

Definition of Monetary Poverty in Viet Nam

When using the indirect approach, the analyst must define the minimum income necessary to support a minimum standard of living. Generally, analysts calculate at least two different poverty lines. The lower of the two is called the *extreme poverty line* or the *food poverty line* (the latter term is more common in Viet Nam). Households earning less than this amount cannot purchase enough food to avoid malnutrition, let alone other necessary expenses. The overall poverty line is somewhat higher. It takes into account other household expenses necessary for an acceptable standard of living.

The poverty line in Viet Nam was calculated on the basis of a minimum requirement of 2,100 calories per person per day for an adequate diet (World Bank 1999). This represents a household average as the actual requirements differ according to age, gender, and biological factors. The average caloric consumption was based on food expenditure data in the 1992–1993 VLSS. The third expenditure quintile consumed, on average, the minimum diet and their consumption patterns were used as the basis for calculating the poverty basket.¹ The cost of purchasing this basket was then established on the basis of January 1993 prices. This was the food poverty line.

An additional factor was added for nonfood items, based on the expenditures of the third expenditure quintile. This included the value received from owner-occupied housing (an imputed value) plus the cost of other goods and services, ranging from public services and social services to clothing and entertainment. The overall inflation rate was used to calculate the poverty lines in 1997–1998, given the increase in prices from January 1993 to January 1998 (22.5 percent).

For Viet Nam, the food poverty line was about .75 million dong in 1993 and 1.29 million dong in 1998. The overall poverty line was set at 1.16 million dong in 1993 and 1.79 million dong in 1998. Even the overall poverty line is quite low, at \$128 per person per year in 1998.

It is clear that the poverty line in Viet Nam leaves little margin for error or comfort. A household that falls below the extreme poverty line will not have enough resources to purchase food, not to mention other necessities of life such as housing, clothes, education, and health services. The poverty line is also extremely tight and allows little margin for luxuries or even for emergencies or unexpected expenses. In practice, even a household that is classified as extremely poor does not devote all of its resources to food.

¹ There were several small adjustments because the average consumption was slightly below the 2,100 calories level.

Research Methodology

This study is primarily empirical; it was done in parallel with a qualitative study entitled “Participatory Poverty Assessment – Health and Education in Viet Nam.” The overall aim of the project is to understand how *doi moi* has affected the human capital of the poor and their human capital-seeking behavior. It seeks to understand not only the changes that have taken place but also the factors behind these changes. This report is intended for an informed audience of policymakers, Vietnamese as well as foreign.

Viet Nam has rich data for measuring poverty and human capital at the household, regional, and national levels. To give a full picture of the status of the poor in Viet Nam, the study relies on a number of different data sources that complement each other quite well at the various levels of analysis.

In addition, a great deal of domestic and international research has been done on the effects of *doi moi* on the economy and the social sector. This study draws heavily on that literature and includes a comprehensive bibliography. It also incorporates some of the current thinking in the literature on human capital and development.

The study draws as well on administrative data, largely from the General Statistical Office and from line ministries in the social sector. These include data from the Population and Housing Census, various statistical yearbooks, and other statistical publications.

A number of international organizations have likewise made important contributions to the analysis and understanding of the changes in the social sector in Viet Nam. The document draws heavily on many documents prepared by bilateral and multilateral organizations, using these as sources of data and, more importantly, as guides in making hypotheses and analyzing the study results.

As the goal of the project is to understand the changes in recent years among different groups in the population, the study required detailed micro-level data in addition to macro-level data from statistical yearbooks. Viet Nam is fortunate to have a series of detailed and comprehensive surveys, the Viet Nam Living Standards Survey (VLSS). This survey is explained in greater detail below.

Much of the analysis consists of contrasting the results of the two VLSSs to understand the changes in the health and education status of the poor and changes in human capital-seeking behavior.

Finally, it is recognized that no research can ever truly be completed and the sign of a good study is the generation of further questions and studies.

The Viet Nam Living Standards Survey

Central to the analysis are the two Living Standards Surveys (VLSSs) conducted in 1992–1993 and 1997–1998. These were comprehensive surveys of household living standards

conducted within the framework of the World Bank's Living Standards Measurement Studies (LSMSs).

The two VLSSs were conducted by the General Statistical Office (GSO) and were representative of the entire country and of both the urban and rural sectors. SIDA of Sweden and the United Nations Development Programme provided financing for the survey; the World Bank provided technical assistance. For the analysis of the 1997–1998 VLSS, DFID of the United Kingdom also provided technical assistance.

The 1992–1993 survey covered 4,800 households in 240 rural hamlets and 60 urban blocks located in 150 communes throughout the country. The households were selected using a two stage self-weighting random sample, in principle giving every household in the country an equal probability of being selected. The total sample size was 23,839 individuals (General Statistical Office 1994).

The 1997–1998 survey was a follow-up to the original survey. The intention was to form a panel that included both the 1992–1993 VLSS and 1995 Multi-Purpose Household Survey (MPHS) respondents. Of the original 4,704 respondents in the 1992–1993 VLSS, 4,305 were contacted for the 1997–1998 survey; in order to change the weighting of the survey, 96 of the households in the original survey were not contacted. An additional 399 households were selected to replace 1992–1993 VLSS households that were unavailable, and 1,290 households from the MPHS were included. A final 8 households from the 1992–1993 VLSS were added at the end, for a grand total of 6,002 households. The effective recontact rate from 1992–1993 VLSS households was 91.5 percent—quite high considering that the two surveys were separated by five years.¹

The change in sample size and the attrition from the original sample made it necessary to develop a new sample-weighting scheme (Bales n.d.). Having a panel made up mostly of households from the earlier survey allowed a greater understanding of the dynamics of households in Viet Nam, which is usually missing from most surveys in the developing world.

Both of the VLSSs had household and community components. Although the 1997–1998 survey had more questions than the original survey, the organization was similar. The household component included questions on household composition, dwelling characteristics, education, health, participation in the labor force, fertility, agriculture and fishery, household enterprises, income, credit, and household expenditures.

The community survey similarly provided a wealth of information on the characteristics of the community, with detailed information on the operation of social services (particularly health and education providers), along with more general information about services available in the community, the community's physical and economic infrastructure, and a complete set of prices. Community surveys are not part of living standards surveys; this is unfortunate given the important information they provide about the cost of services that households face.

¹ Frankenberg, Thomas, and Beegle (1999) report that the Indonesia Family Life Survey has a 94 percent recontact rate after five years and they state: "This recontact places the IFLS in the same as the best longitudinal surveys in the world, in spite of the fact that the hiatus between waves is longer than in most panel studies and the communication infrastructure is significantly less developed in Indonesia." The same could be said for Viet Nam: the VLSS clearly has a very high recontact rate.

Overall Picture of Human Capital of the Poor

The human capital of the poor has been highlighted throughout this report. Table A3.1 gives a summary picture of the human capital for the poor, using basic education and health indicators, behaviors in seeking education and health services, investment in human capital, service quality, etc., among the poorest 20 percent households in comparison with the wealthiest 20 percent households.

Table A3.1: Basic Human Capital Indicators of the Poorest and Wealthiest Groups

Item	1992–1993		1997–1998	
	Poorest	Wealthiest	Poorest	Wealthiest
Education				
Outcomes				
<i>Literacy rate of population above 18 years (%)</i>	78.1	93.3	75.2	94.1
<i>Number of education years, adults 25–65 years</i>	5.1	7.5	5.5	9.0
<i>Net enrollment rate, primary level (%)</i>	72.0	91.0	85.0	96.0
<i>Gross enrollment rate, children 11–14 years (%)</i>	24.3	83.7	47.3	107.3
<i>Gross enrollment rate, children 15–17 years (%)</i>	2.0	35.3	9.5	75.4
Inputs				
<i>Rate of children with required textbooks (%)</i>	84.0	97.0	70.0	97.0
<i>Students in nonpublic primary schools in 1997–1998 (%)</i>			0.2	2.2
<i>Students in nonpublic lower secondary schools in 1997–1998 (%)</i>			0.8	5.5
<i>Students in nonpublic upper secondary schools in 1997–1998 (%)</i>			4.0	25.4
<i>Number of working hours per week, children 11–14 years</i>	13.5	4.2	10.0	1.1
<i>Number of working hours per week, children 15–17 years</i>	27.5	14.5	24.5	5.1
Health and Nutrition				
Outcomes				
<i>Infant mortality rate (per thousand)</i>	39.4	34.4	33.6	24.5
<i>Average number of sick days in the last 4 weeks, children 6–11 years</i>	0.9	0.6	0.9	0.5
<i>Average number of sick days in the last 4 weeks, children 12–17 years</i>	0.8	0.6	0.6	0.0
<i>Average number of sick days in the last 4 weeks, adults 18 years and above</i>	1.8	1.6	1.7	1.1
<i>Malnourished children 1–5 years, using arm circumference (%)</i>	32.7	15.9	23.4	8.5
<i>Seriously malnourished children 1–5 years, using arm circumference (%)</i>	6.4	1.3	3.8	0.8
<i>Rate of stunted children (%)</i>	35.9	27.5	37.9	21.1
<i>Rate of severely stunted children (%)</i>	36.6	12.5	22.6	3.1
Inputs				
<i>Do nothing when ill (%)</i>	14.5	3.3	26.7	12.5
<i>Women attended by doctors at birth (%)</i>	5.9	45.7	6.9	53.3
<i>Children with at least one kind of vaccine immunization (%)</i>	62.1	81.0	88.0	97.9
<i>Children sufficiently immunized (%)</i>	48.6	69.0	60.7	68.2
<i>CHCs with a shortage of medicines (%)</i>	37.7	24.6	60.6	38.6
<i>CHCs classified as unhygienic (%)</i>	34.3	40.1	13.3	15.6
<i>Average cost of a hospital visit as a percentage of total nonfood expenditure</i>	73.0	7.0	44.4	4.7
<i>Average cost of a CHC visit as a percentage of total nonfood expenditure</i>	21.2	2.1	4.7	0.5

Sources: VLSS 1992–1993 and 1997–1998

Geographic, Demographic, and Economic Context

Viet Nam has a total land area of about 331,000 square kilometers, stretching from China and the Tropic of Cancer to the north to the Mekong Delta, just below the 10th parallel. The country has three major geo-climatic zones: north, central, and south. These zones have traditionally had similarities in cultures and traditions.

Politically, Viet Nam has 61 provinces and major cities. These are further divided into 609 districts (consisting of 20 provincial level cities, 33 urban districts, 60 towns, and 496 rural districts). The districts, in turn, are divided into communes in the rural sector and wards in the urban sector.

Preliminary figures from the 1999 Population Census show that Viet Nam has a total population of 76.3 million, about 51.8 percent of which is female. Of the total population, about 20 percent is urban.

Viet Nam is very much a multi-ethnic country. Including the majority Kinh population, 54 separate ethnic groups have been identified by local researchers. For the most part, the minority groups tend to live in highland and mountainous areas, especially in the central highland and northern highland regions. The 1989 Population Census showed that ethnic minority groups compose about 12 percent of the total population (Research Triangle Institute 2000).

Fertility trends clearly show a reduction in the number of births. The 1997 Demographic and Health Survey (DHS) showed a decline in the total fertility rate from 4.0 percent in 1987 to 2.7 percent in the 1992–1996 period (National Committee for Population and Family Planning 1999). According to the 1999 Population Census, this trend has continued.

The economy of Viet Nam is in the midst of major transformation from a largely rural-based subsistence economy to a diversified export-driven economy. In the past decade, the State has gradually withdrawn from many sectors of the economy as the free market has replaced central planning. This transformation has been at the core of the *doi moi* process. State-owned enterprises still play a major role in the industrial sector and there is still significant room for future liberalization in the economy.

Economically, Viet Nam began its independence as one of the poorer countries and most rural economies in Asia. In 1954, about 6 percent of the population lived in urban areas. Much of the modern economy was established to serve the French colonial structure (Bryant 1998). Population density in rural areas was high and agricultural yields were quite low. In the north, leaders embarked on an ambitious and largely successful effort to modernize and expand the economy. Both the north and the south received substantial amounts of aid, which helped the country accumulate needed capital.

Before the start of *doi moi*, Viet Nam's economy was stagnant and large segments of the population were periodically at risk of starvation, as the nation's production of food could not meet the population's needs. Inflation levels rose steadily in the 1980s and were above 100 percent for several years.

Before 1986, the economy was centrally planned and the State directly or indirectly controlled all land and natural resources and most productive activities. Prices were largely set by the State and did not reflect competition or the scarcity of the products. There were few incentives for managers to worry about the quality of their production or profits; resources and labor were assigned to the productive unit and production quotas were the managers' main targets (Rondinelli and Litvack 1999). In practice, there was a role for the market in production and firms were often allowed to sell additional output freely (Wurfel 1993). The transition to central planning was less complete in the south than in north and the free market played an important role in the retail of goods.

It became increasingly clear that centralized planning could not meet the needs of the people of Viet Nam. There were severe shortages of food in the 1970s and 1980s and the level of inflation rose rapidly. The annual inflation rate was well over 100 percent from 1983 to 1988.

In the 1970s, there were a number of "bottom-up" reforms in both the urban and rural sectors (Rondinelli and Litvack 1999). Farmers increased their free-market production on garden plots and were granted the right to freely dispose of output above their quotas. Many state-owned businesses bought inputs and sought outputs freely in an informal "gray market." The "individual sector" in the north accounted for about 6 percent of total employment in 1975 (Bryant 1998).

In the 1980s, the Government began decentralizing within the context of a state-owned economy. Both farmers and industries were given greater independence in production. The Government acted to increase local trade by eliminating internal tariff and nontariff barriers. These measures did lead to a significant increase in economic growth in the early 1980s.

Doi moi was formally introduced in 1986 to strengthen existing reforms and fully introduce market forces. Initially private-sector actors were allowed to hire up to 10 employees and to raise their capital. Of particular importance to the rural sector, where the vast majority of the poor live, was the Land Law of 1988. The Land Law and related decisions (particularly Decision 10) gave farmers virtual ownership of their land and allowed them to sell their output freely. Foreign investment was liberalized substantially in 1987, allowing broad foreign participation in the economy.

These early policies were followed by a broad economic stabilization program from 1988 to 1992, involving the restriction of credit and money supply growth along with the elimination of inefficient state-owned enterprises. The Government of Viet Nam continued to liberalize the agricultural sector, increased the role of private enterprise in the economy, and introduced major labor reforms. These measures led to a sustained period of substantial economic growth.

In the 1990s the price level was relatively stable with inflation under 10 percent. The Vietnamese dong has also maintained its value against the US dollar.

Economic growth was quite strong during much of the decade of the 1990s, with GDP averaging 8 percent to 9 percent annually from 1992 to 1997. In 1998 and 1999, with the onset of the Asian economic crisis, economic growth fell to 4.4 percent and inflation picked up substantially. A large part of this decline in growth can be attributed to reduced foreign investment from other Asian economies. As Viet Nam embarks on a new series of economic reforms and diversifies its trading partners, there should be greater opportunity to increase the growth rate again.

The slowdown in the economy has largely been an urban phenomenon; the growth in the agriculture sector has remained constant. Since most of the poor in Viet Nam live in the rural sector, it is possible that the economic slowdown has not worsened poverty as much as it has in other countries.

School Enrollment Rates

Measuring the school enrollment rate is complicated by the fact that children advance through school at different speeds. Some children finish the 12 grades of general education in 12 years, while others repeat grades or drop out temporarily and thus take a year or two longer to finish. In addition, children often enter school at different ages for various reasons.

To deal with these complications, there are different standard measurements for the enrollment rate at the population level. Evaluating a combination of these rates gives a more complete picture of the advances made by the education system in enrollment. The definitions followed those used by the General Statistical Office (2000a) for the VLSS.

The gross enrollment rate (GER) measures the total number of students in a certain grade level divided by the number of students who are expected to attend that grade level, given their age. The formula is:

$$GER = \frac{\text{Total number of students attending grade } X}{\text{Total number of students expected to attend grade } X, \text{ given their age}}$$

GERs above 100 are quite common as more children repeat a given grade or simply enter school a year or two behind schedule. The GER measures the overall absorption of children into the school system.

The net enrollment rate (NER), on the other hand, focuses on the children who are in the expected grade level. It is calculated by using the following formula:

$$NER = \frac{\text{Number of people from grade } X \text{ age group attending grade } X \text{ of school}}{\text{Total number of students expected to attend grade } X, \text{ given their age}}$$

The NER is always equal to or below 100. It is considered a measure of the efficiency of the education system and its ability to keep students in the system and at the expected grade level.

The age-specific enrollment rate (AER) measures the number of students in a given age group who are attending school (at any grade) divided by the total number of children who are expected to attend a certain grade. The formula used to calculate AER is:

$$AER = \frac{\text{Number of people from grade } X \text{ age group attending grade school}}{\text{Total number of students expected to attend grade } X, \text{ given their age}}$$

In Viet Nam, the primary-school age group (grades 1 to 5) is from 6 to 10 years, the lower-secondary-school age group (grades 6 to 9) is from 11 to 14 years, and the upper-secondary-school age group (grades 10 to 12) is from 15 to 17 years. University education is for a minimum of four years, although some fields require more dedication.

The Calculation of Anthropometric Scores

Nutrition is generally normalized, using the measurement of a healthy population as the base for comparison. The reference population is normally that of the United States. Although there may be genetic differences between populations, these should not be a major concern if we are comparing within a population, for example, between rich and poor Vietnamese. The database from the National Center for Health Statistics (2000) has the mean and standard deviation for children by age (in months) and gender.

The results here are presented in *Z*-scores, which express the variable in terms of standard deviations from the mean value of the healthy population.¹ For example, a *Z*-score of -1 for height-for-age indicates that the individual has a height that is 1 standard deviation below the average for a healthy population. As a rule of thumb, a value of less than 2 standard deviations from the mean (-2) indicates serious malnutrition. A value of less than 3 standard deviations from the mean (-3) suggests a critical situation. However, there is some controversy about the ability to adapt when deprived of food and nutrition (Dasgupta 1993).

In this report, we calculate the *Z*-score using the Box-Cox transformation, with the following formula:

$$Z = \frac{(X/M)^L - 1}{L * S}$$

where X is the value for the individual (for example, weight or height), M is the value of the mean for the healthy population, L is a transformation factor calculated from the raw data, and S is the standard deviation for the healthy population.

Another variable that is often used to calculate the nutrition status of adults is the body mass index (BMI). This is calculated using the following formula:

$$BMI = \frac{W}{(H)^2}$$

where W is the weight in kilograms and H is the height in meters. A low value (below 18.5) suggests that the person is underweight for his or her height. A value below 15 suggests wasting. A high value (above 24.5) is a sign of being overweight. The minimum BMI for survival is probably around 12.

¹ The common alternative is to express the values as a percentage of the median value for a healthy population.

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