

Background and Conceptual Framework

Improving human capital is closely related to reducing poverty. Poverty is defined as deprivation of most basic assets, including education and health. However, the use of education and health services is not random, and households often make difficult decisions influenced by the perceived returns from such investments, on the one hand, and the availability and pricing of services, and income and access to credit, on the other. A vicious circle of poverty can ensue—the poor remain poor because of low human capital; at the same time, they cannot afford or are not willing to invest in human capital because of their poverty. Public policy can help the poor escape from this poverty trap.

What is Human Capital?

The term *human capital* in this paper refers to health and education levels of individuals. These characteristics are identified as “capital” in order to underline the need for continuous investment and to emphasize the importance of these factors in generating future income and well-being (like any other valuable asset), particularly for the poor.¹

Cost associated with investments in human capital takes many forms. Even services that are offered for free, as the result of government subsidy, may have a substantial time cost associated with them. Schooling, for example, requires children to work substantially less in household businesses and farms. For poor families, this may be an important cost. Likewise, a visit to a health provider may require the sacrifice of a working day, given travel and waiting time.

Defining Poverty

This report uses the terms *poverty* and *the poor* often. The precise definition of poverty and the criteria for distinguishing the poor from the nonpoor vary greatly from study to study, depending on the methodology and the availability of data. We start from ADB’s definition of poverty (ADB 1999):

Poverty is a state of deprivation of essential assets and opportunities to which every human is entitled. Everyone should have access to basic education and primary health services. Poor households have the right to sustain themselves by their labor and be reasonably rewarded, as well as having some protection from external shocks.

Cost associated with investments in human capital takes many forms. Even services that are offered for free, as the result of government subsidy, may have a substantial opportunity cost associated with them

¹ Bardhan and Udry (1999) discuss human capital and its relationship to income and poverty.

There are two complementary approaches to measuring poverty. Quantitatively, poverty can be measured *directly* by evaluating if the household in question has certain characteristics that are defined as basic, such as clean water, adequate food, access to health care, and access to education. Poverty can also be measured *indirectly*, by examining if the household has enough resources (generally financial) to purchase the necessary goods and services.² The definition of basic goods and services varies greatly from country to country, depending on the social norms and the level of development.

It is necessary to define a poverty line—a minimum set of values below which an individual or household is considered poor. An indirect (or monetary) poverty line is simply a predetermined quantity of income or expenditure. In the case of a direct poverty line, on the other hand, the analyst must determine whether or not the individual or the household has the desired combination of necessary attributes and services. Even a well-designed poverty line is somewhat arbitrary; many poverty specialists suggest combining poverty lines for consistency in poverty measurement (Deaton 1997). A badly designed methodology is likely to yield very different estimates of who is poor and by how much, as minor changes occur in the poverty line.

MOLISA has developed a definition of poverty that sets the minimum income necessary to purchase food and other essentials. The MOLISA poverty line is expressed in kilograms of rice per person per month. Although this poverty line can easily be applied to households, it was designed to allow provinces to classify their communes. The use of rice as the consumption basket greatly simplifies the task of identifying the poor and applying a local monetary equivalent to the poverty line.

Box 2.1: Poverty Lines in Viet Nam

The National Program for Poverty Reduction and MOLISA have established guidelines for calculating poverty at the commune level. A commune is considered poor if more than 40 percent of its households are poor and if it lacks one of the six basic infrastructure works. A household is considered poor if it has an average monthly income per capita of 15 to 25 kg of rice, depending on the region (15 kg for upland, 20 kg for midland, and 25 kg for low-lying areas). The food poverty line, until recently, was around 450,000 dong per year. On 1 November 2000, MOLISA pegged the poverty line to monthly income per capita—80,000 dong for rural upland, 100,000 dong for rural lowland, and 150,000 dong for urban areas.

The General Statistical Office and the World Bank defined the food poverty line by determining the cost of a 2,100 Kcal basket per capita per day. A household is considered food-poor if it spends less than 1.286 million dong per capita per year on the average. Nonfood expenditure was calculated and added to food expenditure to establish an overall poverty line. A household is considered poor if it spends less than 1.789 million dong per capita per year on the average.

There are several other techniques for classifying communities as poor, including one developed by the International Food Policy Research Institute (Minot 1999) and another used by the Committee for Ethnic Minorities and Mountainous Areas.

² Ray (1998) provides a concise introduction to the measurement and analysis of poverty. Lipton and Ravallion (1995) offer a complete discussion of the history of poverty measurement and various common strategies for measuring poverty. Dasgupta (1993) gives an excellent explanation of the relationship between nutrition and poverty.

It is clear from discussions with people in the rural areas that poverty has both monetary and nonmonetary aspects. The lack of food for three to six months in a year is a common measure of poverty in rural Viet Nam; this is associated with not having enough land (in terms of extent and quality) and farm animals (CECI 2001; Narayan 2000). Poverty is also associated with the lack of material goods: clothing, furniture, housing, and food. Human capital plays an important role as well: children who receive schooling beyond the primary level are seen to come from well-off families. Poor health is likewise viewed as a characteristic of the poor. So who are the Vietnamese poor, and where are they? In general, the poor in Viet Nam are located in rural and remote areas, among ethnic minority groups. Therefore, policies aimed at reducing poverty in Viet Nam in general and improving human capital in particular must address the specific needs of these groups.

Box 2.2: How the Poor Define Themselves

Recent Participatory Poverty Analyses carried out by the World Bank in 23 countries (including Viet Nam) attempted to identify common themes in the definition and understanding of poverty through consultation with poor people. The study identified five main aspects of poverty, from the viewpoint of the poor:

- Poverty is a complex, multidimensional phenomenon. The factors leading to poverty differ widely across economies and social groups, as do the factors used to measure poverty.
- Poverty is generally thought of as a lack of the goods necessary for material well-being: food in particular but also land and housing. Thus, the lack of money (or the means to purchase material well-being) is an important measure of poverty.
- There are important psychological factors related to poverty—in particular, a feeling of powerlessness. The poor often feel humiliated by their treatment by both public and private agents. This is especially the case when they are seeking temporary or permanent assistance.
- The absence of basic infrastructure contributes to poverty and is often cited as a major variable associated with poverty. This basic infrastructure can range from water supply, which is important in the home and in agriculture, to roads, which provide access to labor and product markets. Bad or nonexistent roads make traveling to school so much more arduous and discourage children from attending.
- The poor focus more on the lack of assets than on the lack of income. This lack of capital includes physical capital (farms, businesses, and housing), human capital (education and health), social capital (community relations), and the environment.

Source: Narayan (2000)

For quantitative analysis, the present study generally uses the monetary poverty lines calculated by the GSO and the World Bank (World Bank 1999) and other monetary indicators to identify the poor,³ as explained in more detail in Appendix 1. Although this method captures only one aspect of poverty, it allows a relatively straightforward comparison of the poor and the nonpoor in terms of increases in human capital. It is also an objective measure of poverty that allows comparison among different groups.⁴ The population that falls below the poverty line is referred to as the *poor*. The population above the line is the *nonpoor*; given the low incomes in Viet Nam in general and the imprecise poverty line, the term *rich* does not seem appropriate.

³ The World Bank developed the 1992–1993 definition of food poverty independently of the General Statistical Office.

⁴ Different groups have very different views of what poverty is and whether they consider themselves poor. However, to be able to define public policy and direct resources to the poor, it is necessary to have fixed and objective criteria for defining poverty and separating the poor from the nonpoor.

In addition to the direct benefits associated with investment in human capital, numerous studies have shown that investments in people's health and education allow the poor to escape from poverty. Healthy and well-educated people can generate more income from their labor and are better able to enjoy the benefits of that income

It must be pointed out that most discussions distinguish between poverty and the related concept of *inequality*. In general, poverty focuses on the idea of absolute deprivation or the inability to maintain a certain predetermined level of welfare or income. Inequality, on the other hand, measures differences in income and welfare among individuals and households. These two indicators can move in opposite directions. Evidence from the past five years shows a growing gap in income between the richest and the poorest in Viet Nam at the same time that the overall level of poverty is being reduced (Glewe, Grangolati, and Zaman n.d.).

Conceptual Model

Maintaining and improving the level of health and education of the population is key to sustained development. In addition to the direct benefits associated with investment in human capital, numerous studies have shown that investments in people's health and education allow the poor to escape from poverty. Healthy and well-educated people can generate more income from their labor and are better able to enjoy the benefits of that income. Much of these benefits are shared with other members of the household.

Doi moi, rapid economic growth, and land reform have brought much opportunity to the people of Viet Nam. Education and health *empower* people to take advantage of opportunities. An educated person can earn more income and also react more quickly to new opportunities. A healthy person is able to work and study harder and better. In addition, healthy and educated people are more capable of resisting and responding to unexpected shocks. Human capital makes poor households less *vulnerable*.

Central to development microeconomics⁵ is the household model. The household is considered the central decision maker in the accumulation of human capital. It operates in an environment that is largely beyond its control: the government and the market set prices and different households have different initial levels of wealth and assets, human capital (particularly of adults), knowledge, contacts, and support networks. Institutions and social norms are major determinants of behavior and vary greatly from society to society.

But even with these factors, people are hardly passive and different households respond differently to the same incentives. Households (and the people that compose them) desire to do the best that they can, given many constraints. While households might not always be rational in the strict sense of the word, they certainly do act in their own best interest.⁶

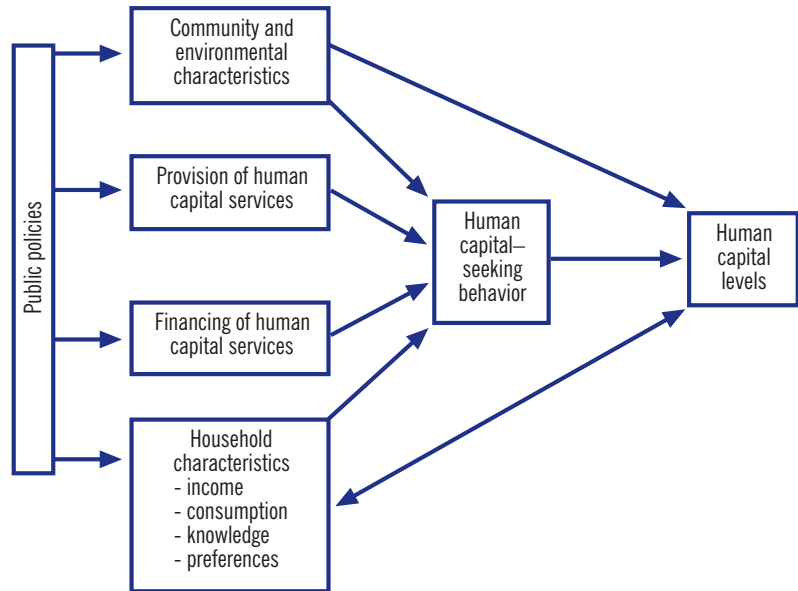
Although the model emphasizes the ability of people to make decisions that affect their lives, this model does not blame the poor for being poor. The state of poverty is the result

⁵ One of the best-known applications of this model in the determination of human capital is the "quality-quantity tradeoff" for children developed by Becker (1991), following on his earlier work. Strauss and Thomas (1995) provide an excellent review of the economic literature on the accumulation of human capital. Bardhan and Udry (1999) discuss the recent theoretical literature.

⁶ This does not mean that people are not altruistic toward other people outside their household. Individuals may be interested in the welfare of others for a variety of reasons ranging from generosity and sociality to an implicit contract for households to support one another.

of the interaction of many different actions on the part of the household, the government, and other institutions. It is important to take into account the role of outside factors such as typhoons, floods, or epidemics. In the particular case of Viet Nam, the level of development is still relatively low and the opportunity to escape from poverty is limited for a large proportion of people. Figure 2.1 outlines the conceptual model graphically.

Figure 2.1: Conceptual Framework for Human Capital and Poverty



Central to the household model is the idea that health and education are both produced goods. The final output is human capital, which refers to the level of health and education of the population. That is, health and education are not directly purchased in the market or provided by the government or some other service provider.

This is clearly the case with health, which results from interaction among the health service provider (curative and preventive care), the environment (including efficient garbage disposal, clean air, and the absence of crowding in the community and the individual dwelling), and individual behavior (such as smoking and diet).⁷

Education is similar. Although schools provide a significant part of knowledge, cognitive ability is also developed through innate ability, outside experience, and nonformal learning from parents and the community.

Human capital-seeking behavior has a critical effect on the level of human capital. *Health-seeking behavior* refers to what people do individually and collectively to maintain and/or return to health. Similarly, *knowledge-seeking behavior* refers to what people do individually and collectively to maintain and/or improve their knowledge. (Scrimshaw and Hurtado 1987)

⁷ Behrman and Deolalikar (1988) describe households' health-care needs and decisions in greater detail.

The provision of human capital services (by both the Government and the private sector) is a critical factor in human capital-seeking behavior. A community's access to transportation has a clear effect on the ability of people to access modern health care and higher levels of education

The emphasis in both cases is on the actions that individuals and households take to maintain and increase their level of human capital. These include demanding and using social services, acting to ensure a healthy environment, helping children with their homework, and many other actions.

Many factors influence the human capital-seeking behavior of individuals and households. As with a consumption decision, both the price of the good (such as schooling, a visit to the doctor, or bottled water) and income are important considerations.

Community and environmental characteristics affect the demand for social services. Community activities such as public relations campaigns can be an important source of information about education and health behavior. Likewise, people learn by observing the actions of others, and are impelled to act in this fashion.

In addition to affecting human capital-seeking behavior, the community and the environment can also affect the actual level of human capital, particularly health. Although a household may counteract some of the negative effects of environmental contamination (for example, by boiling water to make it potable), in many cases it has little capacity to address this problem short of migrating to another community. A strong community helps reduce the vulnerability of poor households by pooling risk and providing mutual support networks.

The provision of human capital services (by both the government and the private sector) is a critical factor in human capital-seeking behavior. At the most basic level, the presence or absence of a service provider determines whether people will use a social service or not. A community's access to transportation, for example, has a clear effect on the ability of people to access modern health care and higher levels of education. The most remote communities are likely to lack even the most basic services because professionals avoid working in these communities and the local population simply has no means to visit social services elsewhere.

People are also concerned about the quality of social services that they receive. The *technical quality* reflects how well the service provider does at providing a service (Is the education relevant? Are patients being cured? etc.). However, clients are also interested in how they are treated; they want to be able to trust the providers (*interpersonal quality*). Finally, people are concerned about the *amenity quality* of a service, which refers to the physical structure of the building where the service is provided and its internal facilities.

A major achievement of *doi moi* was bringing the private sector into the provision of social services. For many users, private provision has become particularly important, especially for primary curative health care and the sale of drugs. Private provision exists to meet part of the demands of clients and it tends to be located in areas where the population is wealthier. Pure reliance on the private sector (without Government intervention or subsidies) will lead to the location of major social services in places that are physically inaccessible to the poor.

At the same time, public-sector service providers are not randomly placed. The Government can place services in such a way as to benefit the poor, for example, by locating

primary services in low-income villages, or it can locate such services in high-income areas. Thus, the Government can either try to improve existing inequalities or reinforce them. The problem here is that it is necessary to develop concrete indicators to assess the equity of the system of public service provision. It is worth pointing out that in the case of Viet Nam, the State has committed itself to improving the placement and targeting of resources to benefit the poor and reduce inequalities.

The financing of human capital services also determines the demand for these services. Social services are never free and how they are paid for greatly affects the demand. In general, the financing of services can be public or private or a mix of the two.

Perhaps the most visible intervention is the supply-side financing of social services. In Viet Nam, the State (including communes) directly finances health and education providers at all levels. As part of the reforms introduced under *doi moi*, publicly owned service providers charge for their services. The user often pays a large percentage of the operating and capital budget.

In addition to direct subsidies to service providers, the State also provides a variety of demand-side subsidies. Unlike supply-side interventions, these directly target potential users of social services. Examples are scholarships and stipends for students, health insurance cards for the poor, and special fee exemptions for vulnerable groups.

When resources are limited, as is the case with the social sector in Viet Nam, demand-side subsidies can be a more efficient way to reach the poor. Policymakers have to make difficult decisions about how Government resources are allocated; to achieve equity, the Government should try to direct social spending to the poor.⁸ Supply-side subsidies are difficult to target to the poor because of “leakage” (for example, the nonpoor simply travel to health clinics designed for the poor). In theory, demand-side subsidies reach the poor directly. However, this is rarely easy—demand can often be difficult to identify, particularly when it comes to allocating resources according to the needs of each poor individual. Viet Nam has developed a sophisticated system of indicators to identify needy communes and households.

Household characteristics are crucial determinants of human capital-seeking behavior. Under *doi moi*, the range of social services has greatly expanded the options that people have. However, at the same time, services are no longer free and households do have to pay for the services that they use. Income is an important factor—the poor simply do not have the same set of choices that the nonpoor have. For example, a poor household might rely on home remedies and a course of drugs to deal with an illness, where a wealthier household might also consider a visit to a doctor.

Empirical studies have shown that income does affect the use of social services, both in the decision to use health care and education and in the type and quality of service purchased.⁹ Households generally consider both of these services “essential.” Many

In Viet Nam, the State has committed itself to improving the placement and targeting of resources to benefit the poor and reduce inequalities. In practice, however, much more must be done to give the poor better access to resources

⁸ It is important to note that equity cannot and should not be the only goal of a government. For example, countries require a university system to train professionals and to serve as local centers for research and development, yet universities generally tend to benefit the children of better-off families.

⁹ Strauss and Thomas (1995) provide a detailed review of the literature.

households are willing to spend large amounts of their income for health care and the education of their children. For example, in Viet Nam, health and education services take up 20 percent of the nonfood expenditures of households, on average.

One important implication of this model is the so-called *poverty trap*, which creates what is known as a vicious circle of poverty. As shown in Figure 2.1, the level of human capital affects household characteristics and household characteristics affect the level of human capital. The poor have fewer resources to invest in human capital than the rich. Their meager income may not even be enough to maintain an adequate nutritional diet, let alone to treat an illness or send their children to school. A wealthier household, on the other hand, may have resources not only to feed, shelter, and clothe its members but also to send the children to the university and to pay for sophisticated medical care.¹⁰

However, income is not the only household factor that affects human capital-seeking behavior. It is quite common to find two households with the same income but with remarkably different levels of human capital and very different patterns of demand for health and education services. Many richer families underinvest in human capital while many poorer families make an extraordinary effort to invest in human capital for themselves and their children.

The education and knowledge of household members play an important role. If the adults in the household are educated, they are likely to have a better understanding of how to take advantage of health services and they will be in a better position to help their children with schoolwork. Beyond direct knowledge, education also changes one's perceptions of the world and personal preferences. For example, educated women generally have fewer children than less educated women, largely because of differences in preferences and expectations rather than differences in knowledge.

Household characteristics also have a direct effect on the health and education levels of households beyond their effect on human capital-seeking behavior. For example, crowding can affect the health of household members. The type and condition of the dwelling can likewise have a major effect on the health of household members.

While household characteristics can affect the demand for and the level of human capital, the level of human capital also affects many household characteristics. The education that adults gained as children has a major effect on the human capital of their children—in essence, human capital is transmitted from generation to generation (Becker 1991). Both the health and the education of adults are important factors that shape their productivity as workers (Dasgupta 1993).

In this model, public policy is treated as *exogenous*, that is, the government, communes, local organizations, and donors act independently of household behavior and do not respond directly to changes in households. This is a simplification: governments and

The poor are caught in a vicious circle: they have fewer resources to invest in human capital than the rich and, as a result, their income will be lower in the long run

¹⁰ This is one of many poverty traps. The lack of credit severely limits the ability of the poor to escape from poverty. Likewise, their dependence on unsustainable environmental practices due to short-term needs can lead to a poverty trap.

Policymakers cannot respond quickly enough to changes in household behavior or to new needs. Policy thus tends to become institutionalized and simple inertia may prevent continuous refinement of policy

other actors do indeed target their spending and their policy efforts to respond to certain perceived needs. However, in the short run this assumption is probably reasonably accurate. Policymakers cannot respond quickly enough to changes in household behavior or to new needs. Policy thus tends to become institutionalized and simple inertia may prevent continuous refinement of policy.

Policy has a direct impact on the supply of social services, through the direct provision of these services, through subsidies to these services, and through laws and regulations. In Viet Nam, the State (including communes) operates a wide range of educational establishments including grade schools, training institutes, and universities. The State and other donors do contribute to the operation of the nonpublic sector¹¹ in education, though direct contributions and donations and through tax and education policy.

A similar situation exists in the health sector in Viet Nam. At the primary level, there are commune health centers and a wide range of private alternatives ranging from independent medical professionals to local pharmacies. The State directly operates most hospitals in the country. Despite the importance of the private sector in providing primary health care, Government policy still has a major impact, through taxes, licensing, and inspection policy.

Of course, public policies extend well beyond the financing and provision of human capital services. Likewise, schools and health institutions are clearly not the only factors that affect education and health.

As is true of all behavioral models, this model is a simplification of complex human behavior. This is unavoidable. Focusing on the household as an actor and as a unit essentially ignores the important conflicts that take place within the household.¹² For example, the male head of household may make unilateral decisions that reflect only his interests and do not take into account the long-term interests of the children in the house.

¹¹ For the sake of simplicity, in this document the terms “private sector” and “nonpublic sector” are used interchangeably. They include all non-state-operated providers—cooperative and community providers, as well as owner-operated and corporate (capitalistic) businesses. The type of ownership and organization may account for important differences in the way a service is run.

¹² King and Mason’s (2000) research report on gender and development provides an excellent introduction to the issues and the associated literature.