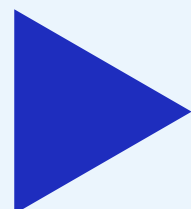




International
Labour
Organization



► **Estimating the needs
of workers and their families
in Viet Nam**



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The main authors of the report are Nicolas Maître and Erika Chaparro Perez, with contributions from Patrick Belser, Xavier Estupiñan, Daniel Kostzer and Khalid Maman Waziri. Michael Rose copy-edited the draft of 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 which seeks to protect workers and their families while ensuring compliance without 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 of economic factors for adjusting minimum wages in Viet Nam.

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 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 1 male adult aged 30–60 – is used to convert the needs of individuals in the household into those of male adults aged 30–60, following the Food and Agriculture Organization of the United Nations and World Health Organization (WHO) recommendations. Next, we collect information provided by food composition tables on the caloric content of each food items in order to calculate the calorie intake of each household. Then, 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.¹ 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 caloric consumption is smaller than the required calorie intake of 2,950 kcal per day, an adjustment coefficient is applied to the quantities consumed so that they provide the required calorie intake. Then, 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 4,² which translates to 3.34 adult equivalents for 2018 based on the equivalence scale of “adult equivalent energy intake”. Accordingly, in thousands of Vietnamese dong (TNVD), the reference food basket in 2018 costs TVND3,411 at the national level and ranges from TVND3,140 for minimum wage zone 4 to TVND4,667 for minimum wage zone 1. National estimates for various household sizes (1 to 4 members) are also provided in order to highlight the variation in the cost of needs by family size.

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 (in particular sanitary facilities). A score from 1 to 5 for each of the dimensions is obtained, with 1 and 5 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 ranging from 4 to 20. Next, we identify the total housing

¹ In this case, quintile 2 represents the nearest benchmark to the goal of 2,950 kcal per day without exceeding it.

² The average household in Viet Nam consists of about 4 members (after rounding up).

quality score that corresponds to a decent dwelling – a minimum score of 13 in the case of Viet Nam – 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 the reference family size of 4 is calculated based on the adult equivalence definition of the Organisation for Economic Cooperation and Development. Accordingly, the total cost of decent housing including rent and utilities for a reference family size in 2018 amounts to TVND1,245 at the national level and ranges from TVND926 for zone 4 to TVND2,274 for zone 1.

For the two remaining categories – *health and education* and *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 four members. Accordingly, for the reference family size of 4:

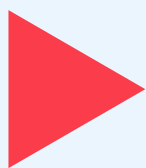
- i) monthly expenditure on education is estimated at TVND204 at the national level and varies from TVND134 in zone 4 to TVND524 in zone 1;
- ii) monthly expenditure on health are estimated at TVND406 at the national level and varies from TVND308 in zone 4 to TVND590 in the minimum wage zone 1; and
- iii) monthly expenditure on other essential goods and services is estimated at TVND2,326 at the national level and varies from TVND1,866 in zone 4 to TVND3,479 in zone 1.

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 4 to be TVND7,592 at the national level, ranging from TVND6,374 in zone 4 to TVND11,534 in zone 1. The total needs are estimated to cost TVND9,525 and TVND8,137, for zones 2 and 3, respectively.

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 4 with 1.5 working adults in 2018 would range from TVND4,249 in zone 4 to TVND7,689 in zone 1. For a family of 4 with 2 full-time wage employees, the estimated needs-based wage level would range from TVND3,187 to TVND5,767.

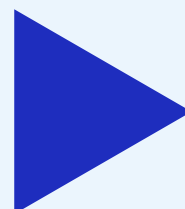
Finally, we propose two comparisons of existing minimum wage levels with the estimated needs-based wage levels. First, we provide a comparison of minimum wage levels with four needs-based wage levels calculated for the reference family of 4 with 1, 1.5 and 2 working adults, respectively. As a second step, minimum wage levels in the four zones are compared to the estimated needs-based wages for households ranging in size from 1 to 4 members, on the assumption that households with 1 member include 1 working adult and that households with more than 1 member include 1.5 working adults.

The results of our comparisons suggest that in the four minimum wage zones of Viet Nam in 2018, current minimum wage levels seem to be sufficient to cover the needs of 1 adult working full-time or a couple of 2 adults with 1 working full-time and 1 working half-time. However, in all four zones minimum wages may be insufficient to cover the estimated needs of families of 3 or 4. This is particularly true for families of 4 since even if we assume 2 working adults in the family, the minimum wage seems insufficient to cover the estimated needs of workers and their families. However, it is important to balance such results with a thorough analysis of economic factors before drawing any conclusion regarding minimum wage levels.



1

Introduction



► 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 Convention No. 131. As such, the present report should be taken as complementary to the evaluation of economic factors for the purposes of adjusting minimum wages in Viet Nam. Together, these analyses provide a set of information aimed at increasing the capacity of the governments and the social partners to negotiate and set appropriate wage levels.

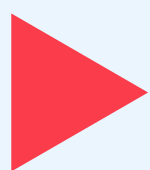
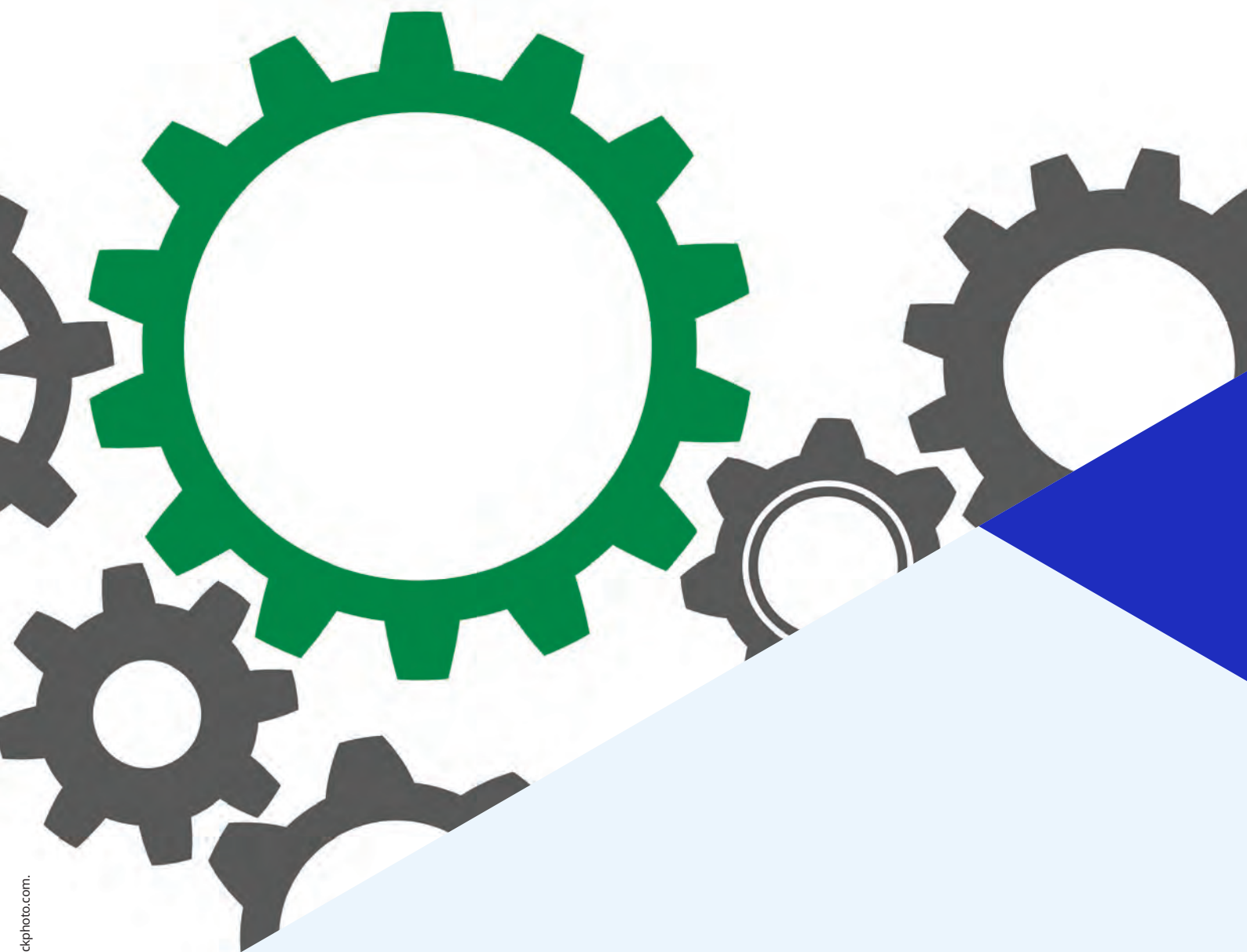
The present report falls within the scope of a technical cooperation project that seeks to develop indicators and methodologies on the needs of workers and their families, which – along with the consideration of economic factors – will strengthen the capacity of governments and social partners to negotiate and set adequate wage levels. The methodologies and tools developed at the global level in this project are currently being tested in 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 need 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.

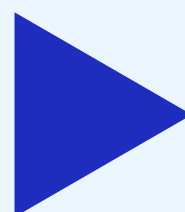
In this paper, we apply a methodological framework to estimate the cost of basic needs for workers and their families in Viet Nam as a whole as well as separately for each of the four minimum wage zones, each of which have different minimum wage levels. In order to do so, we use the *Viet Nam Household Living Standards Survey* (VHLSS, which is implemented in Viet Nam every two years. The VHLSS is a nationally representative survey that collected data for 9,396 households and 35,076 individuals living in rural and urban areas in 2018. 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.

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 expenditures – at the national level as well as separately for each minimum wage zone in Viet Nam in order 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 at the national level as well as for each minimum wage zone. Finally, the sixth section compares the level of existing minimum wages in Viet Nam with the estimated needs-based wage levels, using different assumptions for family size and the number of working adults per family.



2 Brief overview of the methodology



► 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 are estimated using a relative approach based on the national distribution of such expenditure.

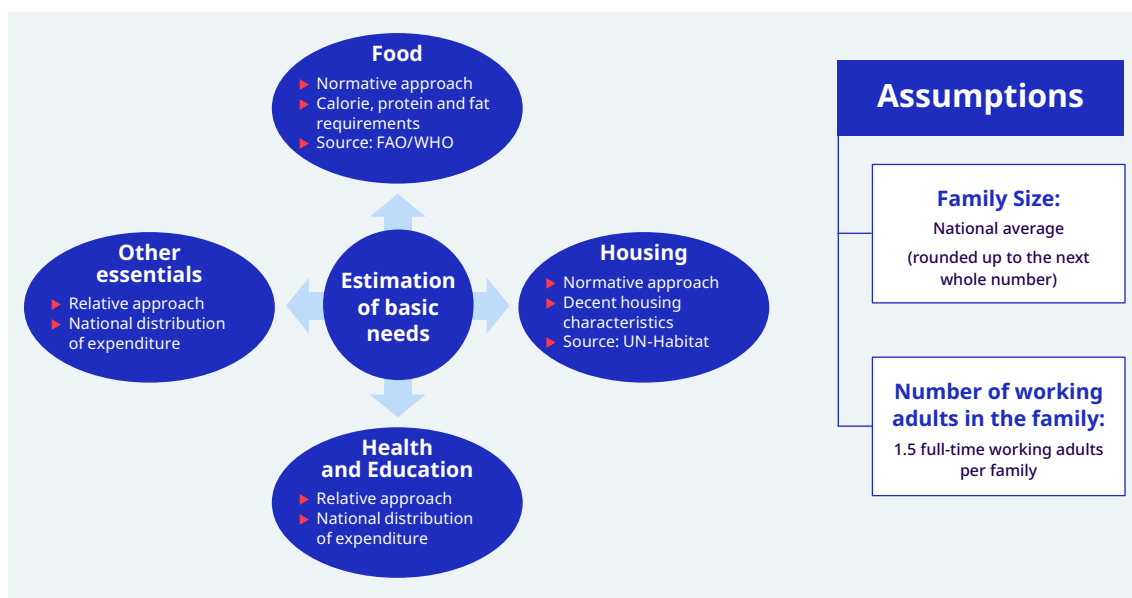
This methodology combines absolute measures for food and housing with relative measures for the cost of health education and other essential goods and services – a combination well in line with the philosophy of Convention No.131. By combining relative and normative approaches, the method has the advantage 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 consist of estimating separately the costs of adequate food, adequate housing, health and education, and other essential need 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. This is why, estimation 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.

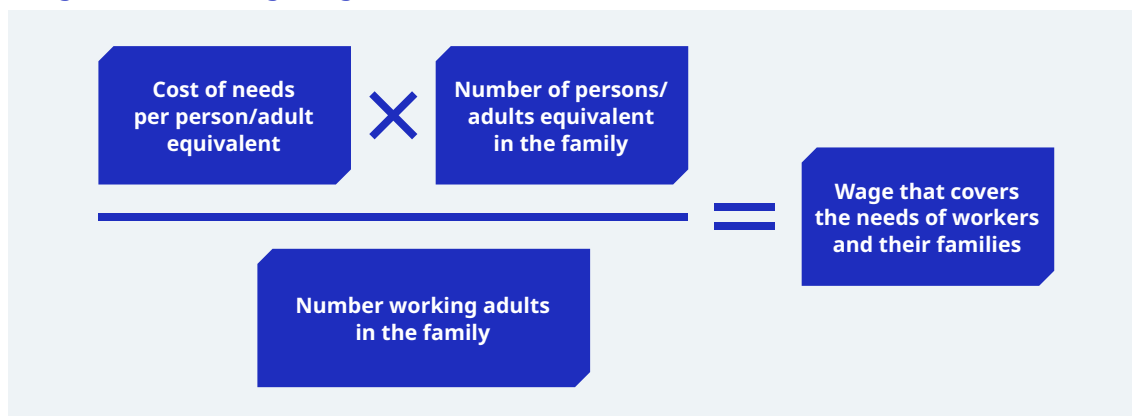
When estimating the needs of workers and their families in order to strengthen the capacity of governments and social partners to negotiate and set adequate wage levels, it is essential to convert the total needs of a family into a wage level that is sufficient to cover them – the so-called needs-based wage. However, this step requires making another assumption with respect to the number of full-time working adult 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 one wage should be sufficient to cover the total needs of

a family, this wage should be equal to the total needs. Therefore, figure 1b shows that, 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 adult considered in the family. In this baseline methodology, we propose to use a number of full-time working adults that is set normatively and equal to 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 nearest whole number, which is equal to 4 in the case of Viet Nam. 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 household size in a particular setting. It is also worth noting that in more traditional societies, in which the bulk of the 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 fact that economies of scale may 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 a male “adult equivalent energy intake” (AEEI). For example, if 1 male adult aged 30–60 requires 2,950 kcal per day, while 1 woman of the same age requires 2,400 kcal per day, the woman’s calorie requirements corresponds to 0.81 AEEI ($2,400/2,950$) and the total calorie requirements for such a family is 5,350 kcal per day or 1.81 AEEI ($5,350/2,950$).
- **Equivalence scales for total household consumption.**³ 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”),⁴ 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 here 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.⁵ 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 may 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

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

4 OECD, “What are Equivalence Scales?”.

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

food, housing, and other essential goods and services, for which the existence of economies of scale are assumed and commonly accepted.⁶ In contrast, per capita estimates are used when there is no evidence of economies of scale for a dimension of needs, 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	AEEI scale (OECD)	Used to create quintiles
Food expenditure	Adult energy equivalent 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 households? Or instead a fixed number of full-time working adults set normatively between 1 and 2? In 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 of the 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:

⁶ OECD, What are Equivalence Scales?

► 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 may 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, some of these estimates reflect differences in the composition of the 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 two 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 adult in the 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

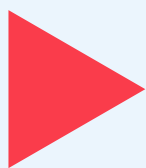
of the family of reference observed in the pilot countries. Finally, it simplifies the calculation and avoids dependence on estimating the number of full-time working adults, which in some cases may be challenging to assess through income and expenditure surveys. Unlike labour force surveys that are 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 show the extreme values of 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

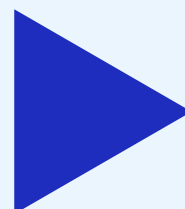
Another essential question to address in order to estimate the needs of workers and their families concerns the sample that should be used for the analysis. Should the analysis consider all households in a given country? Or should it instead consider a subsection of the labour force, such as households 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 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 may 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 replicated 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 Viet Nam, the minimum wage is set according to four geographical zones. The highest minimum wage is set in zone 1, which includes Hanoi and Ho Chi Minh, while the lowest minimum wage level is set in zone 4. Therefore, in Viet Nam we applied the methodology to estimate the cost of basic needs for workers and their families in the country as a whole, as well as separately for each of the zones, each of which has a different minimum wage level. This allows the comparison of the needs of workers and their families with the respective minimum wage level.



3 Estimation of food needs



► 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 calorie, protein and fat while taking into account the consumption patterns and food preferences of the target population. Building on some aspects of the “cost of basic needs” methodology used by the World Bank to estimate national poverty lines, the methodology estimates the cost of a food basket that fulfils calorie, protein and fat requirements 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 the 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 provide 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 value recommended as a minimum by the health authorities of the country, which in general interact with 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 requirement of energy (kcal) and nutrition (mainly with respect to protein and fat) per person.

According to 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.⁷ 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.

⁷ FAO, [Human Energy Requirements. Report of a Joint FAO/WHO/UNU Expert Consultation, Rome, 17–24 October 2001](#).

This scale is constructed using the FAO/WHO calorie requirement recommendation for each age bracket shown in table 1.⁸ We can observe, for example, that 1 female adult aged 30–60 requires 2,400 kcal per day (0.81 of the male AEEI) and that 1 female child aged 10–11 requires 2,000 kcal per day (0.68 of the male AEEI). Hence, a family composed of these 3 individuals would require a male AEEI of 2.49 (1 + 0.81 + 0.68) or 7,345.5 kcal per day (2,950 x 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 adult the equivalent conversion factor used in the section on the cost of food differs from that used in the other sections on housing and other expenditures.

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

Age Years	kcal/day required		Coefficient	
	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 the basal metabolic rate of 1.75 for a moderate PAL implied by a normal lifestyle.

3.2 Retrieving information on calorie consumption

How many calories does the household consume? This information is usually not included in household income and expenditure surveys. Therefore, to calculate the calorie intake of each household, we must retrieve information on the caloric value of each food items present in the database using secondary data. The FAO provides food composition tables and databases for various countries and region. In the case of Viet Nam, we used the Food Composition Table developed by the Vietnamese National Institute of Nutrition.⁹ Appendix I shows the calories of each food item included in the income and expenditure survey of Viet Nam. We included this information in the database, so we could calculate the calorie intake for each household.

3.3 Constructing and adjusting the reference food basket

Next, we have to 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 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. Large countries such as Viet Nam have great diversity in the composition of food baskets in the country. This imposes another limitation to the normative approach based on a pre-determined diet.

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

First, we partition households into quintiles based on their total monthly expenditure per adult equivalent¹⁰, 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's expenditures per adult equivalent. Although this methodology could also have been applied using income distribution, we used expenditure distribution because: (a) most countries prefer to use data on expenditures to measure poverty (according to a survey by the United Nations Statistics Division of 84 countries, almost half base their poverty calculations on expenditure data, while about 30 per cent base the calculations on income data only and 12 per cent use both); and (b) statistical issues reinforce the advantages of using expenditure rather than income data due to the ease and reliability of data collection¹¹ 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 difficult to aggregate.

As table 2 shows, even though on average households in quintile 1 do not satisfy the calorie requirement, the quintile 2 average calorie intake is the closest to the 2,950-calorie benchmark in 2018. 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 Viet Nam's households expenditure distribution (per adult equivalent). In other words, it is likely that richer households will have more expensive ways

⁹ Viet Nam, National Institute of Nutrition, *Vietnamese Food Composition Table*, 2007.

¹⁰ In this case, the adult equivalence scale provided by the OECD is used to adjust all expenditure values.

¹¹ United Nations Statistics Division, *Handbook on Poverty Statistics: Concepts, Methods and Policy Use*, 2005.

► **Table 2: Average monthly household expenditure per adult equivalent by category and quintiles (in thousands of Vietnamese dong), 2018**

Quintile ^a	Total expenses ^b	Food expenses ^b	Household size	Calories per adult equivalent (using AEEI) (kcal)
1	3,647 (2,092)	1,842	3.87	2,534
2	5,924 (1,981)	2,748	3.76	2,973
3	8,032 (1,914)	3,607	3.76	3,280
4	10,751 (1,779)	4,562	3.65	3,542
5	19,623 (1,630)	6,390	3.49	4,041
Total	9,594 (9,396)	3,829	3.71	3,274

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

Note: The number of observations is indicated in parentheses. ^b Nominal values. “TVND” refers to thousands of Vietnamese đồng. ^a Quintiles are constructed using monthly household’s expenditures per adult equivalent.

of consuming 2,950 calories (with more meat, higher quality or greater variety of food items, for example).

In order to identify the reference quintile, for each adult equivalent in a given household, we calculated the average number of calories yielded from all food items consumed, including those for which quantities were unavailable (such as food away from home).¹² However, when constructing the reference food basket, items with no accompanying quantity information were removed from the analysis since such food item quantities cannot be adjusted in the reference food basket to provide the required calories. As a result, the daily calorie per adult equivalent estimates provided in table 2 and table 3 differ. While households in quintile 2 consume on average 2,973 calories when including food away from home, they consume only 2,196 calories when food purchased away from home is removed from the food basket. This explains why, when adjusting the food basket in the next step, the adjustment coefficient is based on 2,196 calories rather than 2,973 calories (see table 3).

Since the calorie consumption of quintile 2 averaged 2,196 calories rather than the targeted 2,950 calories, 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 (2950/2196), which is equal to 1.34. This adjustment is indicated in table 3.

¹² For these items, calorie consumption was calculated by using household average price per calorie multiplied by household expenditure.

► Table 3: Adjusted food basket that generates 2,950 calories per day, 2018

	Quantity consumed per day (unadjusted) (Kg)	Calories consumed per day (unadjusted) (kcal)	Adjustment coefficient	Quantity consumed per day (adjusted) (Kg)	Calories consumed per day (adjusted) (kcal)	Protein consumed per day (adjusted) (g)	Fat consumed per day (adjusted) (g)
Grain and cereal products	0.41	1383	1.34	0.56	1,857.28	45.39	8.13
Meat	0.09	196	1.34	0.12	262.93	19.62	20.46
Fish and sea food	0.06	46	1.34	0.08	61.43	12.95	0.89
Vegetables	0.10	111	1.34	0.14	149.09	6.51	2.77
Fruits	0.04	25	1.34	0.05	33.11	0.49	0.08
Milk, milk products and eggs	0.20	197	1.34	0.27	264.81	20.99	19.71
Beverages	0.07	0	1.34	0.09	0.00	0.00	0.00
Food products	0.05	100	1.34	0.07	134.23	3.30	0.92
Fat	0.02	139	1.34	0.02	187.11	0.43	21.63
Food away from home	0.00	0	1.34	0.00	0.00	0.00	0.00
Others	0.00	0	1.34	0.00	0.00	0.00	0.00
Total	1.04	2,196		1.39	2,950	110	75

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

3.4 If necessary, adjusting the reference food basket to ensure it covers the requirement of other nutrients, including protein and fat

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 intake, we estimate the nutritional values of the adjusted food basket (see table 3) and compare these with the protein and fat requirements recommended by WHO/FAO. As we can see from tables 3 and 4, the amount of protein provided by the adjusted food basket exceeds the minimum requirements of protein set by WHO/FAO and the amount of fat falls into the recommended range. Therefore, in this case no adjustment is needed to comply with the protein and fat requirements.

► Table 4: Threshold value of nutritional requirements

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

Source: *FAO/WHO*.¹³

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 of fat ranging from 49 g to 115 g per day.¹⁴

¹³ FAO, *Fats and Fatty Acids in Human Nutrition, Report of an Expert Consultation, Geneva, 10–14 November 2008*, 2010.

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

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

Implicitly, our reference food basket is a slightly adjusted average basket of quintile 2, 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 the 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 allow 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 5, which shows that the monthly cost, in thousands of Vietnamese dong (TNVD), of a food basket that satisfies the calorie as well as the protein and fat requirements for 1 male adult aged 30–60 is approximately equal to TVND1,021.

► **Table 5: Basket of food items that yields 2,950 calories per day (in thousands of Vietnamese dong), 2018**

	Quantity per month (Kg)	Calories per month (kcal)	Monetary value per month	% of total calorie	% of expenditure
Grain and cereal products	16.68	55,718	228	62.96%	22.33%
Meat	3.65	7,888	327	8.91%	32.05%
Fish and sea food	2.32	1,843	145	2.08%	14.23%
Vegetables	4.07	4,473	55	5.05%	5.42%
Fruits	1.43	993	22	1.12%	2.12%
Milk, milk products and eggs	8.16	7,944	86	8.98%	8.46%
Beverages	2.76	0	76	0.00%	7.43%
Food products	2.13	4,027	55	4.55%	5.41%
Fat	0.65	5,613	26	6.34%	2.55%
Food away from home	0	0	0	0%	0%
Others	0	0	0	0%	0%
Total	41.85	88,500	1,021	100%	100%

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

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 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 average male adult equivalent (AEEI) (see table 6).¹⁵ As table 5 shows, the poorest families tend to be larger than richer families and therefore the basic needs of those families in the lowest quintiles may be greater.

In this report, the national needs are presented for different family size ranging from 1 to 4. However, to remain pragmatic, avoid a multiplicity of results and ensure that needs-based wage levels sufficiently reflect the needs of workers and their family for a realistic household size, the needs for the different minimum wage zones are estimated for the national average family size, rounded up to the nearest whole number. In the case of Viet Nam, needs-based wage levels are assumed to cover the needs of a family of 4, which is the closest family size to the average in the country (3.71). Using the AEEI equivalence scale, the cost of food for a family of 4 corresponds to that of 3.34 adults equivalent in terms of calorie requirements in 2018 (see table 7). Table 7 also provides the adult equivalent scale based on the OECD methodology, which is slightly lower and will be used in the following sections on housing expenditure and other expenditure groups.

► **Table 6: Average size of households and average male adult equivalent household size per quintile, 2018**

Quintile	Average household size	Average adult equivalent household size (using AEEI)
1	3.87	3.11
2	3.76	3.06
3	3.76	3.10
4	3.65	3.04
5	3.49	2.93
Total average	3.71	3.05

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

► **Table 7: Adult equivalent figures for various household sizes, 2018**

Household size (members)			1	2	3	4
Average equivalent to 1 adult male	2018	OECD	1	1.68	2.29	2.83
		AEEI	0.82	1.7	2.6	3.34

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

Finally, table 8 shows that the estimated monthly cost of a food basket that covers the calorie as well as the protein and fat requirements range from TVND837 for the average household of 1 person to TVND3,411 for the average family of 4.

In addition, as the minimum wage in Viet Nam is set in four different geographical zones, we identified these zones in the database and applied the same methodology separately to each of these four zones. The results of this regional analysis for a family of 4 are given in table 9, which shows that the estimated cost of the food basket that covers the calorie as

¹⁵ For more information, see Appendix II, table 25, which shows the corresponding average male adult equivalent using the AEEI and the OECD equivalence scales for each whole family size.

well as the protein and fat requirements for a family of 4 ranges from TVND4,667 in zone 1 to TVND3,140 in zone 4.

► **Table 8: Monthly cost of food needs for selected family sizes with their respective adult equivalents (in thousands of Vietnamese dong), national estimates, 2018**

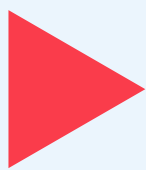
Different sizes of households	Monthly cost of food basket per day for an adult male	Average number of male adult equivalents per household	Monetary value per month by household size
Household of 1	1,021	0.82	837
Household of 2	1,021	1.70	1,736
Household of 3	1,021	2.60	2,654
Household of 4	1,021	3.34	3,411

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

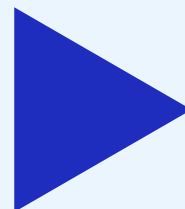
► **Table 9: Monthly cost of food needs for a family of 4 (in thousands of Vietnamese dong), by minimum wage zone, with respective adult equivalents, 2018**

	Monthly cost of food basket that yield 2,950 kcal per day	Average number of adult equivalent per household	Monetary value per month
National	1,021	3.34	3,411
Zone 1	1,384	3.37	4,667
Zone 2	1,252	3.38	4,229
Zone 3	1,152	3.37	3,879
Zone 4	949	3.31	3,140

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



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 wellbeing 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 usage (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 adequate housing. And what is more, this figure continues to grow as an estimated 96,000 new dwellings are needed every day.¹⁶ 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 that is 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 using available information on rent. Actual rent paid was used for households that rent their dwelling and an imputed value of the rent was 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 sub-groups to have a better picture of the actual expenditure on housing and how these results compare to average and median housing expenditures.

4.1 Rent

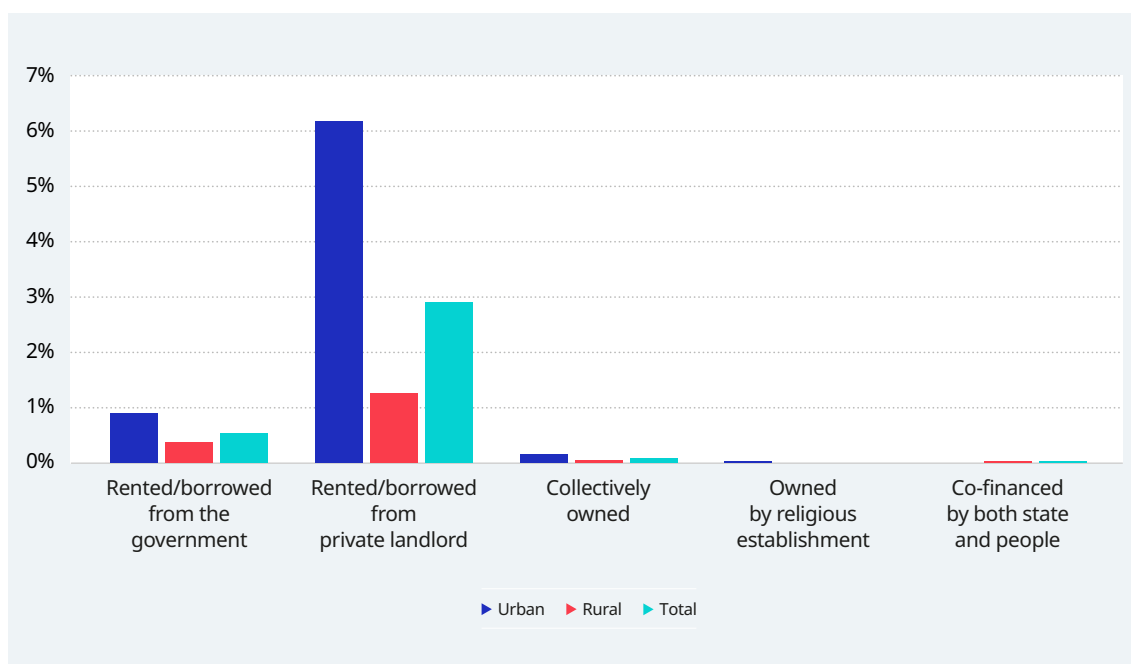
In the case of Viet Nam, the section on housing of the Viet Nam Household Living Standard Survey includes a significant set of indicators on the quality of the dwelling. This section includes information on the type of occupancy of the dwelling; the rent (if any); the number of rooms; the materials of the walls, roof and floors; the type of toilet facilities; and the access to water.

The majority of the Vietnamese population own their dwelling and only a small proportion appear to rent. As shown in figure 2, for instance, this proportion stands at about 3 per cent of

¹⁶ See UN-Habitat website, <https://unhabitat.org/>.

the population, with those residing in urban areas more likely to rent than those in rural areas. As a result, we had to estimate the rent equivalent for homeowners and impute the values in our dataset in order to arrive at an estimation of the cost of renting properties in Viet Nam.

► **Figure 2: Percentage of households renting their dwellings, rural and urban areas, 2018**



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

Since only about 3 per cent of households in the country rent their dwelling and rent is a key variable for this analysis, a method using available information was developed to impute the rent for all the households. The methodology used to impute the rent equivalent for households that own their dwelling was the following: we made use of the *Vietnamese Socioeconomic Survey* housing questionnaire, which asks respondents for an estimation of the value of their dwelling if it were to be sold. Among owner households, the sample of households that rent their dwelling is used to compute a coefficient expressing the value of the received rent as a share of the value of their home if sold (that is value of rent/value of the house). We then calculated the median of these coefficients and applied it to households that are owners of their dwelling.¹⁷ As a result, we are able to retrieve imputed values for the vast majority of surveyed households and next we will share some descriptive statistics.

Table 10 shows that there is considerable heterogeneity in the average cost of estimated monthly rent across the regions of Viet Nam. For instance, average monthly rent is estimated to be more than three times greater in urban areas (TVND4,970) than in rural areas (TVND1,341).

¹⁷ The formula for computing the rent equivalent is = (value of owned-house*median coefficient).

► **Table 10: Average and median values of imputed monthly rent by household and per adult equivalent (in thousands of Vietnamese dong), urban and rural areas, 2018**

	Average monthly rent	Median monthly rent	Average monthly rent per adult equivalent	Median monthly rent per adult equivalent	Number of observations
Urban	4,970	3,000	2,046	1,188	2,825
Rural	1,341	877	541	342	6,566
National	2,576	1,200	1,053	503	9,391

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

To estimate the cost of adequate housing in Viet Nam, an important first step is to assess the quality of each houses in the sample. One way to do this is to devise and implement a scoring system that is based on the quality of housing characteristics. This information is available in the 2018 *Viet Nam Household Living Standards Survey*. We then use the relationship between the quality of housing and the cost of rent to estimate the cost of adequate housing, which is identified using 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 around 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. 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 out the five categories – durability, living space, access to water and access to sanitation facilities.

► **Table 11: Five key dimensions for identifying slums**

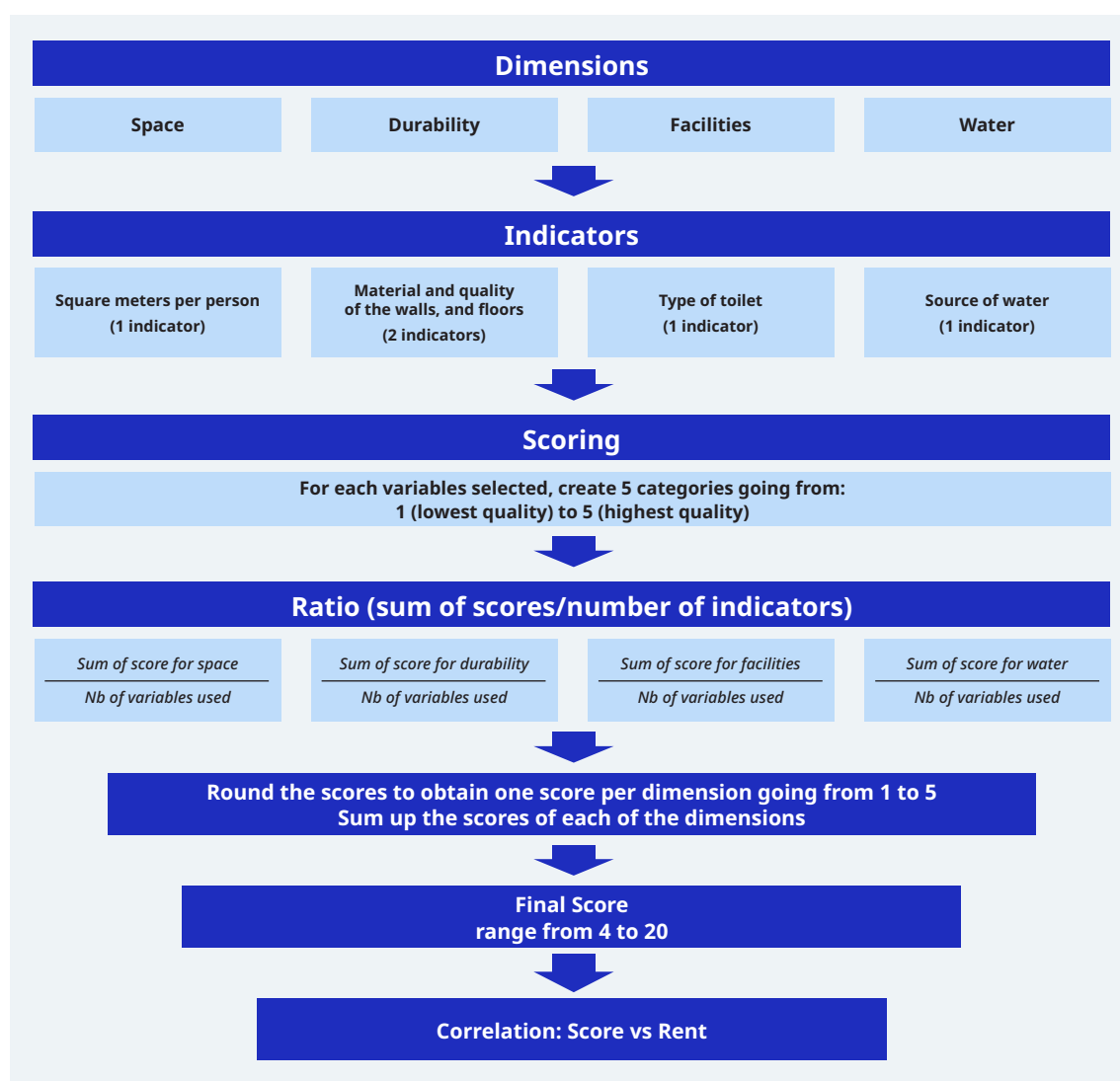
Durability of dwellings	A dwelling is considered durable if it is built on a non-hazardous location and has a structure that is permanent and adequate enough to protect its inhabitants from the extremes of climatic conditions such as rain, heat, cold and humidity.
Sufficient living area	A dwelling is 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).

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: m² per person; materials used for walls and roof; types of toilet facilities; and 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 is summarized in figure 3 and 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 and roof, while estimating m² per person 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 durability), for others there may be only one (for example living space, facilities, water).

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,

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



in the case of Viet Nam, “natural sources” are the lowest-ranked material for both roofs and walls, while “no facilities” are the lowest ranked with respect to “toilet and water source” types. In contrast, “reinforced concrete” is the highest ranked roof and/or walls material and a “flush toilet” 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 (scoring) ^a	Housing dimensions				
	Space	Durability		Facilities	Water access
	m ² per capita	Material of the walls	Material of the roof	Toilet	(Pipes/source)
1	Less than or equal to 6	Natural sources ^b	Natural sources ^c	No toilet	None/any ^d
2	]6 ; 10.1]	Metal/wood	– ^e	Low quality toilets ^f	Unprotected source
3	]10.1 ; 20]	– ^e	Roof slabs	Dug toilets ^g	Protected source/ public access
4	]20 ; 39]	Brick stones	Tiles	Flush toilet/nowhere to flush	Near the dwelling
5	Higher than 39	Reinforcement concrete	Reinforcement concrete	Flush toilet	Inside the dwelling

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

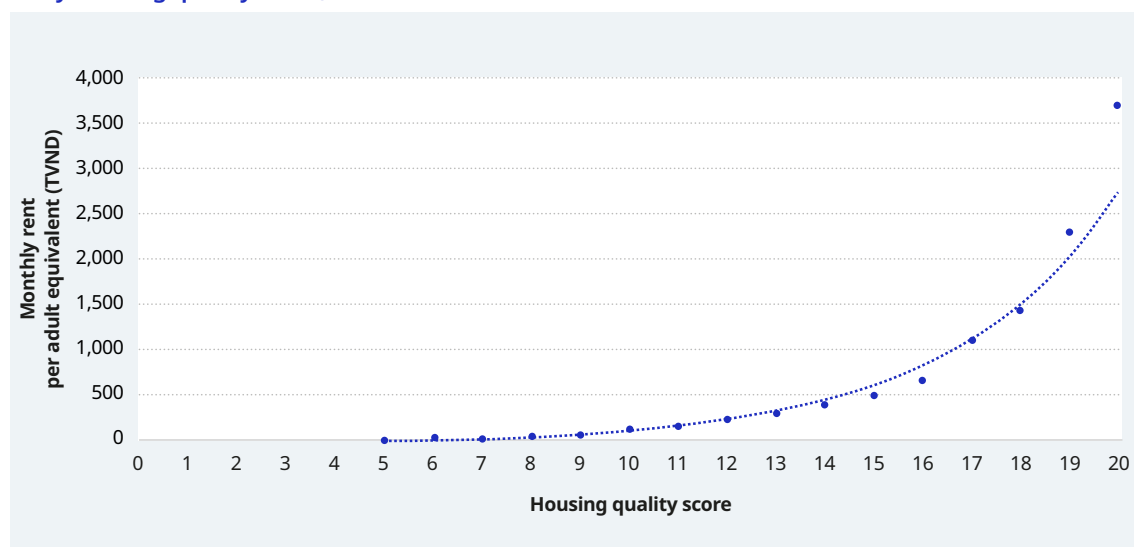
^a Coding system: 1 (lowest quality) to 5 (highest quality). ^b Calcareous soil/straw, Bamboo partitions/hardboards, other. ^c Leaf/straw/rolled roofing, other. ^d Rain water, Bought water (in tank truck), Bought water (in rudimental containers / buckets), Surface water (rivers, streams, lakes, ponds, etc.). ^e In the construction of the scores, the characteristics of the housing dimensions are assigned according to the level of decency. However, some of the characteristics for building materials are not suitable to some of the score levels, thus the allocation is omitted. In the case of walls, the distribution of the construction material is such that for the score of 3 there is no material available that matches. Finally, for the roof, there is no correspondence between the materials available and the score of 2. ^f Dug toilets without toilet seat/outdoor; composting latrines; buckets/chamber-pots/basins; small wooden pier. ^g Improved with a vent; with toilet seat.

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, 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.

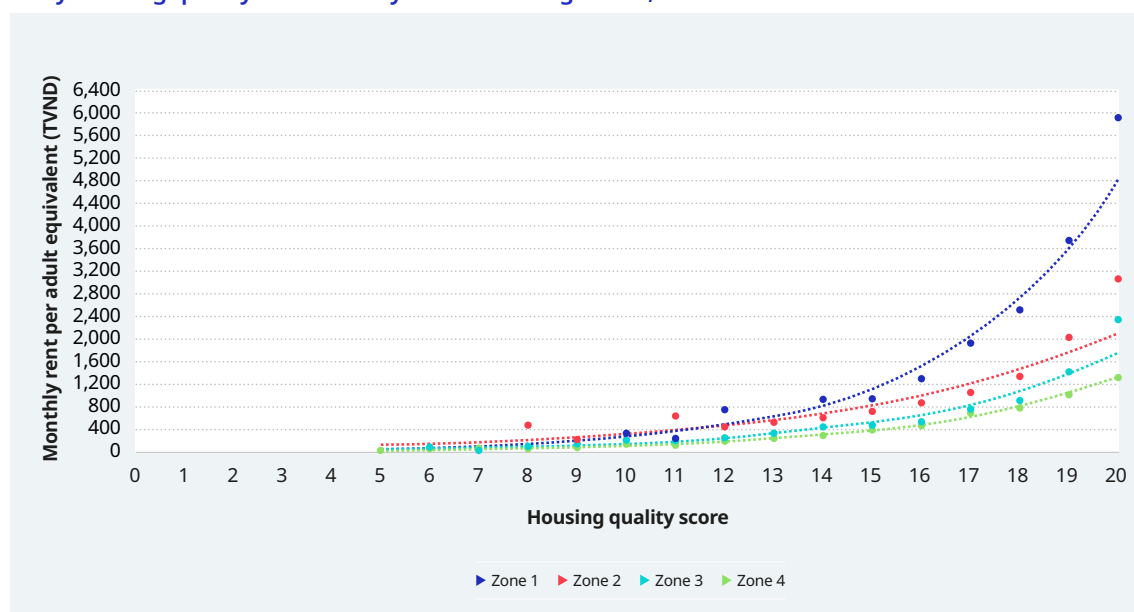
The remainder of this methodology rests on the assumption that dwelling quality is the main determinant of household rent costs and, consequently, both variables should exhibit a strong positive correlation. We can test this assumption by estimating and charting the average cost of rent at each score level. As we can see in figure 4, in Viet Nam rent is positively correlated to the housing quality score of the dwelling, and it follows a nonlinear relationship. Using this relationship, we can estimate the monthly rent per adult equivalent for each level of 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.

► **Figure 4: Monthly rent per adult equivalent (thousands of Vietnamese dong) by housing quality score, 2018**



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

► **Figure 5: Monthly rent per adult equivalent (in thousands of Vietnamese dong) by housing quality score and by minimum wage zone, 2018**



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

In the case of Viet Nam, we considered as the minimum requirements for decent housing to be the scores of 3 for space, access to facilities and access to water and 4 for durability. The scores add up to a total of 13. The following explanation justifies our selection.

- (a) In terms of living space, we follow the Anker and Anker (2017) methodology, which, for the case of Asian and Oceanian countries (excluding Australia, New Zealand and Japan), identifies the minimum living space for a decent dwelling as at least 10.2 m² per person.

Therefore, the score of 3 is identified for the minimum level of space in terms of m² per capita, which corresponds to dwellings with space ranging from 10.1 to 20 square m² per person.

- (b) In terms of the durability of the dwelling, the decent housing level for Viet Nam is identified in terms of the type of material. The material score was based on its durability and country context. The minimum quality of decent housing material for walls was considered to be stone and/or brick, while for roofs it is considered to be tile (score of 4 for both). According to UN-Habitat (2014), these materials were considered sturdy for construction in Viet Nam.
- (c) For sanitation facilities, the minimum quality of decent housing toilet was considered to be a toilet improved with a vent or with a seat (score of 3), which is in line with the threshold defined by UN-Habitat (2006), which requires that a household have access to basic sanitation indoors.
- (d) In terms of access to safe water, the minimum quality of decent housing access is considered to be those households that have access to water from protected sources (score of 3). This is in line with the minimum threshold defined by Anker and Anker (2017) and the Research Center for Employment Relations (2016), for which access to clean safe water must be within or close to the household.

Having identified the total score of 13 as the minimum decent-housing standard for a dwelling, the next step consists in identifying the associated cost of rent for a dwelling at this score level 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 6 shows that a house with a score of 13 would cost about TVND355 per month per adult equivalent in 2018, when analysing the national distribution. Table 13 shows that, at the national level in 2018, the cost of renting a decent dwelling ranges, depending on family size, from TVND355 for 1 person to TVND1,006 for a family of 4.

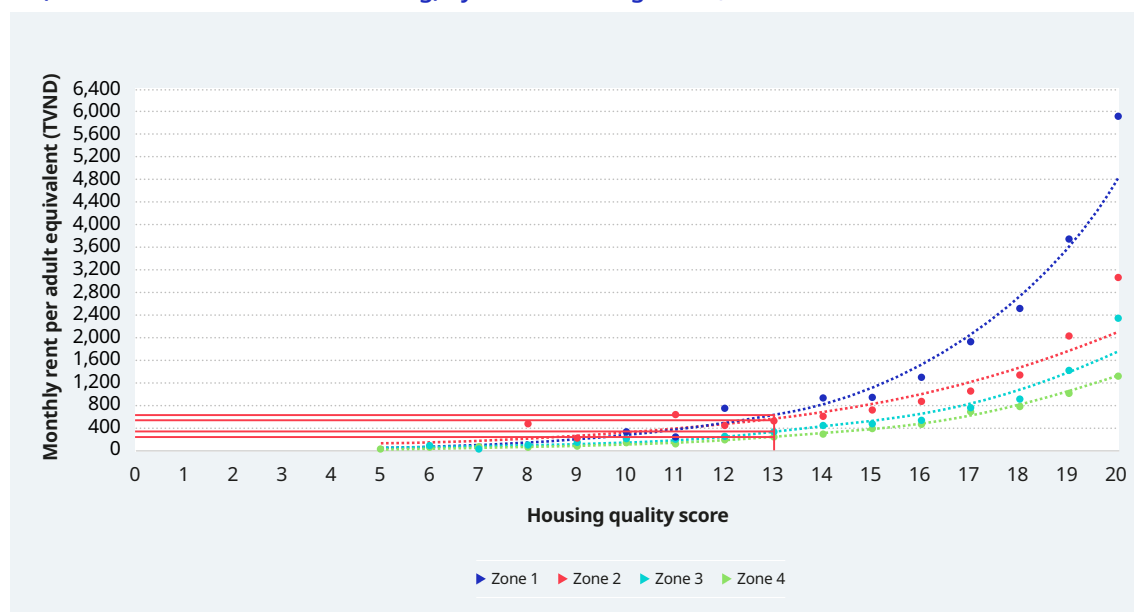
Also, when considering only families of 4, table 14 suggest that the results for each of the minimum wage zones in Viet Nam vary significantly. We can observe that the monthly cost of renting a decent house for a family of 4, excluding the cost of utilities, ranges from about TVND2,274 in zone 1 to TVND926 in zone 4.

► **Figure 6: Monthly rent associated with the decent housing score (in thousands of Vietnamese dong), 2018**



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

► **Figure 7: Monthly rent associated with the decent housing score (in thousands of Vietnamese dong) by minimum wage zone, 2018**



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

► **Table 13: Estimated monthly cost of renting a decent dwelling in Viet Nam by family size (in thousands of Vietnamese dong), national estimates, 2018**

	Decent level score	Monetary value of rent per month
Family of 1	13	355
Family of 2		597
Family of 3		812
Family of 4		1,006

Source: ILO estimates based on *Vietnamese Socioeconomic Survey*, 2018.\$

► **Table 14: Estimated monthly cost of renting a decent dwelling in Viet Nam for a family of 4 (in thousands of Vietnamese dong), national and by minimum wage zone, 2018**

	Decent level score	Monthly cost of rent per adult equivalent	Average number of adult equivalent per household	Monetary value of rent per month
National	13	355	2.83	1,006
Zone 1		646	2.84	2,274
Zone 2		592	2.84	1,968
Zone 3		326	2.85	1,192
Zone 4		258	2.82	926

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

What does a decent dwelling look like? Table 15 summarizes examples of dwelling characteristics for a range of housing quality scores in Viet Nam. Different combinations of housing characteristics correspond to a particular score and monthly cost. Our minimum decent housing score of 13 is highlighted in red, where the monthly rental value for a family of 3 using the OECD adult equivalent values is TVND1,006 in 2018 at the national level.

► **Table 15: Examples of dwellings across a range of housing quality scores, with their respective monthly rents (in thousands of Vietnamese dong), 2018**

Final score	Monthly rent per Adult equivalent	Monthly rent for Family of 4 ^a	Example of house				
			Sqm per capita	Material of the walls	Material of the roof	Toilet	Water Source
5	34	96	]6 ; 10.1]	Natural sources	Natural sources	No toilet	No facilities
10	147	417	]6 ; 10.1]	Wood, metal material	Roof slabs	Dug toilets	Unprotected source
11	198	560	]10.1 ; 20]	Wood, metal material	Roof slabs	Dug toilets	Unprotected source
12	265	751	]10.1 ; 20]	Wood, metal material	Roof slabs	Dug toilets	Protected source/ public access
13	355	1006	]10.1 ; 20]	Bricks/stones	Tiles	Dug toilets	Protected source/ public access
14	476	1349	]20 ; 39]	Bricks/stones	Tiles	Dug toilets	Protected source/ public access
15	638	1809	]20 ; 39]	Bricks/stones	Tiles	Dug toilets	Near the dwelling
19	2064	5849	]20 ; 39]	Reinforced concrete	Reinforced concrete	Flush toilet	Inside the dwelling

Source: ILO estimates based on Vietnamese Socioeconomic Survey, 2018.

^a For a family of 2.83 adults equivalent (average of a family of 4 using the OECD equivalence scale).

4.2 Utilities

Once we have constructed our scoring system for estimating the cost of renting 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.¹⁸ As a second step, we calculate expected household utility costs by computing average utility costs for each housing quality score and retrieve the value that corresponds to the minimum decent-housing score identified above, which is 13 (see figure 8).

After applying this methodology at the national level, we can observe that the cost of utilities ranges from TVND84 for 1 person to TVND239 for a family of 4 (table 16). Turning to the differences between minimum wage zones, table 15 shows that the monthly cost of utilities associated with a decent dwelling in Viet Nam for a family of 4 ranges from about TVND440 per month in zone 1 to TVND198 per month in zone 4.

18 Phone and internet utilization were included in the communications group in other essential goods and services expenditures.

► Figure 8: Monthly utilities expenditure per adult equivalent by housing quality score, 2018



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

Note: Based on a minimum decent housing score of 13, we calculate the mean utilities expenditure per adult equivalent for these households with an exponential approximation.

► Table 16: Estimated monthly cost of utilities for a decent dwelling by family size (in thousands of Vietnamese dong), national estimates, 2018

	Decent-housing score	Monetary value of utilities per month
Family of 1	13	84
Family of 2		142
Family of 3		193
Family of 4		239

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

► Table 17: Estimated costs of utilities for a decent dwelling for a family of 4 (in thousands of Vietnamese dong), national and by minimum wage zone, 2018

	Decent level score	Monthly cost of utilities per adult equivalent	Average number of adult equivalents per household ^a	Monetary value of utilities per month
National	13	84.2	2.83	239
Zone 1		155	2.84	440.4
Zone 2		101	2.84	287.9
Zone 3		92	2.85	263.4
Zone 4		70	2.82	197.7

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

^a Average number of adult equivalents per household is calculated using the OECD equivalence scale.

4.3 Estimation of the total cost of housing

Finally, as shown in table 18, at the national level, the total monthly cost of decent housing, including rent plus utilities, ranges from TVND439 to TVND1,245, depending on the family size considered. In addition, table 19 shows that there are significant variations according to the minimum wage zone. For example, for a family of 4, the total monthly cost of decent housing, including rent plus utilities, ranges from TVND2,274 in zone 1 to TVND926 in zone 4.

► **Table 18: Estimated monthly cost of decent housing by family size (in thousands of Vietnamese dong), national estimates, 2018**

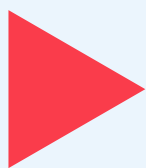
Monthly cost of housing by household, rent + utilities	
Family of 1	439
Family of 2	739
Family of 3	1,005
Family of 4	1,245

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

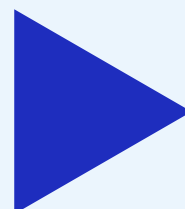
► **Table 19: Estimated monthly cost of decent housing for a family of 4 (in thousands of Vietnamese dong), national and by minimum wage zone**

Zone	Monthly cost of rent	Monthly cost of utilities	Average number of adult equivalent per household	Monthly cost of housing
National	355	84	2.83	1,245
1	646	155	2.84	2,274
2	592	101	2.84	1,968
3	326	92	2.85	1,192
4	258	70	2.82	926

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



5 Other expenditures



► 5. Other expenditures

We have explicitly defined our methodology for estimating the amount of required remuneration 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* and *other essential goods and services* and in this section we estimate their respective costs for a basic living standard.

In contrast to the food and housing expenditure categories and as mentioned in the overview of the methodology, the remaining expenses are computed using a *relative measure*.¹⁹

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 2018 (see table 20). 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 20: Average monthly spending on health and education per capita by quintile (in thousands of Vietnamese dong), national estimates, 2018**

Quintile	Health (per capita)	Education (per capita)
1	54	24
2	102	51
3	129	87
4	182	158
5	410	338
Total	175	132

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

To ensure that the estimated cost of health and education in Viet Nam is for a representative family size and takes into account household size, we multiply the estimated cost of health and education for 1 member of the household by the number of persons in the household. Table 21²⁰ shows that the cost of health and education needs ranges from TVND153 to

¹⁹ See section 2 for a discussion of absolute and relative measures.

²⁰ See section 2 for a description of equivalence scales and their use.

TVND610 per month, depending on family size. Table 22 shows the final results of applying this methodology in each of the minimum wage zones in Viet Nam for a family of 4. 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 21: Monthly estimate of health and education costs by family size (in thousands of Vietnamese dong), national estimates, 2018**

Monthly cost of health and education by household	
Household of 1	153
Household of 2	305
Household of 3	458
Household of 4	610

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

► **Table 22: Monthly estimate of health and education costs per capita and for a family of 4 (in thousands of Vietnamese dong), national and by minimum wage zone, 2018**

	Monthly cost of health and education per capita	Average number of persons in a household	Monthly cost of health and education and for a family of 4
National	153		610
Zone 1	278		1,114
Zone 2	164	4	656
Zone 3	166		663
Zone 4	110		442

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

5.2 Other essential goods and services

As was done for health and education, this section estimates the monthly cost of other essential goods and services such as clothing, shoes, telecommunications, durables and other services and expenses. Table 23 illustrates the distribution of average expenditure by quintile for 2018 in Viet Nam.

► **Table 23: Average monthly expenditure per adult equivalent on other essential goods and services per quintile (in thousands of Vietnamese dong), national estimates, 2018**

Quintile	Monthly expenditure on non-food items per adult equivalent	Monthly expenditure on durables items per adult equivalent	Monthly expenditure on other items per adult equivalent	Monthly expenditure on festive food per adult equivalent	Total monthly expenditure on other essentials per adult equivalent
1	282	32	89	71	474
2	467	85	170	99	821
3	627	154	223	117	1,121
4	813	274	287	145	1,519
5	1,352	1,130	558	205	3,245
Total	708	335	265	128	1,436

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

Note: Other essential goods and services expenditure includes expenditure on non-food items, durables and food and drinks on festive occasions; however, it does not include expenses on lottery, plastic surgery or hiring domestic help.

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 TVND2,372 at the national level in 2018 for a family of 4, as shown in table 24.

► **Table 24: Total cost estimate of other essential goods and services by family size (in thousands of Vietnamese dong), national estimates, 2018**

Monthly cost of other essentials by household	
Household of 1	821
Household of 2	1,381
Household of 3	1,878
Household of 4	2,327

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

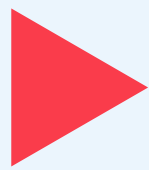
► **Table 25: Total cost estimate of other essential goods and services per adult equivalent and for a family of 4 (in thousands of Vietnamese dong), national and by minimum wage zone, 2018**

	Monthly cost of other essential goods and services –adult equivalent	Average number of adult equivalents per household	Monthly cost of other essential goods and services for a family of 4
National	821	2.83	2,327
Zone 1	1,225	2.84	3,479
Zone 2	941	2.84	2,672
Zone 3	844	2.85	2,403
Zone 4	661	2.82	1,866

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

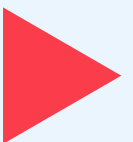
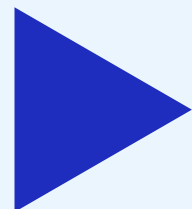


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6

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 calculated above, we can estimate the cost of basic needs per family size at the national level. Table 26 shows that while 1 person needed about TVND2,250 per month in 2018 a family of 4 needed about TVND7,600 per month.

With respect to differences between minimum wage zones, for a family of 4 members, table 27 shows that a family of 4 would need about TVND11,534 per month in zone 1 and about TVND6,374 in zone 4. Table 26 shows that the estimated needs are higher in zones where minimum wage levels are higher. Indeed, the estimated cost of needs is the highest in zone 1 (where the level of the minimum wage is the highest) and the lowest in zone 4 (where the level of the minimum wage is the lowest).

► **Table 26: Estimated cost of total needs by family size (in thousands of Vietnamese dong), national estimates, 2018**

	Food	Housing	Health and education	Other essential goods and services	Total
Household of 1	837	439	153	821	2,250
Household of 2	1,736	739	305	1,381	4,161
Household of 3	2,654	1,005	458	1,878	5,995
Household of 4	3,411	1,245	610	2,327	7,593

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

► **Table 27: Estimated cost of needs for a family of 4 (in thousands of Vietnamese dong), national and by minimum wage zone**

	Food	Housing	Health	Education	Other essentials	Total
National	3,411	1,245	406	204	2,327	7,593
Zone 1	4,667	2,274	590	524	3,479	11,534
Zone 2	4,229	1,968	410	246	2,672	9,525
Zone 3	3,879	1,192	416	247	2,403	8,137
Zone 4	3,140	926	308	134	1,866	6,374

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

In sum, table 28 shows the estimated monthly needs disaggregated by the main expenditure groups analysed above. These needs are presented as the monthly cost for a family of 4, as well as for 1 adult equivalent.

► **Table 28: Monthly cost of each expenditure category for a family of 4 and for 1 member of the household (in thousands of Vietnamese dong), national and by minimum wage zone, 2018**

	Cost of the needs for 1 member of the household					Cost of the needs for a family of 4				
	National	Zone 1	Zone 2	Zone 3	Zone 4	National	Zone 1	Zone 2	Zone 3	Zone 4
Total	2,434	3,688	3,050	2,580	2,048	7,592	1,1534	9,525	8,137	6,374
Food	1,021	1,384	1,252	1,152	949	3,411	4,667	4,229	3,879	3,140
Housing	439	801	693	418	328	1,245	2,274	1,968	1,192	926
Rent	355	646	592	326	258	1,006	1,834	1,680	928	728
Utilities	84	155	101	92	70	239	440	288	263	198
Other Expenditures	974	1,503	1,105	1,010	771	2,936	4,593	3,328	3,066	2,308
Health	102	147	102	104	77	406	590	410	416	308
Education	51	131	62	62	33	204	524	246	247	134
Other essentials	821	1,225	941	844	661	2,326	3,479	2,672	2,403	1,866
<i>No food</i>	467	819	593	487	374	1,322	2,326	1,682	1,387	1,057
<i>Durables</i>	85	83	64	89	57	242	237	182	255	160
<i>Other</i>	170	185	177	173	137	480	524	501	491	388
<i>Food festivities</i>	99	138	108	95	93	282	392	307	270	261

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

Note: For reference, estimated needs for 1 member of the household are converted into those for the whole family using the AEEI scale for food and the OECD scale for housing and other essential goods and services (see Appendix II, table 25). 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 with respect to 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 of working adults that is always between 1 and 2 working adults, which is a desirable result as argued by Anker and Anker (2017). 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 references 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 show the extreme values of 1 working adult and 2 working adults in order to provide the full range of needs-based wage levels relevant information to minimum wage-setting.

Accordingly, table 29 explores three scenarios for the number of working adults in 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 the workers and their families would range from TVND6,374 to TVND11,534, depending on the minimum wage zone 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 range from TVND4,249 in zone 4 to TVND7,689 in zone 1. 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 ranges from TVND3,187 to TVND5,767.

► **Table 29: Estimated wage to cover the basic needs of a family of 4, national and by minimum wage zone (in thousands of Vietnamese dong), 2018**

Zones	Monthly cost of basic needs for a family of 4	Number of minimum wage-earners in the family	Monthly wage needed to cover the needs of workers and their families
National	7,592		7,593
Zone 1	11,534	1	11,534
Zone 2	9,525		9,525
Zone 3	8,137		8,137
Zone 4	6,374		6,374
National	7,592		5,061
Zone 1	11,534	1.5	7,689
Zone 2	9,525		6,350
Zone 3	8,137		5,425
Zone 4	6,374		4,249
National	7,592		3,796
Zone 1	11,534	2	5,767
Zone 2	9,525		4,762
Zone 3	8,137		4,069
Zone 4	6,374		3,187

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



7

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

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

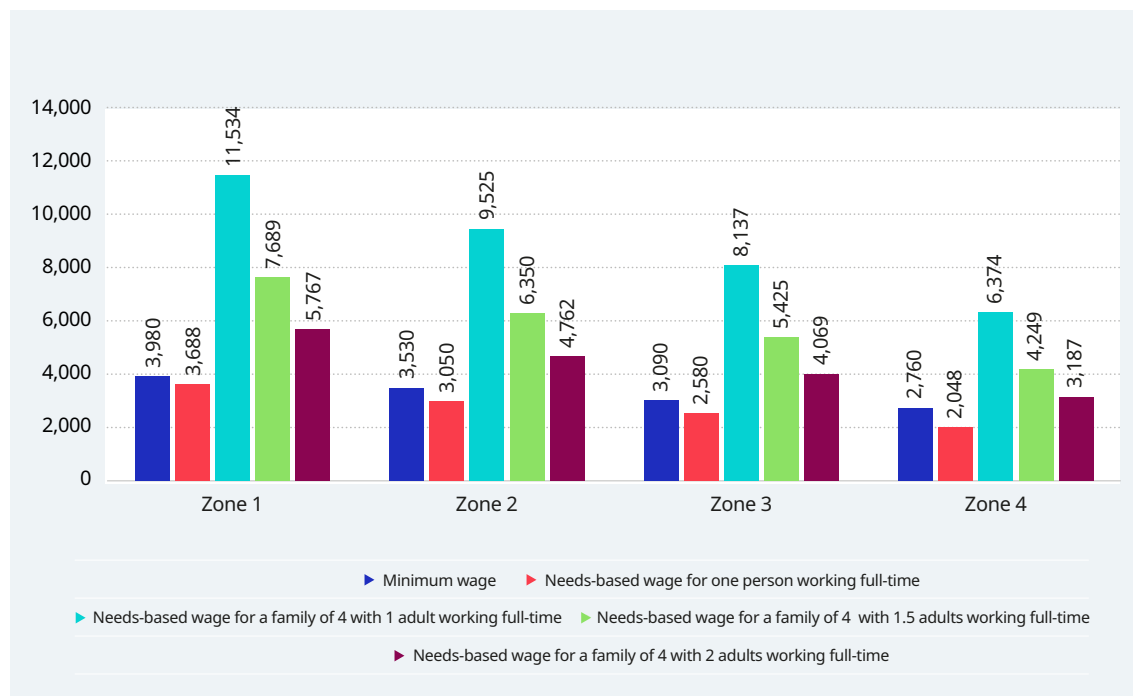
This paper has provided estimates of the needs of workers and their families in Viet Nam that can be compared with the level of minimum wage rates in each minimum wage zone in the country. Before doing so, it is important to remember that these results contribute only to one part of the criteria that 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 of a wide set of economic factors. This is particularly relevant given the current context of the global economic crisis that emerged due to the COVID-19 pandemic.

In this section we first provide a comparison of the minimum wage levels with four measures of a needs-based wage: (a) the needs-based wage for 1 adult working full-time; (b) the needs-based wage for a family of 4 under the scenario of 1 working adult; (c) the needs-based wage for a family of 4 under the scenario of 1.5 working adults; and (d) the needs-based wage for a family of 4 under the scenario of 2 working adults. In a second step, minimum wage levels in the four zones are compared to the needs-based wage for various household sizes, ranging from 1 to 4 members and on the assumption that households composed of 1 member include 1 working adult and households composed of more than 1 member include 1.5 working adults. In Viet Nam, the minimum wage is set according to four geographical zones. Therefore, we take the minimum wage level for each geographical zone and compare it to the estimated needs-based wage of the corresponding zone.

Figure 9 shows the first comparison. While minimum wage rates may be sufficient to cover the needs of 1 adult working full-time, they may be insufficient to cover the estimated needs of workers and their families, assuming a family size of 4 members, even if 2 adults are working. This analysis also highlights the importance of the underlying assumptions to be considered when defining the family size, as well as the number of working adults expected to support the family. The gap between the levels of the existing minimum wage and those of the estimated needs-based wage for a family of 4 with 2 working adults ranges from 45 per cent in zone 1 to 15 per cent in zone 4. Also, the difference between the level of the existing minimum wage and the estimated needs-based wage for a family of 4 with 1.5 working adults ranges from 93 per cent in zone 1 to 54 per cent in zone 4.

In addition, a further comparison between the existing minimum wage levels and the estimated needs-based wage levels for various household size, which is given in figure 10, shows that in the four minimum wage zones of Viet Nam in 2018, the minimum wage levels seem to be sufficient to cover the needs of 1 adult working full-time or a couple composed of 2 adults with 1 working full-time and 1 working half-time. However, in all four zones, existing minimum wages may be insufficient to cover the estimated needs of families of 3 or 4.

► **Figure 9: Needs-based wage estimates for a family of 4 versus level of minimum wage (thousands of Vietnamese dong), by minimum wage zones and by various working adult scenarios, 2018**



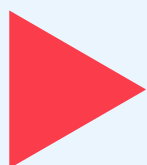
Source: ILO estimates based on *Vietnamese Socioeconomic Survey 2018*.

► **Figure 10: Needs-based wage estimates for various family sizes, assuming 1.5 working adults per family, versus level of minimum wage (thousands of Vietnamese dong), by minimum wage zones, 2018**

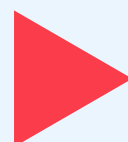
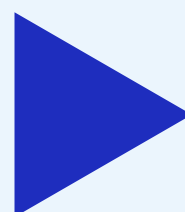


Source: ILO estimates based on *Vietnamese Socioeconomic Survey 2018*.

Even though these results suggest that the current minimum wage levels in Viet Nam may be insufficient to cover the needs of large families with a limited number of working adults, it is important to balance these results with a thorough analysis of economic factors before drawing any conclusions on minimum wage levels. This is particularly relevant in the context of the COVID-19 crisis. Therefore, 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. 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 Viet Nam

Food Item	kcal per 100 g
Plain rice (including fragrant and specialty rice)	344.5
Sticky rice	347
Maize (in seed equivalent)	354
Cassava (in fresh-type equivalent)	146
Potato of various kinds (in fresh-type equivalent)	106
Wheat grains, bread, wheat powder	313.7
Flour noodle, instant rice noodle/porridge	349
Fresh rice noodle, dried rice noodle	143
Vermicelli	110
Pork (in equivalent of the pork type with removed fat)	260.16
Beef	142.5
Buffalo meat	122
Chicken meat	199
Duck and other poultry meat	275
Other types of meat (goats, dogs, sheep, wild animals, birds,...)	^a
Processed meat (boiled pork pies, fried pork pies, roasted pork, sausages,...)	^a
Lard, cooking oil	863.5
Fresh shrimp, fish	83
Dried and processed shrimps, fish	361
Other aquatic products and seafood (crabs, snails,...)	^a
Eggs of chickens, ducks, Muscovy ducks, geese	103.74
Tofu	95
Peanuts, sesame	570.5
Beans of various kinds	73
Fresh peas of various kinds	596
Morning glory vegetables	25
Kohlrabi	36
Cabbage	29
Tomato	20
Other vegetables (gourd, winter melon, cucumber, cabbage, squash...)	^a
Orange	37

Food Item	kcal per 100 g
Banana	81.5
Mango	69
Other fruits (rambutan, melon, papaya, guava, litchi, grapes,...)	^a
Fish sauce	60
Salt	0
MSG	0
Glutamate	0
Sugar, molasses	390
Confectionery	412.2
Condensed milk, milk powder	395.7
Fresh milk	61
Bottled, canned, boxed beverages (pure water, carbonated drinks, juice, fruit smoothies, pep drinks,...)	47
Instant coffee	0
Coffee powder	0
Instant tea powder	0
Other dried tea	0
Betel leaves, areca nuts, lime, betel pieces	0
Outdoors meals and drinks? (breakfast, lunch, dinner)	^b
Other food and drinks (other processed food and foodstuff, additives, seasonings, ...)	^b

Source: Viet Nam, National Institute of Nutrition, *Vietnamese Food Composition Table*, 2007.

^a Here we use the average price of calories of similar goods consumed by the same household to estimate the calories intake. For example: we use the average price of calories from pork, beef, buffalo, chicken and duck to estimate the calories consumed through "other meat". Where no similar food items have been consumed in the household, we take the average of the population. For example: if a household has consumed only other meat, we take the average price of calories of pork, beef, buffalo, chicken and duck from all the household in the sample. ^b In order to estimate the calories coming from food away from home (FAFH), we compute the total amount spend on food divided by the total calories consumed. The price of those calories is then used to transform expenses in FAFH into calories.

► Appendix II: Supplementary tables

► Table 30: Threshold of decent housing based on UN-Habitat definition for slums

Space	Overcrowding can be expressed in terms of the square meters available per capita or by the number of people per dwelling, per room or bedroom. UN-HABITAT defines overcrowding for those households with more than three 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 the like; and non-permanent (temporary) materials that are replaced frequently, for example grass, bamboo, leaves, mud, and the like.
Facilities – sanitation	A household has access to the basic sanitation approach focuses on securing sustainable access to safe, hygienic and convenient facilities for human excreta disposal. In urban areas, this is characterized by direct connection to 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 at sufficient quantity that is available without excessive effort and time. The proportion of households with access to improved water supply with Household connection, Public standpipe shared by a maximum of two households, Borehole well, Protected spring and Rainwater collection.

Source: UN-Habitat (2006).

► Table 31: Equivalence to 1 average adult man by household size (OECD and AEEI)

Household size	1	2	3	4	5	6	7	8	9	10	11	12	15
Average adult equivalent of calories (AEEI)	0.82	1.70	2.60	3.34	4.01	4.71	5.46	6.13	6.96	7.85	8.20	9.13	10.65
Average adult equivalent of expenses (OECD)	1.00	1.68	2.29	2.83	3.45	4.07	4.69	5.28	5.87	6.58	7.17	7.55	9.40

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