	11.98	Refined sugar (powder)	384.00	0.00	0.00
Running square bread (white)	281.00	9.60	2.60	Fresh clam or cockles	74.00	12.77	0.97	Regular sugar (Azucar Doña Maria)	384.00	0.00	0.00
Square anise bread, flaxseed, carrot	323.00	12.22	25.38	Canned clams	2.00	0.40	0.02	Sweet Powder	384.00	0.00	0.00
Butter square bread	260.86	2.17	8.69	Anchovies	95.00	21.50	0.40	Sweet Cover	351.00	0.00	0.00
Whole wheat bakery bread	278.00	8.40	5.40	Tuna with vegetables (with corn, with jalapeños, etc.)	124.00	15.93	5.09	Fruitful	279.00	0.00	0.00
Wholemeal square bread (packaged thin whole)	277.00	10.90	4.80	Tuna in oil	186.00	26.53	8.08	Other types of natural sugar	359.83	0.00	0.00
Square bread light or 0 fat, (thin packed)	200.00	12.00	2.00	Tuna in water or light	128.00	23.62	2.97	Sweeteners (low sweet, sugar-free, Nutrasweet, Alike, Splenda)	336.00	0.00	0.00
Multigrain, double fibre or rye square bread	261.00	9.20	0.70	Piece of tuna or fillet	111.00	24.00	1.40	Saccharin, crystalline and other sugar substitutes	347.00	2.06	0.00
Species bread (garlic, onion, etc.)	350.00	8.36	16.61	Cod	82.00	17.81	0.67	Other types of sweeteners	341.50	1.03	0.00
Ground bread	395.00	13.35	5.30	Nice fillet	168.00	24.00	7.30	Jelly or fruit jam	266.00	0.15	0.02

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Hamburger bun	279.00	9.50	4.33	Fish heads (cutouts)	149.72	26.95	5.56	Diet fruit jelly or jam	33.00	0.80	0.00
Bread for a hot dog or packaged European bread	279.00	9.50	4.33	Canned squid	89.00	17.00	2.00	Molasses or honey from chiverre, ayote honey	290.00	0.00	0.10
Pita or Arab bread	275.00	9.10	1.20	Fresh squid	92.00	15.58	1.38	Honey bee	304.00	0.30	0.00
Salty stuffed bread (bread stuffed with cream cheese, etc.)	176.00	3.14	8.42	Frozen breaded shrimp	47.82	277.00	11.51	Honey or maple syrup	261.00	0.00	0.20
Packaged or bakery toast	313.00	12.96	4.27	Fresh Shrimp	106.00	20.31	1.73	Liquid sweet honey	261.00	0.00	0.20
Other salty panels	275.52	9.60	5.82	Dried shrimp	293.00	63.00	2.20	Light chocolate syrups	153.00	1.40	0.97
Sweet bread bun	317.00	11.70	2.10	Cambute	82.17	15.10	0.19	Chocolate, strawberry or caramel syrup for desserts (Hershey's)	279.00	2.10	1.13
Sweet bread or homemade bread bonnet	367.00	9.42	11.58	Crab	93.00	17.30	1.90	Flavoured syrups (red, green, orange, purple, amaretto, etc.)	281.00	0.00	0.00
Bread with fruits (pan bon)	321.00		10.00	Canned crab	99.00	20.52	1.23	Flavoured or light maple syrups	283.00	0.00	0.20
Sweet stuffed bread (bread stuffed with dulce de leche, pastry	176.00	3.14	8.42	Canned black or red caviar	252.00	24.60	17.90	Other honeys or jams	241.10	0.48	0.28
Cinnamon braid or bun (cinnamon roll)	452.00	4.45	26.61	Chucheca	355.00	5.79	16.15	Cotton candy	393.00	0.00	0.00
Other sweetbreads	315.00	7.70	4.10	Fish cutlet	232.00	14.70	12.30	Chocolate bonbons and botonetas	535.00	7.65	29.66
Flour omelette (Bimbo, Misión, etc.)	292.00	7.80	7.40	Corvina or corvineta fillet	104.00	17.78	3.17	Cajeta (stuffed grapefruit)	300.00	3.33	3.33
Corn tortilla package (tortirricas, etc.)	193.00	5.10	1.10	Golden fillet	173.00	37.74	1.43	Candies, nougats without sugar	432.00	1.95	14.08
WHOLE FLOUR TORTILLA	227.00	8.88	5.11	Canned tuna salads (snails, russian, etc.)	187.00	16.04	9.26	Candies, nougats and marshmallows	394.00	0.00	0.20
PAN PIZZA	61.00	1.80	1.20	Fish steak	232.00	14.70	12.30	Sugar free chcles	268.00	0.00	0.40
Other tortillas	242.50	6.45	4.25	Locust	90.00	16.20	0.90	Chewing gum	247.00	0.00	0.30
Almojabana	298.00	12.64	13.19	Prawns	77.00	15.97	0.95	Diabetic bar chocolates	500.00	5.56	38.89
Doughnut	264.00	10.56	1.32	Sole	91.00	18.84	1.19	Bar chocolates or other presentations	535.00	7.65	29.66
Biscuits, doughnuts, shortbreads, salty sticks of flour or cheese.	321.00	13.50	10.40	Mackerel or sail	205.00	18.60	13.89	Candies, sucks or pops, jelly beans.	396.00	0.00	0.00
Custard and cheese sponge cake	477.00	9.00	16.00	Seafood for paella	343.00	20.57	10.63	Decorations	316.77	1.49	5.70

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Baskets and bits to fill	331.58	10.39	15.47	Billfish	121.20	8.80	4.40	Box custard	379.00	0.30	0.40
Crab or Salty Croissant	406.00	8.20	21.00	Canned mussels in oil	149.72	26.95	5.56	Gelatin powder	381.00	7.80	0.00
Prepared cake shell	355.00	5.79	16.15	Canned pickled mussels	170.00	20.00	9.00	Light jelly powder	250.00	-	0.00
Frozen dough pie (ready to cook)	247.00	15.64	16.94	Fresh mussels	86.00	11.90	2.24	Unflavoured gelatin (powder or foil)	360.00	-	0.00
Enchilada, pastry or puff pastry, Argentine and Chilean	168.00	6.21	9.19	Canned oysters	69.00	7.06	2.47	Chocolate luster	371.00	5.30	15.10
Frozen cake ready to bake	439.00	7.37	28.53	Snapper fillet	105.00	18.88	2.73	Vanilla luster	124.00	2.60	2.90
Frozen pizza ready for baking	296.00	11.21	15.20	Whole fish	256.10	25.88	2.68	Marshmallows	318.00	1.80	0.20
Macrobiotic pastries (sesame sticks)	467.00	11.00	19.00	Octopus in canned oil	137.00	22.00	5.40	Nutella	541.00	5.41	32.43
Braid or cheese roll.	241.00	13.60	18.70	Octopus in canned tomato sauce	187.00	29.00	6.00	Vanilla, lemon or chocolate powder pudding	130.00	2.30	3.60
Other types of salty pastries	331.58	10.39	15.47	Fresh octopus	82.00	14.91	1.04	Sweet corn-based snacks (fuss, caramel popcorn)	431.00	3.80	12.80
Caramel cookies	400.00	5.27	15.02	Canned salmon	139.00	19.78	6.05	Sighs	371.00	0.55	0.11
Sweet roll, cat, drunk, merendina, etc.	375.00	5.00	5.00	Salmon fillet	179.00	19.93	10.43	Other sweets or dessert preparations	362.40	2.87	8.63
Elf	466.00	6.20	29.10	Canned sardines in oil (herring)	208.00	24.62	11.45	Meat tenderizer	165.00	0.00	3.00
Pudding	120.00	3.16	3.15	Canned sardines in tomato sauce or pickled sauce	186.00	20.86	10.46	Achiote (in paste)	373.00	11.40	7.50
Chub, handkerchief or Prussian stuffed with luster, pastry cream or sweet milk	315.00	6.84	7.35	Fresh sardines	130.00	19.40	5.20	Ajino moto	229.73	8.67	6.57
Creampie or e-cliar filled with pastry cream	262.00	6.40	15.70	Surime	99.00	15.18	0.90	Garlic paste	332.00	16.80	0.76
Rib and tostel	336.40	5.04	14.66	Shark fillet	130.00	20.98	4.51	Garlic powder	332.00	16.80	0.76
Donut, churro or simple donut	426.00	5.20	22.90	Frozen breaded tilapia	176.00	11.00	8.00	Processed basil	27.00	2.54	0.61
Donut, churro or stuffed donut	340.00	5.90	18.70	Whole tilapia	111.00	23.30	2.00	star anise	337.00	17.60	15.90
Pineapple, guava or jelly pie	444.40	4.44	17.77	Tilapia fillet	96.00	20.08	1.70	Celery in seeds	392.00	18.10	25.30
Muffin with luster or filling (cup cake)	270.00	7.00	7.40	Frozen fish cakes, breaded fish fingers	277.00	11.00	16.23	Saffron	310.00	11.43	5.85

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Ears, palm trees, prestiños	525.00	6.80	35.32	Whole trout	148.00	20.77	6.61	Sodium bicarbonate	0.00	0.00	0.00
Cake with glitter or filling and charlotte	302.00	4.04	14.57	Trout fillet	148.00	20.77	6.61	Cinnamon	261.00	3.89	3.19
Christmas cake, cake with dried fruit (raisins) or seeds	302.00	4.04	14.57	Other fish and shellfish	149.72	26.95	5.56	Cardamom	311.00	10.76	6.70
Dried or carrot cake	302.00	4.04	14.57	Sesame oil	884.00	0.00	100.00	Onion powder	347.00	10.12	1.05
Sweet quesadilla, pupusa of cheese and sugar.	369.00	4.20	5.10	Canola oil	884.00	0.00	100.00	Chilli powder, paprika or paprika	282.00	13.46	14.28
Sweet doughnuts, illustrated	453.00		27.00	Sunflower oil	884.00	0.00	100.00	Clove	323.00	5.98	20.07
Strudel, pastry, tart or fruit flute	324.00	2.90	9.10	Corn oil	884.00	0.00	100.00	Dye (yellow, red, vegetable green)	273.00	5.50	1.80
Corn tamale, cornstarch, roast, corn bread.	210.00	3.00	8.00	Olive oil	884.00	0.00	100.00	Cumin	375.00	17.81	22.27
Tartara or cocadas	337.00	4.21	11.24	African palm oil	862.00	0.00	100.00	Mixed seasoning or pump	263.00	6.09	8.69
Chilean cake	231.09	4.29	12.16	Soy oil	884.00	0.00	100.00	Consome or cubes	198.00	14.60	4.70
Packed waffles	291.00	7.90	14.10	Herbal oil	884.00	0.00	100.00	Cream of tartar	258.00	0.00	0.00
Other types of sweet pastries	336.40	5.04	14.66	Garlic in oil	781.00	1.10	88.20	Ground coriander	279.00	21.93	4.78
Chocolate wafers or fillings	476.00	4.80	20.00	Spray oils	824.00	0.00	91.00	Turmeric	354.00	7.83	9.88
Vanilla waffles or combined	425.28	3.44	21.83	COCONUT OIL	892.00	0.00	99.06	Powdered curry	325.00	12.66	13.81
Running cones	218.00	3.92	10.14	Other vegetable oils (all kinds)	865.50	0.11	97.92	Fish breeding	360.00	9.00	7.50
Cones or sugared baskets	218.00	3.92	10.14	Lactocrema	541.69	3.06	54.18	Chicken empanada	360.00	9.00	7.50
Rice crackers	384.00	6.63	5.61	Lard	879.00	0.00	99.40	Tempura breeding machine	120.00	3.00	2.50
Oatmeal Cookies	450.00	6.20	18.10	Vegetable butter (crisco, clover, etc.)	884.00	0.00		Dill	43.00	3.46	1.12
Sweet biscuits with filling	483.00	4.50	20.00	Butter	717.00	0.85	81.11	Culinary essences	24.00	0.00	0.00
Whole grain and extra fibre sweet biscuits (honey fibre)	443.00	8.80	17.20	Garlic butter	583.00	1.80	63.10	Spirit of anise, mint, cinnamon, etc.	24.00	0.00	0.00
Simple sweet cookies without filling (Lady's fingers or biscuits, maria and bakery cookies)	478.00	5.10	21.10	Peanut butter	588.00	25.09	50.39	Tarragon	295.00	22.77	7.24
Sugar-free or low-calorie cookies	446.60	6.60	20.00	Light, unsalted butter	717.00	0.85	81.11	Jamaica in seeds or ground	304.00	7.20	2.60

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Crackers (soft drinks, social club, etc.)	428.00	9.22	11.35	Margarine with honey	541.69	3.06	54.18	Ginger	80.00	1.82	0.75
Whole grain and extra fibre crackers	443.00	8.80	17.20	Rice margarine	541.69	3.06	54.18	Laurel	188.00	4.20	1.20
Stuffed crackers	508.00	7.20	26.00	Soy margarine	721.00	1.90	80.60	Yeast	105.00	8.40	1.90
Sorbets	415.45	6.09	16.82	Diet or light margarine	175.00	0.00	19.50	Marjoram processed	271.00	12.66	7.04
Other cookies	415.45	6.09	16.82	Normal or soft margarine with salt (Numar, flavour, Two pines)	531.00	0.60	60.00	Ground mustard	508.00	26.08	36.24
Sponge cake mix	486.00	5.42	21.39	Mayonnaise stream	390.00	0.90	33.40	Nutmeg	525.00	5.84	36.31
Cookie mix	486.00	5.42	21.39	Soy mayonnaise	322.00	5.95	31.79	Processed oregano	306.00	11.00	10.25
Pancake mix	355.00	10.00	1.70	Mayonnaise light	324.00	0.88	33.09	Parsley powder	292.00	26.63	5.48
Mix pizza dough	270.00	8.60	4.20	Mayonnaise and tartar sauce	211.00	1.00	16.70	White pepper	296.00	10.40	2.12
Chocolate or brownie cake mix	387.50	3.50	20.00	Other fats	541.69	3.06	54.18	Black pepper (whole and powdered)	255.00	10.95	3.26
Vanilla or tres leches mix for cakes	420.00	5.70	22.85	Hass or Creole avocado	160.00	2.00	14.66	Cayenne or red pepper	318.00	12.01	17.27
Other confectionery mixes	400.75	6.44	15.26	Apricot	48.00	1.40	0.39	Baking powders	97.00	0.10	0.40
Bran or bran	246.00	17.30	7.03	Anona	101.00	1.70	0.60	Processed rosemary	131.00	3.31	5.86
Cassava starch	320.00	1.70	0.50	Blueberries	46.00	0.40	0.10	Roselle	49.00	1.00	0.60
Whole oats	360.00	13.00	9.00	Ripe bananas	89.00	1.09	0.33	Fine or coarse salt	0.00	0.00	0.00
Cereal bars	323.80	9.50	3.80	Green bananas	110.00	1.40	0.20	Sea salt	0.00	0.00	0.00
Granola bars	471.00	10.10	19.80	Cocoa fruit	228.00	19.60	13.70	Full seasoning	272.00	6.73	5.91
Oat cereal (Quaker, Capn crunch)	389.00	16.89	6.90	Caimito	84.00	1.40	3.20	Salt substitute (light)	0.00	0.00	0.00
Sweetened cereal (sugar or honey), rub loops or with marshmallows)	367.00	3.30	0.52	Sugar cane (bag)	70.00	0.10	0.10	Thyme processed	276.00	9.11	7.43
Chocolate cereal (Choco Krispies)	381.00	5.22	2.90	Cannon	31.00	1.04	0.33	Vanilla	288.00	0.06	0.06
Cookie cereal	426.66	12.00	12.00	Cas	48.00	1.20	0.80	Wasabi powder	292.00	2.23	10.90
Cornflakes cereal, stream (Kelloggs)	361.00	6.61	0.59	Cherry	50.00	1.00	0.30	Liquid tablet or rennet to cut the cheese	229.73	8.67	6.57
Whole grain cereal (all bran, fitness)	333.00	13.00	4.50	Red or yellow plum	46.00	0.70	0.28	Other condiments and the like	229.73	8.67	6.57

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Cereal Complete	400.00	6.60	8.33	Coconut lined	283.00	2.66	26.79	French dressing	457.00	0.77	44.81
Light cereal (Special K)	376.00	14.00	1.00	Tender coconut	354.00	3.33	33.49	Italian dressing	291.00	0.38	28.37
Baby cereal (nestum)	412.00	15.00	9.00	Dried coconuts	474.00	3.28	32.15	Honey mustard dressing	464.00	0.87	40.83
Corn starch (cornstarch)	357.00	0.60	0.20	Mature square	120.00	1.10	0.40	Gherkin sandwich dressing	389.00	0.90	34.00
Wheat germ	360.00	23.15	9.72	Green square	81.00	1.04	0.31	Rancho Aderezo, caesar, thousand islands	484.00	1.03	51.39
Big wave	490.00	14.87	24.36	peach	0.90		0.10	Light salad dressing	100.00	1.50	14.00
Cornstarch fruit or vanilla flavour	243.00	8.00	8.30	Raspberry or strawberry	32.00	0.67	0.30	Commercial mustard	66.00	3.95	3.11
Pollen	314.00	24.10	4.90	Strawberry (box)	32.00	0.67	0.30	Tomato pasta (tomatinas, naturas, sofritos, rancheras, italias, etc.)	82.00	4.32	0.47
Other cereals	364.76	11.31	7.02	Breadfruit	81.00	1.30	0.50	Barbecue sauce	75.00	1.80	1.80
Prepared raw rice (w / seafood, with chicken or green)	299.00	11.32	10.88	Passion fruit	94.00	2.40	2.80	Sweet and sour sauce	154.00	0.27	0.00
Jasmine rice	344.00	9.00	0.70	Grapefruit	38.00	0.76	0.04	Sauce with pesto	569.00	8.51	58.52
Whole grain rice	360.00	6.61	0.58	Guaba	68.00	2.00	1.00	White sauce	134.00	2.99	8.96
Integral rice	362.00	7.50	2.68	Soursop	66.00	1.00	0.30	Sauce with tomato pieces (thick, Santa Cruz)	17.00	0.76	0.05
Risotto rice	356.00	14.02	13.12	Guava	51.00	0.80	0.60	Oyster sauce	51.00	1.35	0.25
Rice for sushi	358.00	6.50	0.52	Green banana	32.00	0.67	0.30	Chinese or soy sauce	60.00	10.51	0.10
Pre-cooked rice	380.00	7.82	0.94	Figs	74.00	0.75	0.30	Chinese or soy sauce light or reduced in salt	57.00	9.05	0.30
Rice sprigs	129.00	2.66	0.28	Jocote	70.00	0.80	2.10	Tomato sauce (ketchup, banquet)	97.00	1.74	0.38
Other types of rice	323.50	8.18	3.71	Kiwis	61.00	1.14	0.52	Worcestershire sauce (lizano), vegetable sauce	67.00	0.00	0.00
Corn flour (dough) and dough prepared for blasted.	366.00	8.50	1.70	Lemon sour criollo or mesino	29.00	1.10	0.30	Worcestershire sauce, light or reduced in salt	67.00	0.00	0.00
Soya flour	436.90	34.52	20.60	sweet lemon	32.00	0.40	1.40	Hot sauce and tabasco	12.00	1.29	0.76
Wheat flour (current)	364.00	10.33	0.98	Lemon tangerine	32.00	0.40	1.40	Pink sauce	128.00	1.36	1.05
Cassava or pejibaye flour.	320.00	1.70	0.50	Chinese mamon	58.00	0.80	0.39	Teriyaki sauce	89.00	5.93	0.02

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Whole flour	340.00	13.21	2.50	Creole mammon	59.00	1.10	0.20	Sauces for meats	172.00	0.82	0.63
Other types of flour	365.38	13.65	5.26	Tangerine	53.00	0.81	0.31	Balsamic vinegar	88.00	0.49	0.00
Snail pasta, angel hair, tongue, cannelloni, chop suey, spaghetti, lasagna,	338.00	12.00	2.00	Mature manga	60.00	0.82	0.38	White or dark vinegar (rice, synthetic)	21.00	0.00	0.00
Gnocchi	256.00	6.27	4.36	Green sleeve	60.00	0.82	0.38	Fruit vinegar	290.00	0.93	0.00
Pasta with spinach unprepared	372.00	13.35	1.57	Ripe mango	59.00	0.50	0.20	Other dressings or sauces	172.35	2.04	11.15
Pasta with white sauce, alfredo or carbonara without preparing	363.60	12.72	14.54	Green mango	44.00	0.40	0.20	Dehydrated creams	446.00	8.00	24.10
Pasta with cheese sauce (prince)	361.00	19.75	16.99	Apple	54.00	0.30	0.10	Pre-packaged creams	89.00	2.38	5.77
Rice pasta	108.00	1.79	0.20	Water apple	32.00	0.60	0.10	Dehydrated Alfredo sauce	410.00	9.03	41.08
Wheat pasta	334.00	11.00	2.00	Pink apple	25.00	0.60	0.30	Dehydrated chicken or fish soup	436.00	7.25	21.68
Ravioli	77.00	2.48	1.45	Passion fruit	97.00	2.20	0.70	Dehydrated beef or bean soup	344.00	18.91	7.20
Wantan unprepared	291.00	9.80	1.50	Cashew	46.00	0.80	0.20	Dehydrated vegetarian soup (miso, seaweed and tofu)	30.00	0.88	0.80
Other pastes	277.84	9.91	4.96	Peach	43.00	0.80	0.10	Microwave soups (with noodles)	91.00	2.60	3.79
Sour milk	104.00		5.00	Cantaloupe	28.00	1.11	0.10	Prepared packaged soups	41.00	0.73	2.19
Sweet cream	345.00	2.05	37.00	Blackberry or blackberry (bag)	43.00	1.39	0.49	Other soups or creams	235.88	6.22	13.33
caramel	315.00	6.84	7.35	Nance (bag)	66.00	0.90	1.30	Chicharrones toasts	571.00	50.00	42.86
Milk with cereals (rice or corn)	106.09	3.74	3.39	Bitter orange	50.00	0.70	0.10	Prepared popcorn	500.00	9.00	28.10
Condensed milk	321.00	7.91	8.70	Sweet orange	47.00	0.94	0.12	Potato toast	545.00	4.62	35.28
Light condensed milk	286.66	9.66	0.40	Naranjilla	28.00	0.70	0.10	Plantain and cassava toasts	531.00	2.28	29.59
Goat milk (fluid)	69.00	3.56	4.14	Nectarine	44.00	1.06	0.32	Cheese-flavoured corn snacks (meneitos, pellets, cheese)	500.00	7.14	28.57
Soy milk powder	469.00	26.50	24.10	Medlars	47.00	0.43	0.20	Tortilla toasts (for chalupas, meatless tacos, mejitos, rumbas, etc.)	468.00	7.20	22.60
Fluid soy milk	40.00	2.60	1.52	Noni	163.00	0.50	0.20	Spiced corn toast (picaritas, tronaditas, toreaditos, doritos, fries, etc.)	318.00	8.44	3.53

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Liquid white skim milk (0% fat)	42.00	3.37	0.97	Papaya	24.00	0.80	0.20	Other sandwiches or snacks	490.43	12.67	27.22
Skim milk powder	362.00	36.16	0.77	Pejibaye	196.00	2.60	4.40	Frozen burritos	221.00	7.07	6.30
Fortified whole milk (red box), Fortilac Dos Pinos whole)	105.00	7.20	3.40	Pear	52.00	0.20	0.20	Lasagna, cannelloni or frozen pasta	124.00	6.63	4.42
Evaporated milk	134.00	6.81	7.56	Pineapple	51.00	0.53	0.11	Tacos and flutes ready to fry	170.00	6.69	9.17
Non-fat or light evaporated milk	102.00	3.00	3.00	Pipe	354.00	3.33	33.49	Other frozen pre-cooked foods	171.67	6.80	6.63
Fresh milk or liquid milk	60.00	3.22	3.25	Pitahaya	54.00	1.40	0.40	Oats	407.00	5.59	4.95
0.01 Online Milk or Liquid Online Delactomy	129.00	8.00	5.00	Ripe banana	122.00	1.30	0.37	decaffeinated coffee	257.00	9.00	13.21
Whole milk powder (pinito, cre-c)	496.00	26.32	26.71	Green banana	132.00	1.20	0.10	Coffee beans	6.00	0.10	0.04
Coconut milk or cream	230.00	2.29	23.84	Watermelon	30.00	0.61	0.15	Instant or soluble coffee	241.00	12.20	0.50
Semi-skimmed milk (Delactomy, current and blue) powder	359.00	35.20	0.90	Tamarind	239.00	2.80	0.60	Ground coffee	226.00	12.60	14.80
Semi-skimmed milk (Delactomy, stream, Fortilac semi-skimmed and blue) liquidates	50.00	3.30	1.97	Grapefruit	42.00	0.77	0.14	Flavoured ground coffee	9.00	0.77	0.24
Eggnog powder	88.00	46.00	42.00	Cape gooseberry	49.00	0.66	1.52	Barley	45.00	0.00	0.00
Rompopo without liqueur	209.00	7.00	5.00	Grape	68.00	0.60	0.70	Coffee cream	136.00	1.00	9.97
Almond milk	17.00	1.25	0.42	Yuplon	62.00	0.50	0.20	Light coffee cream	195.00	3.20	15.00
Other milk	200.99	11.94	9.82	Sapodilla	121.00	1.70	0.40	Fresh cream	165.50	2.10	12.49
Chantilly prepared chocolate or strawberry flavour	317.00	2.82	29.28	Pulps or fruit concentrates	55.00	0.30	0.00	Cocoa	229.00	19.60	13.70
Chantilly prepared vanilla flavour	317.00	2.82	29.28	Other fresh fruits	85.52	1.36	2.64	Horchata or pinolillo	49.00	0.20	0.30
Chantilly cream powder	546.00	4.79	35.48	Canned cherries	67.00	0.00	0.15	Mixtures for artificial drinks without sugar (light)	3.00	0.00	0.00
Prepared pastry cream	195.00	2.70	19.31	Fruit cocktail in syrup	72.00	0.37	0.10	Drink mix (Tang, Zuko, Lipton, cold tea, etc.)	3.00	0.00	0.10
Nutritive formula (Insure, Sustagen, Enterex)	450.00	15.90	15.90	Figs in syrup or sugary	88.00	0.38	0.10	Herbal tea (chamomile) and fruit in bags	1.00	0.06	0.00
Infant formula milk powder (Nan, Isomil, Enfalac, etc.)	509.00	9.50	27.70	Canned mango	62.00	0.00	0.00	Black tea in bags	0.00	0.00	0.00

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Dairy supplements for babies (nest, pediasure)	100.00	3.00	3.91	Canned peaches	74.00	0.45	0.10	Other types of beverage products	123.28	4.15	5.33
Supplements for Athletes	11.00	0.00	0.00	Canned pejiabay	73.57	0.25	0.10	Ice	217.00	0.00	0.00
Meal substitutes (Delga-c, Slim fast)	79.17	5.96	0.50	Canned pears	74.00	0.20	0.13	Carbonated water (Quinada, soda) or flavoured	32.00	0.00	0.00
Other dairy substitutes	280.46	5.28	17.93	Canned pineapple	78.00	0.35	0.11	Pipe water	19.00	0.72	0.20
Tight	158.08	2.87	4.14	Other canned fruits	73.57	0.25	0.10	Sweet water	2.00	0.00	0.00
Bolis	88.00	2.87	4.14	Sesame	573.00	17.73	49.67	Bottled water	0.00	0.00	0.00
Cone with ice cream	218.00	3.92	10.14	Almonds or hazelnuts	581.00	21.94	50.62	Smoothies with ice cream or smoothies	127.00	3.40	3.70
Fruit salads with ice creams (banana split, fruit parfait)	108.00	1.27	1.63	Poppy (seeds)	525.00	17.99	41.56	Fruit and vegetable smoothies	113.00	3.40	2.80
Jelly with ice cream	167.51	6.60	0.03	Chestnuts	191.00	2.80	1.50	Packaged diet soft drinks	0.00	0.00	0.00
Slush with ice cream or churchil	156.00	0.20	0.00	Chan	490.00	15.62	30.75	Diet soft drinks served	0.00	0.00	0.00
Slushies with one or two milk	156.00	0.20	0.00	Linseed	534.00	18.29	42.16	Regular canned soft drinks	48.00	0.00	0.00
Water-based ice creams (popsicle or stick)	72.00	0.00	0.00	Macadamia	718.00	7.91	75.77	Regular carbonated drinks served	48.00	0.00	0.00
Milk-based ice creams (popsicle, stick, box or gallon)	201.00	3.50	11.00	Barbecue, salted or spicy peanuts	599.00	28.03	52.50	Diet energy drinks	4.00	0.25	0.08
Yoghurt or light ice creams	11.00	1.86	4.87	Peanut with shell	585.00	23.68	49.66	Energy drinks (red bull)	43.00	0.46	0.00
Snow	128.00	0.40	0.00	Peanuts, salted or honey roasted	561.00	24.47	45.77	Malt drinks	37.00	0.21	0.12
Ice cream cake or cookie ice cream	249.00	3.70	7.40	Peanut without shell	563.00	25.23	46.00	Moisturizing drinks (Powerade, Gatorade, etc.)	26.00	0.00	0.10
Sundae	180.00	3.57	5.46	Walnuts	654.00	15.23	65.21	Coffee express	2.00	0.12	0.18
Other desserts with ice cream	144.54	2.34	3.72	Raisins	299.00	3.07	0.46	Gourmet cold coffees	59.00	1.56	0.06
Dips (onion, asparagus, bacon, chipotle, vegetables, etc.)	196.97	3.03	12.12	Raisins with seeds	296.00	2.50	0.50	Coffee or tea with milk and cappuccino	406.00	3.10	5.56
Custard	196.00	6.54	3.96	Pecans	691.00	9.20	72.00	Black coffee or tea	308.00	8.00	4.00
Light custard	100.00		1.00	Pistachio	560.00	20.16	45.32	Hot liquid chocolate	400.00	4.55	2.27
Yoghurt with sugar fruit flavour	99.00	3.98	1.15	Sunflower seeds	283.00	11.67	25.00	Fresh in water with sugar served (cas, Tang, cold tea)	37.00	0.00	0.01

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Yoghurt with dressing	453.73	4.78	25.37	Cashew seeds	574.00	15.31	46.35	Fresh in water without sugar or with sweetener served (cas)	2.00	0.02	0.00
Soy yoghurt	79.00	4.10	5.60	Mixed seeds	594.00	17.30	51.45	Fresh in milk served (pinolillo, horchata, cream slider)	400.00	10.10	11.70
Light yoghurt	62.00	5.30	1.20	MORINGA (SEED OR GROUND)	64.00	9.40	1.40	Fruit juices served	50.00	0.16	0.12
Natural yoghurt	61.00	3.47	3.25	CHIA (SEED OR GROUND)	486.00	16.54	30.74	Vegetable juice (tomato)	21.00	0.83	0.00
Other dairy derivatives	155.96	4.46	6.71	Other seeds	519.53	15.55	41.70	Plain or lactose free flavoured milk (fresh milk, pinitos, etc.)	88.00	3.33	3.33
Curd	236.00	18.70	15.40	Dehydrated banana (past)	346.00	3.89	1.81	Nectar, tea, or packaged fruit juices	38.00	0.83	0.00
Cottage cheese	118.00	12.30	3.00	Prune	240.00	2.18	0.38	Nectar, tea, or light packaged fruit juices	39.00	0.00	0.07
Smoked cheese	369.00	22.00	31.00	Candied or crystallized fruit	322.00	0.34	0.07	Milk served (glass of milk)	130.00	6.00	7.00
Blue or feta cheese	353.00	21.40	28.74	Other dehydrated fruits (mixed, mango, pineapple, kiwi)	359.00	1.00	2.68	Other non-alcoholic beverages	92.97	1.56	1.42
Camembert	300.00	19.80	24.26	Chard	27.00	2.90	0.30	Salads with chicken or meat	200.00	11.64	13.52
Cheddar cheese	403.00	24.90	33.14	Garlic	134.00	5.30	0.20	Flour salads (potato, Russian, snails, banana ceviche)	122.00	0.96	10.45
Cottage cheese	103.00	12.49	4.51	Fresh basil	23.00	3.15	0.64	Green or palm heart salad	16.00	1.25	0.07
Cream cheese (cheese spread)	290.00	16.41	21.23	Artichoke	47.00	3.27	0.15	Other salads	112.67	4.62	8.01
Light cream cheese	176.60	11.30	13.00	Capers	33.00	3.33	0.00	Fixed and patties fixed	246.00	7.02	4.39
Tofu	159.00	15.00	8.30	Alfalfa	29.00	3.99	0.69	Butifarras	229.00	14.05	18.01
Hard or semi-hard cheese (for frying, cheese cubes)	444.00	27.90	35.20	Sushi seaweed	38.00	2.38	0.26	Sandwiches with meat (stone hand)	244.00	15.17	10.30
Emmental cheese	388.00	30.50	29.50	Fresh celery	14.00	0.69	0.17	Ham and cheese sandwiches	213.00	10.88	11.45
Gouda cheese	356.00	24.94	27.44	Arugula or rocket	24.00	2.35	.59	Sandwiches with chicken or tuna	234.00	19.33	6.40
Ripe cheese (Edam)	321.00	25.40	24.00	Ayote seasoning and pumpkin	30.00	0.60	0.20	Toast or bread with jelly	275.10	5.50	2.00
Manchego cheese	408.00	26.01	33.54	Ayote tender	42.00	1.67	0.00	Toast or bread with butter	431.80	5.90	30.80
Mozzarella cheese	300.00	22.17	22.35	Eggplant	24.00	1.01	0.19	Other sandwiches	246.00	7.02	4.39

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Muenster cheese	368.00	23.41	30.04	Cress	22.00	2.80	0.40	Arepas and pancakes with honey	187.00	5.38	3.27
Palm heart cheese	296.87	20.66	22.41	Broccoli	34.00	2.82	0.37	Omelette rooster with cheese	187.00	4.88	9.03
Cheese for nachos (spreadable)	295.00	7.10	28.60	Caigua	17.00	0.60	0.10	Gallo Pinto with meat	187.00	4.88	9.03
Parmesan	392.00	35.75	25.83	Chives	24.00	1.10	0.20	Gallo Pinto with egg	187.00	4.88	9.03
Pizza cheese	300.00	20.00	24.00	Squash	31.00	0.90	0.20	Gallo Pinto with custard	187.00	4.88	9.03
Processed cheese (yellow)	375.00	22.15	31.25	Chayote cocoro	23.00	1.52	0.00	Gallo Pinto with cheese	187.00	4.88	9.03
Light yellow processed cheese or light mozzarella	180.00	24.60	7.00	Chayote Sazon	23.00	1.52	0.00	Rooster painted alone	187.00	4.88	9.03
Provolone cheese	351.00	25.58	26.62	Chicasquil	64.00	6.20	1.30	Fried egg	201.00	13.63	15.31
Ricotta cheese	174.00	11.26	12.98	Sweet chilli or pepper	26.00	0.99	0.30	Scrambled eggs, egg cake	212.00	13.84	16.18
Striped dry cheese (ground cheese)	324.00	20.80	22.90	Hot chilli or jalapeño	23.00	1.20	0.10	Omelette with ham and cheese	222.00	15.42	16.67
White soft cheese (Turrialba)	264.00	17.50	20.10	Chiverre	21.00	0.80	0.10	Bread with custard or cream cheese	115.00	4.00	5.00
Goat cheese	268.00	18.52	21.08	Brussels sprouts	43.00	3.38	0.30	Bread with cheese	115.00	4.00	5.00
Other varieties of cheese	296.87	20.66	22.41	Raw cauliflower	25.00	1.98	0.10	Tortillas with custard or cream cheese	113.00	6.80	5.70
Fresh or preserved quail eggs	158.00	13.05	11.09	Culantro Castilla	42.00	3.30	0.70	Webbed cheese omelettes	113.00	6.80	5.70
Chicken eggs (white or red)	147.00	12.58	9.94	Cilantro Coyote	42.00	3.30	0.70	Other types of breakfast	171.43	7.08	9.07
Turtle eggs	115.00	12.60	6.30	White and yellow corn	161.00	3.60	1.40	BBQ or fried chicken wings	158.00	12.70	11.30
Other fresh or preserved eggs	140.00	12.74	9.11	Asparagus Frescoes	20.00	2.20	0.12	Chicken rice	150.00	5.66	5.44
Steak or beef for roasting	234.00	18.68	17.15	Spinach	23.00	2.86	0.39	Prepared rice (cantons, with shrimp, etc.)	156.00	6.46	5.44
Calf meat	112.00	20.20	2.87	Itabo flower	61.00	2.00	0.30	Married to beef: steak, roast beef, liver, etc. (dish executive)	850.00	25.00	25.00
Ground beef	269.00	25.54	17.67	Fresh good herb	44.00	3.29	0.73	Married with cutlet or pork (executive dish)	850.00	25.00	25.00
Cecina, quititeña, chicken or to shred of beef	252.00	39.00	9.50	Fennel Fresco	31.00	1.24	0.20	Married with fish (executive dish)	850.00	25.00	25.00
Beef tenderloin	169.00	20.78	8.85	Onion leaves	24.00	1.10	0.20	Married with chicken (executive dish)	850.00	25.00	25.00

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Beef rib	254.00	19.33	19.06	Radish, beet, quelite and mallow leaves.	16.00	0.68	0.10	Fish or seafood ceviche	70.00	14.00	1.00
Cow liver	135.00	20.36	3.63	Fresh mushrooms	22.00	3.09	0.34	Stuffed peppers	216.00	10.76	16.66
Bull eggs	60.00	9.60	1.60	American lettuce, veronica	14.00	0.90	0.14	Chop suey or chow mein	120.00	10.40	6.80
Hock, neck bone, buffalo, bone post.	173.67	19.76	9.37	Creole lettuce	13.00	1.35	0.22	Ribs and greaves served	395.00	28.94	30.17
Beef tongue	224.00	14.90	16.09	Hulled Corn	64.00	1.95	0.50	Salty crepes (chicken, ham, etc.).	192.00	11.74	11.74
Beef tenderloin	234.00	18.68	17.15	Shredded corn	64.00	1.95	0.50	Argentine cuts of meat	271.00	24.85	19.02
Beef tenderloin, round beef tenderloin	126.00	22.03	3.50	Microwave popcorn	429.00	12.60	9.50	Corn cooked with margarine	106.00	3.06	2.35
Beef Stone Hand	92.00	20.00	1.00	Fresh chamomile	0.00	0.00	0.00	Jumbled	237.27	11.76	9.24
Breaded beef	285.00	22.53	15.18	Fresh mint	99.00	3.70	0.90	Pickled - vinaigrette	73.33	17.00	14.00
Beef tripe	90.00	14.00	2.70	Mini vegetables	29.00	1.18	0.00	Prepared spaghetti	251.00	12.83	14.28
Posta or pieces of beef	127.00	19.50	5.00	Mustard greens	27.00	2.60	0.40	Fried	237.27	11.76	9.24
Raw beef brains	143.00	10.86	10.30	Fresh oregano	0.00	0.00	0.00	Roosters, beef skewers, beef fajitas (meat cakes), steak, meat in sauce, meat cakes	378.00	12.50	7.00
Beef burger cakes	205.00	17.00	14.00	Palm (bag)	115.00	2.70	0.20	Chicken roosters, chicken skewers, chicken fajitas, fillet a la plancha, chicken in sauce	81.00	5.33	0.67
Beef viscera (beef, heart, blood sausage, kidneys, etc.)	115.00	17.00	3.40	Cucumber	12.00	0.59	0.16	Salchichon or chorizo roosters	81.00	16.00	2.00
Other beef	173.67	19.76	9.37	Fresh parsley	36.00	2.97	0.79	Roosters or mince dishes (arracacha, banana, papaya, chayote, potato, etc.)	81.00	16.00	2.00
Steak, pork shank or pieces of pork	100.00	17.00	3.00	Pipian	24.00	1.00	0.20	Chickpeas, beans or lentils with meat	105.00	4.52	0.89
Pork greaves (cooked)	660.00	20.80	56.10	Leek	61.00	1.50	0.30	Lasagna, cannelloni or ravioli served	163.00	9.96	6.01
Pork shell chicharron	174.00	19.62	10.02	Purple cabbage	31.00	1.43	0.16	Beef pot	480.00	84.00	48.00
Ordinary pork chop	211.00	19.90	14.01	Green cabbage	24.00	1.21	0.18	Rice order	204.00	4.20	0.44
Smoked pork chop, pressed pork	260.00	27.63	15.76	Fresh rosemary	0.00	0.00	0.00	Order of whole beans	88.00	5.84	0.41

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Pork rib	395.00	28.94	30.17	Aloe	53.00	0.36	0.12	Order of ground beans	167.00	7.36	5.91
Piglet and pork brisket	376.00	13.91	35.07	Tacaco	72.00	1.80	0.50	Guacamole order	158.62	1.97	14.31
Pork loin or tenderloin	143.00	21.43	5.66	Tomato	21.00	0.80	0.30	Vegetable order	151.00	5.20	3.96
Ground pork	263.00	16.90	21.20	Cherry tomatoes	30.00	1.50	0.10	Order of fried cassava	260.00	1.20	14.33
Black pudding or moronga	183.00	13.80	12.80	Fresh thyme	101.00	5.56	1.69	Stuffed potatoes	166.00	5.38	9.01
Pork belly	159.00	16.85	10.14	Hemstitch	31.00	1.82	0.12	Cakes with chicken, meat, palm hearts, etc. (main course)	243.00	29.07	8.55
Pork skin	527.00	58.50	30.50	Pumpkin or zucchini	16.00	1.21	0.18	Cooked ripe bananas	276.00	1.87	0.43
Pig hoof, tail, head and ears	378.00	17.75	33.50	Chopped vegetables (carrots, pods, etc.)	29.00	1.18	0.00	Vegetarian dishes	237.27	11.76	9.24
Pork leg or meat for greaves	245.00	17.43	18.87	Banana leaves	43.90	2.18	0.47	Assorted plate (meat and vegetables)	237.27	11.76	9.24
Bacon	458.00	11.60	45.04	Panamanian chili	40.00	1.77	0.44	Pozole and corn rice	228.00	10.92	16.23
Viscera of pork (brains, liver, heart, etc.)	118.00	17.27	4.36	Other fresh vegetables	43.90	2.18	0.47	Pure potato	83.00	2.31	1.21
Other pork meats	290.63	21.21	21.64	Peas, petit pois or fresh peas	341.00	24.55	1.16	Rice and beans with chicken rondon	158.00	4.76	8.95
Chicken wings	222.00	18.33	15.97	Cubaces	333.00	19.00	1.00	Aztec soup	121.00	8.02	3.01
Chicken greaves	468.00	24.00	44.00	Soybean	425.00	28.30	17.80	Black soup or bean broth with egg	137.00	6.58	4.00
Boneless breast fillet, chicken breast fajitas	352.00	19.67	12.11	White beans	333.00	23.36	0.85	Seafood, chicken, meatballs, etc.	85.00	3.00	2.00
Whole hen or whole rooster	243.00	14.72	19.98	Black beans	343.00	22.70	1.60	Sushi	93.00	2.92	0.67
Menudos or chicken guts	168.00	17.89	9.21	Red beans	337.00	22.53	1.06	Tamales (pork, chicken, beans)	162.00	3.10	8.80
Ground chicken	237.00	27.07	13.49	Tender or hatched beans	151.00	5.54	5.15	Vigor	237.27	11.76	9.24
Chicken wing drumstick	210.60	18.16	13.20	Chickpeas	364.00	19.30	6.04	Mariscada	175.00	17.94	7.48
Raw chicken drumsticks or nuggets	289.00	13.81	17.93	Lentils	353.00	25.80	1.06	Other types of lunches or dinners	237.27	11.76	9.24
Chicken thigh with skin	211.00	17.27	15.25	Other fresh legumes	331.11	21.23	3.97	Onion rings	332.00	4.46	18.69
Boneless chicken drumstick	171.43	16.36	5.62	Arracache	104.00	0.89	0.18	Burritos	163.00	7.18	6.55
Skinless chicken thigh	209.00	25.94	10.88	Sweet potato	86.00	1.57	0.05	Calzone	246.00	13.33	10.83

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Chicken breast with skin and bone	187.00	18.15	12.12	Onion (white or purple)	45.00	1.40	0.20	boats	209.00	6.52	9.32
Canned Chicken with Vegetables (Quickies)	210.60	18.16	13.20	Malanga	112.00	1.50	0.20	Chifrijó	361.00	19.26	9.02
Canned Chicken (Quickies)	118.00	26.00	1.50	Name	118.00	1.53	0.17	Blasted	328.00	0.00	0.00
Whole chicken	216.00	17.14	15.85	Ñampi	112.00	1.50	0.20	Dice or cheese fritters	245.00	3.61	12.34
Chicken cakes	91.00	12.00	3.00	Dad	77.00	2.02	0.09	Golden	97.00	1.00	5.00
Chicken pieces	76.00	8.66	4.32	Long radish	22.00	1.10	0.50	Empanadas of dough, meat, chicken, cheese, beans or potatoes	263.00	6.65	17.25
Other chicken meats	216.45	18.43	13.39	Round radish	11.00	1.50	0.10	Focaccia	166.00	3.93	6.33
Rabbit meat	136.00	20.05	5.55	Chayote root	17.00	0.82	0.13	Burger	254.00	11.74	12.25
Soy meat	246.00	55.50	1.46	Beet	43.00	1.61	0.17	nachos	298.00	8.24	16.74
Turtle meat	83.00	19.10	0.20	Tiquisque	72.92	1.36	0.19	Chicken nuggets	297.00	15.59	18.82
Duck meat	326.00	16.00	28.60	Cassava	160.00	1.36	0.28	French fries and potato hash browns	319.00	3.76	17.05
Whole turkey	160.00	20.42	8.02	Carrot	41.00	0.93	0.24	Patacones (fried green plantains)	221.00	1.43	10.22
Turkey breast	125.00	23.76	2.65	Other tubers	72.92	1.36	0.19	Patti	918.00	43.58	41.12
Turkey leg	118.00	20.13	3.57	Frozen onion rings	407.00	5.34	26.70	Hot dog	247.00	10.60	14.84
Other meats	170.57	24.99	7.15	Packaged banana ceviche	180.00			Pizza	244.00	11.02	10.90
Cantons, prepared for rice	219.36	14.16	16.01	Salads with packaged meats	260.00	17.90	19.32	Plantinta	304.72	12.02	15.69
Pressed beef, smoked	250.00	27.10	14.93	Packaged vegetable salads (caesar, etc.)	44.00	3.18	2.05	Grilled chicken	219.00	24.68	12.56
Pork chorizo	278.00	15.80	22.80	Packaged floury salads	143.00	3.53	7.60	Fried chicken	246.00	30.45	12.09
Soy chorizo	327.00	15.00	26.00	Enjucados with frozen meat or cheese	143.00	3.53	7.60	Pressed	304.72	12.02	15.69
Pre-cooked chorizo	166.67	10.00	10.00	Guacamole packaging	157.00	1.96	14.31	Pupusas of cheese, beans, etc.	256.00	11.72	13.25
Turkey ham	147.00	18.70	7.22	Frozen potatoes ready to fry	178.00	1.93	8.71	Quesadilla or chicken gringas, with meat or cheese	357.00	21.43	28.57
Light turkey ham	95.00	20.90	0.69	Pico de gallo, packaged or served	26.00	1.72	0.00	Salchipapas	243.50	6.56	17.22
Light chicken ham	119.05	8.48	1.19	Prepared for mashed potatoes, cassava	113.00	2.00	4.19	Tacos or flutes	236.00	10.79	13.48

Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)	Description of food Items	Energy (kcal.)	Protein (g)	Total fat (g)
Chicken or rabbit ham	154.00	19.53	7.38	Raw or fruit strains (Gerber)	66.00	0.40	0.30	Wantag prepared	304.72	12.02	15.69
Beef or pork ham	149.00	19.10	7.10	Raw or strained vegetables and meats (Gerber)	96.00	2.03	6.93	Wraps	122.00	3.18	6.24
Soy ham	246.06	31.52	8.48	Raw meat pot vegetables	21.00	1.18	0.00	Other snacks or snacks	304.72	12.02	15.69
Hand Processed stone	219.36	14.16	16.01	Frozen pre-cooked cassava, pre-cooked cassava cakes	168.00	1.23	1.14	Other fast foods	304.72	12.02	15.69
Mortadella bologna (beef and pork)	311.00	16.37	25.39	Other packaged vegetable products	143.00	3.53	7.60	Rice pudding	111.00	3.29	1.63
Chicken mortadella	298.00	9.88	26.18	Canned olives	115.00	0.84	10.68	Atol	25.00	0.70	0.20
Ham-cured mortadella (beef and pork)	311.00	16.37	25.39	Canned stuffed olives	134.00	1.30	12.30	Cheesecake	321.00	5.50	22.50
Mortadella light	211.00	13.06	16.06	Canned peas, peas or petit pois	69.00	4.42	0.35	Sweet crepes	224.00	8.76	11.08
Tuna pate	71.00	8.00	0.00	Canned onions	18.00	0.00	0.50	Fruit salad	108.00	1.27	1.63
Pork or beef pate	300.00	13.33	26.67	Canned chipotle chilli	18.00	0.80	0.30	Custard and mousse prepared	112.00	2.86	2.90
Chicken pate	201.00	13.45	13.10	Vegetable chilli	19.00	0.63	0.09	Prepared gelatin	62.00	1.22	0.00
Soy pate	152.00	16.00	8.00	Canned jalapeño peppers	27.00	0.92	0.94	Lemon pie prepared	268.00	1.50	8.70
Pepperoni (beef and pork)	466.00	20.35	40.28	Canned corn	81.00	2.62	1.00	Prepared pudding or tapioca	345.00	0.50	0.20
Soy pepperoni	466.00	20.35	40.28	Vegetable pickles in mustard	121.00	1.50	0.90	Tres Leches dessert	250.00	5.20	7.82
Roast beef, pastrami	146.00	21.80	5.82	Pickled vegetable pickles	22.00	2.00	0.00	Bread sticks	282.00	7.69	6.41
Salami	399.00	15.01	30.50	Canned asparagus	19.00	2.14	0.65	Fish fingers, fish fillet, whole fish	105.00	16.00	3.00
Turkey sausage	226.00	14.28	17.70	Canned ground beans	145.00	6.29	5.22	Garlic shrimp	303.77	17.18	23.73
Chicken sausage	257.00	12.93	19.48	Prepared beans packed	85.00	5.25	0.34	Other types of dessert	193.60	5.51	6.91
Beef or pork sausage	320.00	12.00	28.73	Canned chickpeas	139.00	7.00	2.80				

Source: ILO estimates based on *Costa Rican Socioeconomic Survey* 2013 and 2018.

► Appendix II: Supplementary tables

► Table 29: Share of calorie consumption and food expenses by household, 2013 and 2018

	% total calories		% expenses	
	2013	2018	2013	2018
Bread and cereals	22%	24%	19%	19%
Milk, cheese and eggs	12%	13%	11%	13%
Meat	7%	8%	13%	14%
Fish and shellfish	1%	1%	3%	3%
Oil and fat	3%	4%	3%	3%
Fruits	10%	9%	4%	5%
Vegetables	17%	17%	9%	11%
Sugar and sweets	8%	7%	4%	4%

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

► Table 30: Equivalence to 1 average adult male by household size (OECD and AEEI), 2013 and 2018

Household size (members)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Average equivalent to an adult man	2013	OECD	1.00	1.66	2.25	2.79	3.40	3.96	4.56	5.16	5.84	6.23	6.60	8.30	7.90	8.60	-	-	-
		AEEI	0.89	1.72	2.49	3.25	4.09	4.87	5.64	6.35	7.17	7.90	7.69	10.36	9.29	10.90	-	-	-
	2018	OECD	1.00	1.67	2.27	2.84	3.42	3.99	4.62	5.14	5.79	6.19	6.93	7.63	7.80	-	9.20	-	10.60
		AEEI	0.86	1.72	2.53	3.33	4.10	4.82	5.55	6.20	7.10	7.52	8.38	9.60	10.51	-	11.35	-	12.82

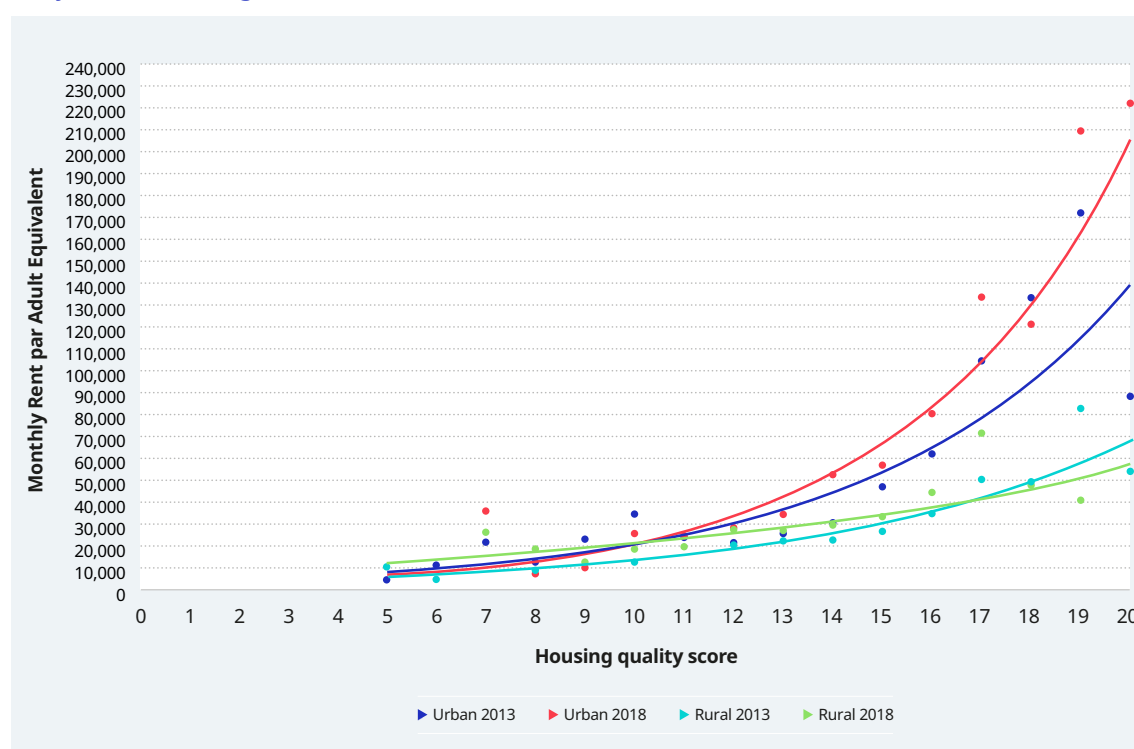
Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

► Table 31: Average and median monthly housing expenditure by household and per adult equivalent (in Costa Rican colones), 2013 and 2018

	Average monthly housing		Median monthly housing		Average monthly housing per adult equivalent		Median monthly housing per adult equivalent		Number of observations	
	2013	2018	2013	2018	2013	2018	2013	2018	2013	2018
National	196,565	236,913	145,927	184,000	91,187	114,602	61,454	80,000	5,534	6,839

Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

► **Figure 13: Monthly rent per adult equivalent (in Costa Rican colones) by decent-housing score at the urban and rural levels, 2013 and 2018**



Source: ILO estimates based on *Costa Rican Socioeconomic Survey*, 2013 and 2018.

► **Table 32: Thresholds of decent housing based on UN-Habitat definition for slums**

Space	Overcrowding can be expressed in terms of the available m ² per capita or by the number of people per dwelling, per room or per bedroom. UN-HABITAT defines overcrowding as those households with more than 3 persons per room.
Durability	"Durable housing" is generally defined as a "unit that is built on a non-hazardous location and has a structure permanent and adequate to protect its inhabitants from the extreme of climate conditions such as rain, heat, cold and humidity". This is usually based on the material used for the construction of walls, roofs and floors. Permanent materials are considered (for example burnt brick, stones, concrete, tiles, and so on); and non-permanent (temporary) materials that are replaced frequently (for example grass, bamboo, leaves, mud and so on).
Facilities: sanitation	A household that has access to basic sanitation is defined as having sustainable access to safe, hygienic and convenient facilities for human excreta disposal. In urban areas, this is characterized by direct connection to a public, piped sewer; direct connection to a septic system; or access to pour-flush latrines or ventilated improved pit latrines.
Water accessibility	The water should be affordable and of sufficient quantity that it is available without excessive expenditure of effort and time. The household should have access to a improved water supply through household connection, a public standpipe shared by a maximum of two households, a borehole well, a protected spring or rainwater collection.

Source: UN-Habitat (2006).

► Table 33: Items that belong to each of the expenditure categories

Education	Primary and secondary education
	Higher technical education
	Non-formal education
Health	Medical products
	External health services
	Hospital services
Transport	Buy vehicles
	Spare parts maintenance
	Fuel
	Transport services
Clothing and footwear	Clothing
	Footwear
Communications	Postal services
	Telephone equipment
	Telephone service
Recreation and culture	Computer audiovisual equipment
	Garden recreation equipment
	Recreational services
	Newspapers books others
	Tourist packages
Other goods and services	Personal care
	Personal effects
	Social protection
	Insurance
	Financial Services
	Various other services
Non-consumption	Taxes fines
	Income tax
	Mandatory social contributions
	Voluntary social contributions
	Money transfers
	Other non-consumption

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