

Poverty line, poverty measurement, monitoring and assessment of MGD in Vietnam

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1. Introduction

By almost any measure, Vietnam has made substantial progress in reducing poverty since the *Doi Moi* policy reforms were introduced in the late 1980s. Poverty rate, measured by international standard, is almost reduced a half during 1993-2002 (from 58% to 29%). However, there are different poverty numbers in Vietnam that come from different government agencies in the past recent years that make a lot of difficulties for the users. There are two main poverty sources in Vietnam. Ministry of Social, Labor and Invalid Affairs (MOLISA) with the role is to implement the poverty alleviation programmes, based on the limited government sources, set up the low poverty line and has its own poverty rate that was announced every year. General Statistical Office (GSO), based on the Vietnam Living Standard Survey and applied the methodology to define the poverty line of the World Bank for developing countries, calculates the poverty line and poverty rate for Vietnam. These numbers are considered the official poverty numbers in Vietnam and they could compare with the numbers of other regional countries.

This paper presents the methodology to calculate the poverty line of GSO applied for VHLSS in Vietnam in recent years, the poverty measurements, and monitoring and assessment of MDG in the coming years.

2. Poverty lines in Vietnam

The first poverty lines in Vietnam based on “international” methods were calculated by the General Statistical Office, with assistance from the World Bank, using the 1992-93 Vietnam Living Standards Survey (VLSS). In fact, there were two poverty lines: the food poverty line is the (annual) amount of money required to purchase a “typical” basket of food items in Vietnam that provides 2100 calories, and the general poverty line is a higher threshold that allows for the purchase of that basket of food items and the purchase of a “minimal” amount of nonfood items. The calculation of these two poverty lines is done in three steps: a) Construction of a basket of food items that provides 2100 calories per day for one year; b) Calculation of the cost of this basket of food items, which is the food poverty line; and c) Calculation of the general poverty line, which adds to the food poverty line additional funds for the purchase of nonfood goods.

2.1. The food basket

The starting point for the poverty line based on the 1992-93 VLSS survey is the assumption that the average Vietnamese person requires 2100 calories per day to be adequately nourished. In fact, the calories required vary by age, sex and physical activity, but an average over different groups in the Vietnamese population leads to a figure of approximately 2100. With this assumption, the question to address is: What basket of food items follows typical Vietnamese food consumption patterns and provides 2100 calories per day? To answer this question, the households in the 1992-93 VLSS were divided into five groups of equal size (“quintiles”) according their per capita consumption expenditures. The first quintile contains the 20% of the population with the lowest per capita expenditures, the second quintile contains the next poorest 20% of the population, and so forth.

For each of these quintiles, the food consumption information from the 1992-93 VLSS was used to calculate the average (for the population in the quintile) daily intake of calories. This was done in two steps. For most food items, quantities consumed were in the 1992-93 VLSS and so the calculation of calories from these items is straightforward. Yet for a few items, such as meals eaten away from home, “other seafood”, and non-alcoholic beverages, no quantity information was collected. To estimate the calories obtained from these items, it was assumed that ratio of calories per Dong spent for these items is equal to the same ratio calculated for the items for which quantity information was collected. The calories from the food items with quantity information were then adjusted upwards by adding calories from the food items without quantity information, for each quintile as shown in Table 1.

Table 1: Calories by Expenditure Quintile, 1992-93 Vietnam Living Standards Survey

| <i>Quintile</i> | <i>Calories</i> | <i>Adjusted Calories</i> |
|-----------------|-----------------|--------------------------|
| 1 (poorest) | 1568 | 1598 |
| 2 | 1829 | 1891 |
| 3 | 1969 | 2052 |
| 4 | 2065 | 2237 |
| 5 (wealthiest) | 2041 | 2565 |

The first column of numbers in Table 1 shows average calorie consumption per person for each quintile using only food items for which quantity data are available, and the second column adds calories from consumption of other food items, as explained above. The increasing gap between the two columns for better off quintiles primarily

reflects the fact that better off households are more likely to consume meals away from home. The main finding of Table 1 for the purposes of finding a food basket that provides 2100 calories per day and also reflects Vietnamese consumption patterns is that the third quintile is the one whose calorie consumption (after adjustment) is closest to 2100 calories per day. Thus the food basket was based on the food consumption patterns of households in the third quintile.

Table 2 shows the (annual) per capita food consumption of the population in quintile 3 of the 1992-93 VLSS, for those food items for which quantity information was collected. More precisely, the first column of numbers shows the actual average physical quantities consumed per person. As seen in Table 1, these quantities of food items provide 1969 calories per person per day, for one year. To obtain a basket of food items with the same consumption patterns yielding 2100 calories, all these quantities were multiplied by 1.0665 ($=2100/1969$). These “adjusted” quantities are shown in the second column of Table 2. This is the food basket that was used to calculate the food poverty line for the 1992-93 VLSS survey.

Table 2: A Vietnamese Basket of Food Items that Yields 2100 Calories per Day, Based on 1992-93 VLSS Data (expressed in terms of kilograms per year)

| Food Item | Actual Quantities Consumed | Adjusted Quantities |
|---------------------|----------------------------|---------------------|
| Ordinary rice | 159.0 | 169.6 |
| Sticky rice | 5.5 | 5.9 |
| Corn/maize | 2.0 | 2.1 |
| Cassava | 8.8 | 9.4 |
| Sweet potato | 10.7 | 11.4 |
| Bread/wheat flour | 0.7 | 0.8 |
| Wheat/egg noodle | 0.6 | 0.7 |
| Fresh rice noodle | 2.3 | 2.5 |
| Arrow root noodle | 0.8 | 0.8 |
| Pork meat | 4.9 | 5.2 |
| Beef/buf. meat | 0.1 | 0.1 |
| Chicken | 2.1 | 2.3 |
| Duck/poultry | 0.7 | 0.7 |
| Other meat | 0.2 | 0.2 |
| Processed meat | 0.04 | 0.0 |
| Lard/cooking oil | 1.4 | 1.5 |
| Fresh fish/shrimp | 10.3 | 11.0 |
| Dried fish/shrimp | 0.7 | 0.7 |
| Chicken/duck egg | 0.4 | 0.4 |
| Tofu | 2.9 | 3.1 |
| Peanut/sesame | 0.9 | 0.9 |
| Bean | 0.9 | 1.0 |
| Water morning glory | 14.1 | 15.0 |
| Kohlrabi | 5.6 | 6.0 |
| Cabbage | 5.6 | 5.9 |
| Tomato | 3.2 | 3.4 |
| Other vegetables | 14.2 | 15.2 |
| Orange | 0.5 | 0.5 |
| Banana | 6.2 | 6.6 |
| Mango | 0.5 | 0.6 |
| Other Fruit | 5.9 | 6.3 |
| Fish/dipping sauce | 5.6 | 6.0 |
| Salt | 5.4 | 5.7 |
| Msg | 0.7 | 0.8 |
| Sugar/molasses | 2.4 | 2.5 |
| Cake/candy | 0.4 | 0.4 |
| Milk product | 0.04 | 0.0 |
| Alcohol/beer | 3.8 | 4.1 |
| Coffee | 0.1 | 0.1 |
| Tea | 2.4 | 2.5 |

2.2. The Food Poverty Line. Given the food basket shown in the last column of Table 2, the food poverty line is defined as the (annual) cost of this basket of food items. Thus to calculate the food poverty line one needs prices for all of the food items shown in Table 2. The 1992-93 VLSS administered a price questionnaire in rural areas, and this

price information was supplemented with data on urban areas from Vietnam's General Statistical Office.

This price data included almost all of the food items in Table 2, the only exceptions being bread, rice noodles, other meats, processed meat, cooking oil, dried fish, other vegetables, other fruit, cakes and candies, coffee and tea. Most of these items were either consumed in small quantities or were hard to define ("other" categories), but "unit prices" were calculated for two of them, cooking oil and tea. (A unit price was also calculated for kohlrabi because price data were not collected for that item in the 1997-98 VLSS, and unit prices for kohlrabi were calculated for both surveys to make comparisons across the two surveys as similar as possible.) Unit prices for these three items are median prices calculated by dividing total expenditures by the quantities consumed; this was done only for households whose adjusted daily calories per person were between 2000 and 2200, so as to reflect the quality of food items purchased by households that are just barely attaining the minimum recommended amount of calories. The remaining items without price data accounted for 6.9% of the expenditures on these food items by households in quintile 3; so the food poverty line was constructed by calculating the cost of the (adjusted) food basket in Table 2 for those items with price data (including the three items with unit prices) and then multiplying this figure by 1.069.

The last issue to address regarding the food poverty line is how it applies to different regions and to households interviewed in different months of the 1992-93 VLSS survey. A national average food poverty line was defined in terms of January 1993 prices by adjusting all rice prices by a (national average) monthly rice price deflator and all other (i.e. non-rice) food prices by a "non-rice food" price deflator, based on the dates when the price data were collected, and then taking the median price for each food item across all communes covered in the 1992-93 VLSS. This yields a national food poverty line of 749,723 Dong (US\$ 68) per person per year in January 1993 prices. Note that expenditure data from households in the survey should be compared to this number only after their expenditures have been "converted" to national average prices for January 1992-93 using regional and monthly price deflators.

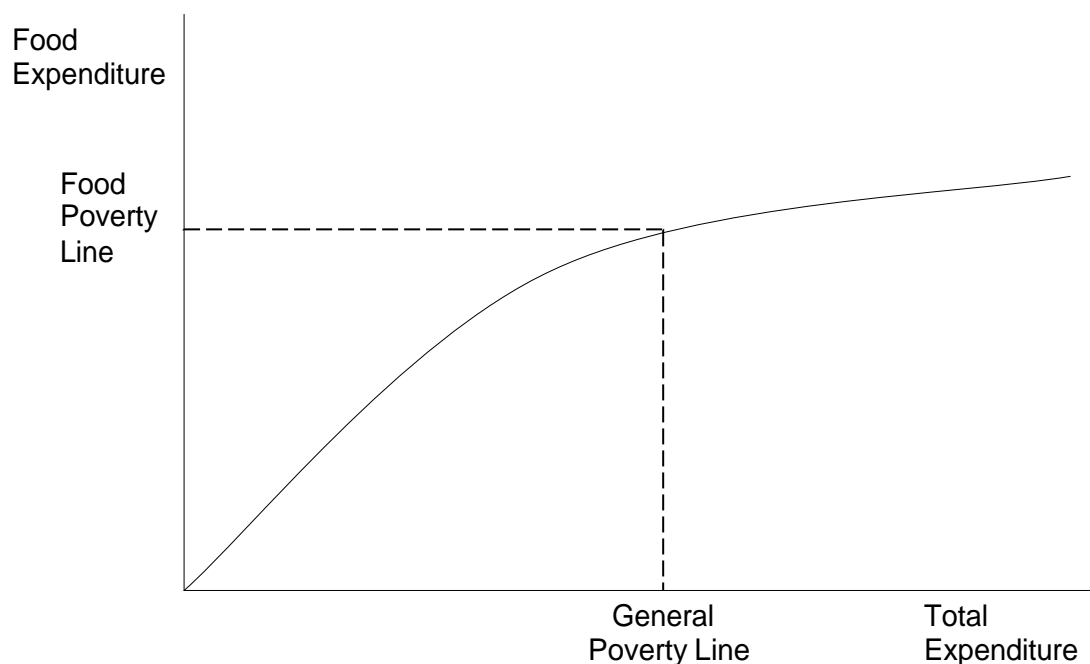
In order to compare the poverty rate overtime, food poverty lines calculated for other years such as for 1998 and 2002, are the cost of above food basket at January 1998 and 2002 prices. The food poverty line for 1998 is 1287 thousand Vietnam Dong (US\$92) per person per year at January 1998 price and for 2002 is 1381 thousand Vietnam Dong (US\$ 92) per person per year at January 2002 price.

2.3. The General (Food + Nonfood) Poverty Line. The food poverty line described above provides the (annual) amount of money that a person would need to

purchase a basket of food items that conforms to Vietnamese food consumption patterns and provides 2100 calories per day. But this leaves no money for nonfood needs. While almost everyone would agree that there are also important nonfood needs, such as clothing and some kind of shelter, it is not clear how to set minimum standards for nonfood needs because, unlike food needs, there is no biological/nutritional basis for nonfood needs. The approach taken in calculating poverty line for the 1992-93 VLSS was to observe the nonfood expenditures of households whose food expenditures were close to the food poverty line. Assuming that households balance their food and nonfood needs, households that are just at the point of meeting their food needs are also assumed to be just at the point of meeting their nonfood needs, so nonfood needs can be defined as the nonfood expenditures of households whose food expenditures is equal to the food poverty line.

This approach can be displayed in a simple graph showing the relationship between food expenditures and total (food + nonfood) expenditures. This is shown in Figure 1.

Figure 1: Relationship Between Food and Total (Food+Nonfood) Expenditures



The horizontal axis shows total expenditures and the vertical axis shows food expenditures. At low levels of total expenditures, much of households' expenditures is on food, but as incomes increase the fraction of household expenditures devoted to food declines, as seen by the line becoming flatter at higher levels of total expenditures. The intuition behind the general poverty line is to estimate the relationship in this

diagram, so that total (food + nonfood) expenditure can be observed for households whose food expenditures are at the food poverty line.

More precisely, the nonfood needs were obtained by examining the nonfood expenditures per capita for households in the third quintile. The mean value was 401,291 Dong per year at January 1993 price (including imputed rental values of durable goods and housing). Since households in quintile 3 were consuming slightly less than 2100 (adjusted) calories per person per year, this figure was inflated by (2100/2052) to give a nonfood component of 410,640 Dong (US\$37) per person per year. Adding this to the food poverty line gives a general poverty line of 1,160,363 Dong (US \$105) per person per year at January 1993 price.

The non- food cost calculated for 1998 and 2002 are simply defined by multiplying the non- food cost of poverty line in 1993 with the non- food price deflator from January 1993 to January 1998 and January 2002. The general poverty lines for these years are to add the food poverty lines with these non- food cost. The general poverty line for 1998 is 1788 thousand Vietnam Dong (US\$ 128) per person per year and for 2002 is 1915 thousand Vietnam Dong (US\$127) per person per year.

3. Select well being indicator

The consumption expenditure per capita is used as the well being indicator to define the poor people in Vietnam. Person who has expenditure per year less than food poverty line is considered as food poor and less than general poverty line (food + non food) is considered as the general poor. The reasons to select the consumption expenditure as the well being indicator instead of income are:

- Income does not increase household welfare until it is spent. If a household saves some of its money or uses it to repay a loan, its current welfare is not affected by that use of income.
- Many households smooth out their expenditure over time. The incomes of farming households go up and down a lot each year as weather and prices change, but their expenditures may be much more stable.
- Income data is difficult to collect. A good measure of income requires a very long and detailed household survey questionnaire.
- Households find it very difficult to answer income questions, especially on self-employment income. Some households may not want to answer questions about income.
- Income data are difficult to analyze. For example, income from non-farm business enterprises could be negative

4. Poverty measurement

There are two popular poverty indexes that are used in Vietnam for calculating poverty statistics. They are poverty head count and poverty gap indexes.

The head count index is simply the proportion of the population living below the poverty line and poverty gap index is defined as the aggregate short fall in expenditures of the poor as a proportion of the poverty line, normalized by population size.

Vietnam has obtained amazing poverty reduction progress. Poverty rate reduced a half during the less than 10 years. In addition, the living standard of poor people also improved considerably during this period that is shown by the sharp reduction in the poverty gap index. The main reason is that Vietnam has gained the high economic growth for a long period and all of the society groups are benefited from this growth.

Table 3. Poverty rate in Vietnam

| | <i>Food poverty rate</i> (%) | <i>General poverty rate</i> (%) |
|-------------|---------------------------------|------------------------------------|
| 1993 | 25 | 58 |
| 1998 | 15 | 37 |
| 2002 | 11 | 29 |

However, the poverty reduction was slow down, partly due to the slow down of economic growth but mainly due to the increase in inequality of living standard among the population groups.

Table 4. Poverty gap in Vietnam

| | (%) |
|-------------|------|
| 1993 | 18.5 |
| 1998 | 9.5 |
| 2002 | 6.9 |

5. Monitoring and Assessment of MGD

Government of Vietnam has the strong commitment to obtain the MGD goals with the support of the donors and international organizations. In order to monitor and evaluate these goals, government approved the mid-term plan 2000 -2010 for the Vietnam Household Living Standard Survey (VHLSS) that is implemented every- two years. This survey covers about 50,000 households and collects all aspects of living

standard. In addition, the quality of this survey is considered as the best one in Vietnam so it is a good information source for government agencies to monitor and evaluate the progress and constraints to obtain the MGD goals. The first VHLSS survey is implemented in 2002 with the core module and the second survey is implementing in 2004 by adding two more specialized modules about non- farm and agricultural sections. This survey is the main information source to calculate the poverty rate and other social indicators for MDG in Vietnam in coming years. With the big sample size, the data could give the estimation for some key indicators at provincial level. These information are considered very useful in developing the program, monitoring and evaluation of MGD at all levels. In addition, GSO is developing the national survey program and will submit to government for approval in next two years. This program is developing based on the set of national statistical indicator system that will be approved by Prime Minister next month. In this system, it contains many indicators shown in the MDG document. These indicators will be collected and published annually so that they could help the policy makers and researchers to monitor and evaluate the projects, programs during the all stages of implementation.