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Provision of Health Care and Education in Transitional Asia: Key Issues and Lessons from Vietnam

Paul Giewwe and Jennie Litvack

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UNU World Institute for Development Economics Research (UNU/WIDER)
Katajanokanlaituri 6 B
00160 Helsinki, Finland

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CONTENTS

LIST OF TABLES AND FIGURES

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ABSTRACT

This paper examines the impact of the transition to a market economy on health and education outcomes in transitional Asia, with particular focus on the case of Vietnam. After examining a variety of empirical evidence, several lessons emerge. First, protecting and improving health and education outcomes depends heavily on the success of economic reforms in generating income growth; strong economic growth generally increases outcomes. Second, the nature of the economy before the reforms has an important role in determining their overall impact. Third, small-scale experimentation of specific policies should be done before implementing them on a larger scale. Fourth, governments need to develop medium- to long-term plans for blending public and private provision of health and education services. Finally, because some groups will inevitably face serious problems, identifying and protecting vulnerable groups is an important task of the government after the reforms.

I INTRODUCTION

Since 1980, almost all of the countries that had operated planned economies have largely abandoned planning and switched to market systems. This transition from a planned to a market economy has affected the lives of nearly 1.7 billion people, and the countries involved are often referred to as 'transition economies'. The experience in Eastern Europe and the Former Soviet Union has been quite different from the experience in East and Southeast Asia. In particular, most of the former countries suffered from sharp drops in real income, while the latter countries generally experienced substantial economic growth.

Economic growth can lead to substantial reductions in poverty and improvements in living standards, but these consequences of growth are not necessarily automatic. The impact of growth on living standards depends on (1) how the benefits of growth are distributed between people, and (2) the extent to which the growth supports social services. Thus an important policy question for the transitional economies in Asia is whether economic growth has indeed been accompanied by reduced poverty and higher living standards. This paper focuses on two aspects of living standards that are not always highly correlated with economic growth, health and education. In particular, this paper analyzes how the switch from a planned economy to a market economy among the transitional economies in Asia affected the delivery of health care and education services and, ultimately, the health and education status of the population. After framing the issues and examining recent trends in health and education in these countries, the paper focuses on the case of Vietnam, a country for which there are ample data to examine these issues in depth.

This paper is organized as follows. The next section provides an analytical framework for thinking about the possible impacts of the transition from a planned economy to a market economy. Section III looks at recent trends in health and education indicators from several Asian transitional economies, both the Central Asian economies of the Former Soviet Union and the East Asian economies. The remaining sections focus on the case of Vietnam, with only occasional reference to other Asian transitional economies. Section IV describes Vietnam's economic reforms since 1986. Section V examines how the reforms affected use of health services and, ultimately, health outcomes, and Section VI does the same for education. A final section concludes the paper.

II THE IMPACT OF TRANSITION ON HEALTH AND EDUCATION: AN ANALYTICAL FRAMEWORK

The health status and education level of any country's citizens are generally determined by the amount and quality of health and education services, and by the use that individuals make of those services.[1] In a market economy, both public revenues and household income can affect the quantity and quality of health and education services available, and they can also affect the extent to which they are used. Public resources are often used to subsidize many health and education services. One justification for these subsidies is that many of these services have 'positive externalities' (i.e. their marginal social benefit exceeds their marginal private benefit). Health and education services that are not fully subsidized by the government must be financed, at least in part, by households out of their own incomes. Countries with higher incomes are typically better able to subsidize health and education services due to their larger per capita budgets, and individuals in those countries are, on average, more able to pay for unsubsidized or partially subsidized services.[2] Thus, a growing economy can permit both public and private financing to expand, which should lead to more, and better quality, health and education services. However, transforming economic growth into better health and education outcomes depends on the extent to which growing public revenues are translated into public expenditures which are focused on these sectors. It also depends on how successfully the roles of the public and private sectors are coordinated and combined, and the extent to which growing public revenues lead to increased public expenditures on health and education services.

The Asian transitional economies, particularly those in East Asia, had very low income levels before they began their transitions to a market economy. Despite their low incomes, most had made impressive progress in public health (e.g. low infant mortality and high life expectancy) and education (e.g. high adult literacy), relative to market-oriented countries at similar levels of economic development. This was due to their strong emphasis on public provision of basic health care and education (see World Bank, 1996a). As a result, these

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1 Health services include both the provision of medical services and the provision of non-medical services that have a direct effect on health status, such as sanitation facilities and access to potable water.

2 We stipulate 'on average' because some individuals or groups may have lower incomes if a country's higher income is accompanied by greater income inequality.

countries embarked on market oriented reforms with a strong human resource base.

The experience of East Asian transitional economies is particularly interesting to study given their socialist pasts and their recent rapid economic growth. On one hand, they had relatively strong social service delivery prior to transition, so that reduction of the government's role in service delivery after the transition could have jeopardized access. On the other hand, rapid economic growth has resulted in larger per capita government budgets and higher household income. The net result of these two realities in East Asia needs further exploration.

Before examining the experience of the Asian transitional economies in the areas of health and education, it is useful to provide a general framework to organize the discussion. The rest of this section provides such a framework.

In general, the most important determinants of individual health and education outcomes are: 1. Income levels; 2. Prices of health and education services; 3. The time costs of using health and education services; 4. The quality of health and education services; 5. The value households and individuals place on health and educational outcomes for their own sake (i.e. independent of any remunerative benefits); 6. The economic value to households and individuals of health and education; and 7. Government regulations requiring the use of health and education services. Changes in education and health outcomes, whether due to the transition to a market economy or any other cause, can come about by changing one or more of these determinants. For example, increases in public expenditures on health care and education can reduce prices and time costs and increase the quality of services. This encourages greater use of those services. Although many of these determinants are self-explanatory, it is useful to review them briefly.

Household income clearly affects health and education outcomes in market economies because many services are not provided free of charge. Even in planned economies, income may well have an effect since not all services are free, or even if they are free there may be transportation or other costs to obtain the service. Both health and education outcomes are almost always higher for wealthier people, since their higher income allows them to purchase more services.

Higher prices -- with quality of services held constant -- have negative effects on use of health and education services, and thus on health and education outcomes. Studies have shown that demand for health care is sensitive to price and that the price elasticity of the demand for medical care falls with income, so the poor are more price sensitive than the better off (Gertler and Van der Gaag,

1990). Holding prices constant, increases in the quality of health and education services should increase their utilization (which in turn should lead to improvements in health and education outcomes). When prices and quality change simultaneously, it is very difficult to know what the net result will be. For example, in a controlled field experiment in Cameroon Litvack and Bodart (1993) documented that changes in quality more than offset the increase in prices under a new user fee policy, so that utilization of the health centers rose. A particularly interesting finding of this study was that the usage of rural health centers by the poor increased proportionately more the usage by wealthier groups when user fees were introduced and revenues were used to improve quality, despite the fact that the poor were indeed more sensitive to prices than the better off. This result indicates that the *quality adjusted price* was declining (despite higher fees at the facilities) and this elicited a positive response among the entire population, but particularly among the poor. Thus, prices and quality of services must be considered together when assessing their impact on utilization of services.

Another indirect cost of using health and education services is the value of the time lost by their use. Individuals lose wages or self-employment incomes, or forego other activities by using these services; the higher their wages or hourly income the more expensive it will be to use them. In this sense, to the extent that economic growth raises wages, the indirect costs of obtaining services increase and this could have a negative effect on utilization on services, although this effect is likely to be outweighed by the general income effect discussed above.

The value that individuals and households place on their health and education also plays a role in the use of services and, ultimately, in health and education outcomes. Values are typically not easily changed by government policies, but information and awareness campaigns supported by the government could alter people's values.[3] A related causal factor is the value of education and health in terms of income. For example, if economic growth increases returns to investments in education, this should increase the demand for education services and, eventually, the overall level of education. Finally, governments may mandate use of education and/or health services by the population, and changes in these requirements in connection with the transition to a market economy could well result in changes in the use of those services.

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3 There may be some ways in which governments could change values. For example, emphasis on female education could change values in the long run; more educated girls may, when they become parents, place greater emphasis on the education of their children.

Consider now how the transition from a planned economy to a market economy may affect these different determinants of the use of health and education services. First, economic reforms have affected households' income and thus their ability to pay directly for these services. The experience of Central Asia has been similar to that of Eastern Europe and the Former Soviet Union; incomes have declined substantially.[4] In contrast, economic reforms in East Asia have generally raised average incomes. The majority of the population in East Asian transition economies was engaged in agricultural rather than industrial activities, so economic liberalization and stabilization benefited the rural population through higher prices received for their agricultural products. At the same time, the general population in East Asia was much less affected by the state enterprise reforms that resulted in the loss of the primary source of income in many households throughout transitional Europe. For example, at an early stage of reform, 77 per cent of workers in Russia were employed by state enterprises, while the comparable figure for Vietnam was less than 10 per cent (World Bank, 1993).

The second mechanism by which the move to a market economy may affect health and education outcomes is through increases in prices paid directly by households for health and education services. In general, increased prices are more likely in countries where the transition has led to economic contraction, because the government has fewer resources to subsidize prices.[5] In countries in which the transition has lead to higher economic growth there is less pressure to increase prices for budgetary reasons, yet the move toward a market economy generally implies some shift of public expenditures within the social sectors towards services that have public good characteristics, and at least some increases in prices of health and education services whose benefits are largely private. Thus, in both growing and contracting transition economies, the prices households pay for health care and education care often increase.

Regarding the third mechanism, there are several ways in which a transition to a market economy may affect the time costs of using health and education services. Some publicly subsidized providers may close, which would increase transportation costs for at least part of the population. On the other hand, private suppliers may fill some existing gaps, lowering transportation costs. In addition, changes in wages and hourly income from self-employment will change the value of each hour; if incomes are rising the cost will increase, but this negative

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4 The next section documents these trends for both the Central Asian and the East Asian transition economies.

5 Note that the quality of services may also decline, since this is one way to minimize price increases.

effect on the use of services may be outweighed by the overall income effect discussed above. A final and more direct aspect is that privatization of state firms may result in employees being less likely to be paid for time spent obtaining health care. For example, in rural areas under the previous agricultural cooperative system workers did not lose income when they took time off to obtain health care, but in a market economy rural households are generally self-employed, so that time spent obtaining health care implies a loss in income.

A fourth way in which the transition to a market economy may change the use of health and education services is that the quality of those services may change due to changes in the level of public expenditures directed toward these sectors. In addition, changes in government priorities for different types of services within each sector will lead to changes in the quality of each type of service. In countries experiencing negative economic growth, overall quality may decline rapidly due to government budgetary constraints, while in countries enjoying substantial growth governments may well be able to improve quality. Finally, depending on budgetary allocations and sectoral strategies, allowing private providers to offer services could increase quality, but almost certainly at a higher price than previously.

It is not clear that switching to a market economy will change the values that households and individuals place on health and education. Information and awareness campaigns need not be altered by this switch, with the possible exception that an economic contraction will reduce government funds available to finance such campaigns. On the other hand, scarce resources and a strong sense of public welfare may have lead socialist countries to emphasize public health and basic literacy in previous years, and the changes brought about by a market economy may distract from this previous commitment. Changes in the economy may also result in a higher financial benefit for health and education, particularly for the latter. Socialist economies often had wage structures that compressed wage differences in order to promote equality, but these policies also reduced the private incentive to invest in education. Removal of restrictions on wages could lead to increased use of education services if the economy experiences high economic growth *and* that growth results in increased returns to education in the labor market.

Finally, some socialist governments strongly enforced use of education and, to a lesser extent, basic health services. Removing such requirements may reduce their acquisition by individuals, and even if they are not officially removed they may be less strongly enforced.

An important lesson to draw from this discussion is that the success of a transition to a market economy in generating economic growth will have major implications for health and education outcomes. If incomes decline over time, both public and household resources to support health and education will decrease. Government budget constraints will generally lead to higher prices and reduced quality, so that use of services, and ultimately outcomes, will decline. On the other hand, substantial increases in income will allow households to purchase health and education services in the private market, and at the same time will enable governments -- should they so choose -- to subsidize at least some services, as well as maintain or improve their quality. Thus the interesting question is: For those transition economies that have experienced substantial economic growth, the East Asian transition economies, how have health and education outcomes changed during the transition?

While economic growth plays a key role, it is not the only thing that matters. Indeed, additional public and private expenditures on health and education may not translate into better outcomes; a deterioration in health status and educational attainment is possible if the government does not take steps to coordinate and rationalize the provision of services across the public and private sectors. Governments must decide the extent to which they should provide, or at least subsidize, different types of health and education services. They must also develop regulations for private providers of these services. Rising public revenues and private incomes represent a real opportunity to improve social service delivery. Yet the appropriate role for the government is not always clear. Defining the government's role, and developing the capacity to execute it well, are challenges for all transition economies, both in Asia and in the rest of the world.

This section has provided a useful framework for thinking about the impact of the transition from a planned to a market economy on health and education outcomes. The following section briefly examines the experience in both the Central and East Asian economies. Although the data are sometimes sketchy, a clear difference emerges between these two sets of transitional economies.

III RECENT TRENDS IN HEALTH AND EDUCATION OUTCOMES IN ASIAN TRANSITION ECONOMIES

There are nine countries that can be classified as Asian transitional economies. Of these, four are nations that became independent upon the dissolution of the Soviet Union in 1991: Kazakstan, the Kyrgyz Republic, Turkmenistan and

Uzbekistan. A fifth, Mongolia, has an economic heritage similar to that of the four former Soviet Republics. These five nations comprise the five Central Asian transitional economies. The other four Asian transitional economies are in East or Southeast Asia: China, Cambodia, Laos and Vietnam. Generally speaking, the transition began in the five Central Asian republics in about 1990. The transition began at different times in East Asia, about 1980 in China, around 1986 in both Laos and Vietnam began, and about 1989 in Cambodia.

Figure 1 provides data on GDP per capita in the five Central Asian transitional economies from 1980 to 1996. For each country, GDP per capita is displayed as an index, with 1990 set equal to 100 (the actual figures are given in Table A.1 in the appendix). All five countries show steady economic growth from 1980 to about 1989, after which GDP per capita began to fall in all countries. All five Central Asian transition economies experienced rapid declines in GDP per capita in the early 1990's. Mongolia was the first country to halt this downward trend; its GDP per capita bottomed out in about 1993 and has since shown modest increases. Of the other four Central Asian economies, Uzbekistan's downward slide was the least steep, but as of 1996 its GDP per capita was still falling. The other three Central Asian economies experienced steeper declines in GDP per capita in the 1990's, but the declines of these countries all appear to have bottomed out by 1995. However, their positions in 1996 were very far below where they stood when the transition began, with GDP per capita about one half of the levels prevailing in 1990.

The declines in GDP per capita shown in Figure 1 for the five Central Asian transitional economies are based on less than ideal data, but no one denies that incomes have declined substantially in each of these countries. Given the discussion of the previous section, one would not expect to see improvements in health and education outcomes, and one may even see declines. Data are fairly sketchy on both topics, particularly on education. Table 1 provides the most recent estimates available. It shows infant mortality rates for all five countries from 1985 to 1995, and it shows secondary school enrollment rates for Mongolia alone.

The four former Soviet countries experienced improvements in infant mortality in the latter 1980's which came to a halt in the early 1990's when the countries embarked on their transition to a market economy. Kazakstan, the Kyrgyz Republic and Uzbekistan, show drops in infant mortality from 1985 to 1989. However, these steady improvements halted, and were even reversed in some cases, beginning in 1990. Uzbekistan shows some improvement beginning in 1993, but Kazakstan and the Kyrgyz Republic showed virtually no change in infant morality rates from 1990 to 1995. The data from Turkmenistan show a

large drop in infant mortality from 1989 to 1990, which may reflect an overestimate in 1989 (note that this figure is even higher than the figure for 1985). Yet Turkmenistan's performance from 1990 to 1995 is the same as that in Kazakstan and the Kyrgyz Republic: no improvement in infant mortality rates. Overall, in these four former Soviet republics the lack of reduction in infant mortality rates is not surprising given their dismal economic performance in the early 1990's. While, in principle, changes in health policies could have improved the effectiveness of public health expenditures, the lack of improvement suggests that no major successful changes along these lines occurred. These figures support the hypothesis that the move from a planned to a market economy in these countries led to stagnation in health outcomes. Unfortunately, there are no data on education outcomes for these countries over this time period.

Whereas the evidence on health outcomes for Mongolia is not very clear due to missing data[6], Mongolia is the only Central Asian transition economy to have an indicator of education outcomes that spans a sizeable length of time. Mongolia's secondary school gross enrollment rate was 91 per cent in 1989, about the time its economy began to falter. This rate dropped steadily until it reached 78 per cent in 1993, after which is showed a modest increase. This pattern in secondary school enrollment rates closely follows its change in GDP per capita, which suggests that education outcomes in Mongolia echoed the decline in income that accompanied its transition to a market economy.

Overall, the performance in health and education in the five Central Asian transition economies is quite sobering. As incomes began to drop, past progress in reducing infant mortality halted, and in the one country for which education data are available, drops in income were accompanied by reduced school enrollment. While sobering, this performance is not surprising given the line of reasoning presented in Section II; declining incomes reduce the ability of households to pay for education, and at the same time reduce the government's ability to maintain these services. The more interesting question is what happened in the four East Asian economies. This issue will be addressed in the remainder of this section.

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6 The infant mortality data for Mongolia are less informative. That country experienced declining GDP per capita from 1990 to 1993, but infant mortality data are only available in 1987 and then from 1992 to 1995. There were declines in infant mortality from 1992 to 1993, but since the economy began to improve in 1993 there appears to be little change, at least up to 1995.

Figure 2 provides data from 1980 to 1996 on real GDP per capita in the four East Asian transition economies: China, Cambodia, Laos and Vietnam. The data are arranged so that 1986, the year that reforms began in both Laos and Vietnam, equals 100; the actual figures are given in Table A.2 in the appendix. Before examining the data in detail, it should be pointed out that the data for Cambodia are extremely tentative; the long-running battle between the government and the Khmer Rouge insurgents not only leads to unreliable data but also makes Cambodia a complicated case for drawing inferences regarding economic policy. Thus the discussion below will focus primarily on China, Laos and Vietnam.

China's economic growth since its adoption of market reforms began around 1980 has been phenomenal -- an average annual growth rate of 10 per cent led real GDP per capita to be nearly four times higher in 1996 than in 1980. Vietnam displayed the next highest performance -- in the ten years since the reforms were adopted in 1986, average annual growth rates of 8 per cent resulted in a level of real GDP per capita that was 60 per cent higher by 1996. The performance of Laos is less spectacular, but its increase in real GDP per capita of 26 per cent over ten years would be the envy of most developing nations. Cambodia's economic performance is similar to that of Laos, with real GDP per capita rising by 19 per cent over seven years.

The enviable performances of these East Asian transition economies in terms of economic growth suggest that their transition experiences differed dramatically from those of Central Asia, and therefore their experience with health and education may have differed as well. The evidence on this is presented in Table 2. In the early years of China's transition infant mortality rates were roughly steady, but by the early 1990's they were substantially lower than the rates that prevailed in the early to mid 1980's.[7] The lack of progress in the 1980's may reflect public spending priorities; while total health expenditures and the government's health budget grew considerably faster than GDP, resources available for public health measures such as disease prevention and health promotion have declined, at the same time that demand for tertiary hospital services rose (World Bank, 1992). Secondary school enrollment data for China are patchy in the 1980's, but the data available show a steady increase from 1985 and throughout the 1990's.

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7 The 1995 figure appears to show an increase, but this may simply reflect a different data source. Even if this increase is accurate, the rate of 34 is still lower than the rates that prevailed in the 1980's.

The three Southeast Asian transition economies, Cambodia, Laos and Vietnam all show steady declines in infant mortality rates in the 1980's and early 1990's. However, for the two countries with data on secondary school enrollment, the data are less sanguine. Laos shows little change throughout the period and Vietnam shows a clear decline from 1985 to 1992, followed by increases only in 1993 and 1994.

To summarize the performances of the four East Asian economies, they have all done well in terms of increased incomes per capita. They all also appear to have done well in reducing infant mortality rates, with the sole exception that the decline in China did not appear until several years after its economy began to grow. The data on secondary school enrollment are less clear. While China showed a clear improvement, Laos stagnated and Vietnam experienced a clear decline.

The main lesson drawn from this section is that a transition from a planned to a market economy will generally lead to poor performance in health and education indicators if income levels fall as a result of the transition. This is what happened in the five Central Asian transition economies. If the economy experiences rapid economic growth, as was the case in the four East Asian transition economies, social indicators often improve, but that is not always the case.

Taken together, the data on infant mortality for Asian transition economies show that higher economic growth in these countries is associated with greater reductions in infant mortality. This is shown in Figure 3[8], where the data are fitted to a simple regression line with the change in the infant mortality rates regressed on GDP growth and a constant term. However, there is a lot of variation around this general trend. For example, China's reduction in infant mortality is not as large as one would expect given its rate of economic growth, while Uzbekistan did much better than its rate of economic growth would lead one to predict. Clearly, there is more to improving social indicators than simply raising economic growth. At this point, it is hard to draw further generalizations across this diverse set of countries. The remainder of this paper will examine the case of Vietnam in detail. Vietnam is of interest because it has done well in economic terms, but in health and education indicators the brief evidence presented so far is mixed. Another reason to focus on Vietnam is that a large amount of data have been collected and analyzed in recent years, as will be seen in the following sections.

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8 Two Asian transition economies are missing: there are no mortality data for Mongolia in 1990, and there are no infant mortality data for Cambodia in 1989.

IV VIETNAM'S DOI MOI REFORM PROGRAM

Vietnam began its economic reforms about one decade ago. Over those ten years its system for delivering social services has changed dramatically. While the overall impact appears to be generally positive, the distributional impacts of these changes must be studied carefully to see whether certain groups are being left behind, and if so, whether corrective actions are necessary to assure access to basic social services.

A. Historical background

The modern history of social service provision in Vietnam is complicated and reflects the extreme challenges and changes that have characterized Vietnam in this century. During the colonial period, prior to Vietnam's partition under the Geneva Agreement in 1954, provision of health care and formal education were quite limited. There was no regular source for preventive or curative care for peasant households, and health care was provided to plantation labor only on an ad hoc basis. Public schooling was available to only a small, elite group of Vietnamese. Non-government schools were organized throughout the country to try to meet the local demand for education, but few poor families could afford private fees. Therefore, serious health problems were endemic and illiteracy was widespread.

In 1945, Ho Chi Minh launched a grassroots literacy campaign at the end of French colonial rule, and by 1954 private schools in the North were incorporated into a free public education system (World Bank, 1996b). Similarly, a widespread system of public health was established that relied upon village health workers, state-provided medicines, and more reliable food supplies. Major efforts to mobilize the population and disseminate information on public health and education led to rapid improvements in health and education status in the North (Aduki, 1995). Prior to unification in 1975, social service provision was much less developed in the South than the North, which led to lower health status (in particular, higher infant mortality and a greater incidence of stunting) and lower adult literacy rates in the South (Aduki, 1995).

Efforts to improve health and literacy in the South expanded after 1975, but the weakness of agricultural cooperatives, the main source of local finance, impeded these efforts. On the other hand, farmers retained their incentives to produce because they were not (de facto) obligated to sell their produce to the state, which resulted in higher household incomes. In the North, the system of agricultural cooperatives continued to serve a useful role in the 1970's and early 1980's by providing local financing for essential social services, such as primary

education and basic health services. However, since peasant families in the North were required to farm according to government plans and sell all their produce to state procurement agencies at low prices, they had little incentive to produce, which lead to low household income, low agricultural output and heavy reliance on food aid from other Communist countries (Aduki, 1995). Thus, prior to the Doi Moi policies first adopted in 1986, there appeared to be an inverse relationship between household income and social welfare indicators within Vietnam with the Northerners earning less and enjoying higher health and education status and Southerners having higher incomes but lower health and education status.

B. Economic reforms

The Vietnamese economy performed poorly in the late 1970's and early 1980's, so the Vietnamese government began experimenting with a series of economic reforms designed to foster the initiative and hard work for which Vietnamese are well known. The Sixth Party Congress in 1986 led to Decision Number 10 in 1988, which formalized family-based production and dismantled the agricultural cooperatives. When Vietnam's chief benefactor, the Soviet Union, collapsed in 1991, leaving Vietnam in economic isolation, it pragmatically decided to open up to the world. Over the next few years, Vietnam adopted a series of policies that stabilized its economy and led to strong, broad-based growth.[9] By 1993, Vietnam was the third largest rice exporter in the world (in contrast to being a rice importer in the 1980's), had an inflation rate of less than 10 per cent (compared to triple-digit inflation in the 1980's), and its economic growth rate was 8 per cent per year in real terms. In the mid 1990's, the economy remained stable and the growth rate actually increased to 9.5 per cent (in 1995). It is estimated that the incidence of poverty dropped from about 75-80 per cent of the population in 1983 to about 55 per cent in 1993 (Dollar and Litvack, 1998).

C. Reforms in social services

A major challenge of economic reforms is to raise both household income and other dimensions of household welfare. Prior to Doi Moi, education and health care were provided exclusively by the government. The unified central budget financed the costs of delivering all levels of education and health care except for primary education and basic health services, which were delivered at the

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9 For a full description of the macroeconomic situation prior to the reforms and the macroeconomic and structural policy reforms undertaken as part of 'Doi Moi', see World Bank (1993) and Dollar and Litvack (1998).

local level and financed largely from cooperative funds or household contributions. Since most social services were provided and financed through central ministries or local sources rather than through state enterprises, provision of social services was not affected by closure of some 6000 nonviable state enterprises between 1989 and 1992. This is in sharp contrast to the experience in the Former Soviet Union, Eastern Europe and China where state enterprises have played a very important role for social service delivery. For example, in Russia, about one half of community social welfare spending was and financed by state enterprises. When state enterprises are closed or privatized the provision of health care and education declined substantially. In many cases, local governments were given the expenditure responsibility without being delegated the revenue to execute this new function (see Wallich, 1994; and Bird, Ebel and Wallich, 1995). Vietnam did not have to face this challenge of a major shift in financing responsibilities for social services.

Major reforms in the health sector included the introduction of user fees, legalization of private provision of health services and deregulation of drug sales (Decision Number 45 in 1989). Since cooperatives no longer existed and thus could not finance basic social services, Decision Number 123 soon followed, which provided for central funding of three health workers per commune. Reforms in the education sector have encouraged private sector expansion through 'semi-public' and 'people-founded' institutions and have permitted public institutions above the primary school levels to levy tuition fees. Other costs associated with delivering basic health services and primary education are covered through 'voluntary contributions' by households (generally, a flat fee paid by each adult in the commune) (World Bank, 1996b). In addition to these important legislative changes, public expenditures for both health care and education have continued to increase, both in absolute terms and as a percentage of overall government spending. The social sectors have benefited both from aggregate growth (particularly its impact on public revenues) and from government commitment to these sectors.

The provision of other basic services, such as safe drinking water, irrigation, and rural roads, also improved during the period of economic reforms. Between 1991 and 1994, access to safe drinking water in rural areas increased from less than 15 per cent of the population to over 35 per cent, and it is expected to rise to 65 per cent by the year 2000. (World Bank, et al., 1996). Most of this increase is due to financial support from UNICEF, which has committed increasingly large resources to Vietnam as it undergoes its transition. At the same time, there is increasing awareness that supporting improvements in rural water supply requires households to contribute to operation and maintenance costs. This new orientation is possible in most areas because incomes have been rising and the demand for safe water is high. Water-borne diseases are the

primary cause of morbidity in Vietnam, and the switch to a market economy implies that it is becoming increasingly costly for people to miss work due to illness. Thus paying for improved water supply makes sense not only for its immediate impact on welfare, but also for its indirect effect on household income.

The provision of irrigation services also changed during the economic reforms. Irrigation services used to be funded by the cooperatives, but more recently local water management companies that rely on user fees for operation and maintenance have been established. Maintenance of rural roads was neglected for decades, initially due to war and later due to economic austerity. Although there is a long history of community contributions to support local infrastructure, since the adoption of the Doi Moi reforms rising household incomes have allowed most local authorities to collect taxes, in the form of either labor time or money, from households for repair of local roads. In some remote and mountainous regions, a growing central government budget in combination with targeted programs have provided funding for special programs that these areas could otherwise not afford, such as development of basic transportation. The rest of this paper focuses on the provision of health and education services.

As one would expect given the analytical framework presented in Section II, Doi Moi policies have resulted in more services being offered to households at higher prices than previously paid, but most households may be able to pay for them due to rising incomes. What specifically have been the impacts of reforms on health and education? This question is answered first for the case of health, in Section V, and then for education, in Section VI.

V THE IMPACT OF VIETNAM'S REFORMS ON HEALTH SERVICES AND OUTCOMES

Section II presented seven pathways by which market-oriented economic reforms can affect health and education outcomes. In this section we discuss in detail how the Doi Moi reforms affects all seven pathways in the health sector. We begin by looking at their impact on income and then turn to the other six pathways.

A. Income effects

As discussed in Section III, Vietnam's economy has grown at an average annual rate of about 8 per cent since 1986. While this has raised household incomes, it

is important to know how this growth has been distributed among different regions and, ultimately, different households. In particular, one would like to know whether any groups have been left out of the growth process. The answers to these questions are important because households are now expected to finance a significant share of their use of social services.

Vietnam began its transition to a market economy in 1986 with a relatively equitable distribution of resources. Before the cooperatives were dismantled, commune land was distributed to households in a way that produced a remarkably equitable allocation of land within regions, both irrigated and unirrigated, particularly in the North (Van de Walle, 1998). Analysis of household expenditure data from the 1992-93 Vietnam Living Standards Survey (VNLSS) indicates that Vietnam also enjoyed relatively equitable distribution of consumption expenditures, with a Gini coefficient of 0.34 (World Bank, 1995).

How has inequality changed since 1986? Recent growth rates have varied across Vietnam's seven regions, and between urban and rural areas, but positive per capita growth rates have occurred in all seven regions. More specifically, real GDP growth rates have been highest in the Southeast, at about 16 per cent, and lowest in the Mekong Delta, at 4 per cent. Annual rates among the other regions range from 7 to 9 per cent (Dollar and Litvack, 1998). An in-depth study of inequality within Vietnam indicates that there is far more inequality within Vietnam's regions, even when disaggregating by urban and rural areas, than between them (Dollar and Glewwe, 1998). This implies that variation in regional growth rates has not yet lead to large increases in regional inequality. On the other hand, little is known about changes in inequality within each region, and it is possible that the distribution of income has become more unequal over time due to variation in growth at the province, district or even commune level.

Some observers have speculated that the Doi Moi policies have resulted in the 'rich getting richer and the poor getting poorer'. Yet recent research demonstrates that the incidence of poverty has dropped from about 80 per cent of the population in 1983 to about 55 per cent in 1992,[10] and if aggregate growth continues, poverty reduction will continue to be rapid, though the pace of poverty reduction will increasingly depend on changes in the distribution of income (Dollar and Litvack, 1998). A recent publication by the Government of Vietnam estimates that since 1992, the percentage of poor households has

[10] For a full description of poverty line construction in Vietnam, and the resulting detailed description of poverty, see World Bank (1995).

dropped 2 percentage points per year (HEPR, 1996). In absolute terms, therefore, there is no evidence supporting the proposition that 'the poor are getting poorer'. Yet it is still possible that the distribution of income is becoming more unequal, i.e. the rich are getting much richer while the poor are only a little less poor. Unfortunately, this is almost impossible to check with existing data.[11]

While a substantial percentage of the population has escaped poverty in recent years, it is still possible that some groups among the poor in Vietnam are being left out of the growth process. Thus, a full assessment of the impact of Doi Moi policies on household welfare must identify which groups may be most vulnerable, and investigate their access to social services. The Government of Vietnam recognizes this as a vital policy concern. It has identified five broad causes of poverty that can prevent some households from benefiting from Doi Moi (see HEPR, 1996): (1) isolation (physical, social, communication); (2) excessive exposure to risk (disasters, health, investment); (3) inadequate access to productive resources (land, credit, skills); (4) a lack of sustainability; and (5) inadequate participation (in economy, planning, decision-making). The characteristics associated with the poorest groups in Vietnam include: non-diversified farmers, people with very low levels of education and some ethnic minority groups.[12] Again, the extent to which some groups are being left out of the growth process is difficult to determine with the data currently in hand, but the new VNLSS underway in 1998 will provide a good opportunity to address this issue.

In summary, rapid economic growth in Vietnam has provided households with substantial increases in incomes, which enable them to pay for both health and education services that were formerly provided without charge by the state. This economic growth has been broad-based, reaching all seven regions, and both urban and rural areas. Thus it appears that most, and perhaps even almost all, Vietnamese households have more money to pay for health and education services than they did before 1986. Yet some caution is in order for the future. Although regional disparities do not currently account for a substantial portion

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11 A second Vietnam Living Standards Survey is being conducted in 1998, the results of which will be analyzed in 1999. That survey will include most of the households interviewed in the 1992-93 survey.

12 Interestingly, contrary to anecdotal opinion female-headed households were not poorer than male headed households. Indeed, they were disproportionately represented in the higher income groups (see World Bank, 1995). Although gender does not appear to be a determining factor of poverty at the household level in Vietnam, it is possible that *within* households women have less resources than men.

of inequality, persistent differences in regional growth rates over time may lead to higher inequality. Moreover, the government must monitor developments to see whether all socioeconomic groups are benefitting from economic growth. Inequality may rise within regions over time and may make access to social services increasingly difficult without special government efforts to protect the vulnerable groups.

B. Price effects

The change from a planned economy to a market economy generally involves shifting at least part of the costs of health care provision to the users of those services. To understand the impact on households, one useful piece of information would be prices of commonly used medicines and medical services before and after the Doi Moi policies were implemented, for both the public and private sector. Unfortunately, only a small amount of price data are available for Vietnam.

Before the Doi Moi policies were adopted, there was no private sector at all, and virtually all health care was provided free of charge. In 1989, private provision of health care was legalized, with prices largely unregulated. User fees were introduced that varied by level of care, with low fees for basic services and higher fees for specialized care.[13] Although consultation fees are low, private expenditures at public health facilities can be quite high, especially for the poor. According to the 1992-93 VNLSS, the average out of pocket expenditure for visit to a public commune health center is 31,000 dong (about US$3), virtually all of which was spent on drugs. The average cost for a patient admitted to a public hospital is 321,000 (about US$30), more than 90 per cent of which pays for drugs. For the poorest 20 per cent of the population, a visit to the commune health center costs the equivalent of 8 per cent of their annual nonfood consumption. Hospital outpatient visits cost around 26 per cent of their non-food consumption (World Bank, 1995). Multivariate analysis of these data indicate that prices particularly affect people's decision to seek care from a private provider or to self-medicate. Thus, in Vietnam over 70 per cent of the poorest quintile choose to self-medicate while only 54 per cent of the wealthiest quintile do (Gertler and Litvack, 1998).

Perhaps the biggest change in the pricing of health care due to Doi Moi policies is that the cost of drugs is no longer subsidized; drug prices increased from

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13 In general, consultation fees at commune health centers have remained very modest and are often waived entirely, while required payments have been higher for outpatients at hospitals and highest of all for hospital inpatients.

almost nothing to market clearing values. In fact, most drugs are now purchased from private sellers either directly by individuals or through the public health center as an intermediary. While this shift toward the private sector should have reduced government spending on health care (due to elimination of drug subsidies), in reality little savings were realized because drugs were often in short supply prior to Doi Moi so the government in fact was not subsidizing them to a large extent.[14]

Public health care expenditures now amount to about 1 per cent of GDP in Vietnam, but this represents only a small share of total health expenditures because private health care expenditures have skyrocketed and now amount to about 6-7 per cent of GDP. While some private financing of health care takes the form of direct payments for consultations and indirect payments for health insurance, 80 per cent of household health care expenditures are for drugs. Even the poorest households spend a large amount of their money on drugs, which indicates that Vietnamese households are willing to pay the full cost of drugs.

A final aspect of changes in health care prices in Vietnam is the Vietnam Health Insurance (VHI) program, which was established in late 1992. This program is mandatory for current and retired civil servants, employees of state enterprises, and employees of large private enterprises. About 4 million people are currently covered, including approximately one half million people who joined voluntarily. Insurance is co-financed by employers and employees. Benefits include ambulatory care and inpatient hospital care in government health facilities. Family members are not covered. Thus, for the 4 million people covered, part of their health care costs are borne by their employers, which in most cases is the government. VHI plans to expand insurance coverage to an additional 40 per cent of the population through voluntary insurance for farmers, workers in small businesses and the self-employed. At present this expansion is only in pilot stage in selected parts of the country. For further details in VHI, see Behrman, Knowles and McInnis (1996).

In summary, Vietnam's Doi Moi program has led to some increases in the price of health services, but some of these services are still partially subsidized by the government. Drug prices are no longer subsidized in any way and thus have increased substantially. Despite these increases, most people, even the poor, appear willing to pay. The new insurance scheme, VHI, provides an additional subsidy for health care, but coverage is low. Overall, it does not appear that the switch to a market-based system has prevented a substantial number of people

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[14] In addition, the Soviet Union formerly provided drugs at low cost, so the Vietnamese government paid only part of the direct subsidy costs for drugs prior to Doi Moi.

from purchasing health services, though it may have affected the quality of care received by different population groups. However, there are still other factors that affect the use of health care services; these will be discussed in the remainder of this section.

C. Time costs

A third determinant of the use of health services, and ultimately of health outcomes, is the time costs of using those services. Time costs, as measured by distance to the provider, appear to be important for determining the use of public health facilities. For example, the poor who live mainly in rural areas tend to use commune health centers, while the urban better off use the hospitals. (Gertler and Litvack, 1998). Since incomes have risen substantially in Vietnam, an hour of lost time at work due to seeking medical care now has a higher cost. Perhaps more important is the fact that, for many rural households, time spent getting health care now reduces income; in particular, under the previous agricultural cooperative system incomes were not reduced if a cooperative worker took time off from work to obtain medical care, but today a self-employed farmer will incur the full cost of time spent seeking medical care.

These overall negative effects on the use of health services may be outweighed, at least in part, by other effects. Travel distances, and thus travel time, may have declined because the appearance of large numbers of private drug vendors. In addition, less time may be required to obtain medicine from public facilities because their stocks of medicine have generally. Similarly, waiting time to see medical personnel may have declined due to better staffing; an example of which is given below for Ha Tinh province. Finally, to the extent that illness reduces worker productivity, the cost of *not* seeking medical care has also risen since the transition to the market economy.

D. Quality

The fourth way in which Vietnam's Doi Moi reforms may have changed health care services is by changing their quality. Unfortunately, there are little reliable data on quality of health care services in Vietnam. In general, the quality of care at hospitals is superior to the quality of care found in commune health centers because the former have better diagnostic equipment, and patients are seen by doctors rather than by nurses. This implies that the quality of care available to rural residents is relatively low, because while 94 per cent of rural residents live in communes with commune health centers only 7 per cent live close to hospitals. (Gertler and Litvack, 1998) Since the cost of providing services at hospitals is significantly higher than the costs of services provided by commune

health centers, urban residents, who tend to be wealthier, benefit disproportionately from public subsidies to hospitals.

One important aspect of the quality of health care services that may not be immediately obvious is the heavy reliance on self-medication without consulting a formal health care provider. This is particularly prevalent among the poorest 20 per cent of the population, of whom 70 per cent resort to self-treatment when faced with a new health problem (see Gertler and Litvack, 1998). It is by no means clear that the high level of total expenditures on drugs is necessary or even desirable for people who self-treat, since the lack of diagnoses may result in unnecessary or even harmful use of medicines; in contrast, pharmaceutical expenditures incurred as part of treatment obtained at a public facility may be both warranted and desirable. Moreover, the prescribing ability of commune health center staff is in many cases much poorer than those of staff at higher levels of care. (Chalker, 1995).

The VHI insurance system described above also has a quality aspect to it. This insurance operates by reimbursing hospitals or other health facilities using set fees for various inpatient and outpatient services. In principle, failure to recover adequate costs in any insurance program can lead to a reluctance on the part of health care providers to treat insured patients, and to a gradual decline in quality of services. In practice, this has happened in Vietnam, particularly for many civil servants in urban areas who can select an alternative private provider close by. Despite provision of 'free care' under VHI, many civil servants use private practitioners in order to obtain better attention and higher quality care (see Behrman, Knowles and McInnes, 1996).

The discussion so far has indicated how the switch to a market system may be affecting the quality of health care, but has not really addressed the issue of whether quality has changed over time. One indirect way to get at changes in quality in the public sector is to examine trends in public health expenditures over time. Although there are no time series data for total health care expenditures, there are such data for recurrent expenditures. Since the adoption of Doi Moi policies in 1986, the recurrent health budget was protected, even during the fiscal belt tightening in 1990-91. Between 1989 and 1995, the share of the total recurrent budget devoted to health expenditures increased, and recurrent health expenditures per capita appear to have doubled in real terms (World Bank, 1996c). It is doubtful that this increased funding was completely wasted, and since no major expansion in the quantity of health facilities has occurred these spending trends imply that the quality of public health services has increased since the Doi Moi policies were adopted. Yet it is difficult to know the extent to which increased funding has led to better quality health care. While there is strong evidence that the quality of care varies greatly across

regions, provinces, districts and even communes (see World Bank 1996c), the impact of increased public expenditures on the quality of public health care depends on subsectoral allocations, and there are almost no reliable data on this in Vietnam. Thus Vietnam's spending trends imply that the quality of public health services probably increased since the Doi Moi policies were adopted, but whether it improved substantially or only marginally is very difficult to determine. In addition, it is possible that quality declined for some regions or population groups, but unfortunately there are virtually no data available to check this possibility.

E. Other determinants of use of health services

The other three determinants of households' use of health services were the value they placed on health itself, the contribution of better health to income, and government regulations requiring use of health care services. Controlling for income, there is little reason to think that the value that households place on health for its own sake has changed due to Doi Moi policies. There may be greater value on health due to its positive income effects -- for example, now that self-employed farmers lose income if poor health prevents them from working -- but there is not much reason to think that this effect will be very large since people value health for its own sake. Finally, there never were very many government regulations requiring the use of health care in Vietnam, and there probably have been no changes in them. Thus, these last three factors have probably not changed appreciably due to the adoption of the Doi Moi policies in 1986.

F. A case study: Ha Tinh province

The discussion so far has presented some information on the impact of Doi Moi policies on health care services, but it is not very clear what the overall effect has been on the use of those services, and ultimately, on health outcomes. Based on the information at hand, we simply do not know what services would be available to everyone if public and private expenditures were lowered to previous levels and if private providers of services did not exist. However, some insights can be gained from a case study that was done in Ha Tinh province by OXFAM-UK-Ireland, a non-governmental organization (NGO) with considerable experience in Vietnam.

The OXFAM case study of Ha Tinh examines the time period from 1990 to 1995. The study found that utilization rates of commune health centers dropped between 1990 and 1992, but began rising in 1993 and have been increasing ever since. The households interviewed in the study prefer the current health care system to the previous one. For middle income and well-off families, the range

of health services and medicines available is greater. For all groups in this poor district, treatment at commune health centers is free, as in the past, but health staff are now more accessible. Drugs are now available, albeit at a price; the study concludes that the poor now have greater access to some treatments and drugs. For serious illnesses, however, the situation is mixed. In particular, because district hospital services are no longer free, the high costs of hospital services may exclude the poor from sophisticated medicine and treatment (Oxfam UK-Ireland, 1996). Another analysis of the impact of Doi Moi on health care reaches similar conclusions but cautions that people in remote areas may not benefit from the liberalization of the health sector and may suffer from cuts in government entitlements (Aduki, 1995).

In summary, health care services in Vietnam today appear to be generally better than they were prior to the adoption of the Doi Moi policies. Broad-based increases in income enable most people to pay for health services, despite increases in prices. It is also probably the case that quality has increased, although there are no hard data on this. The remaining factors probably played little role. Finally, the fact that income mortality has steadily declined since 1986 suggests that the net effect of Doi Moi policies has not been negative with respect to the health status of the population.

However, two sets of issues warrant close government attention. First, specific efforts are required to ensure access to people with incomes so low that they are unable to pay the private costs associated with basic health care, such as people living in remote areas and people with illnesses serious enough to require referral to district hospitals. Second, a series of health care issues arose in China during that country's transition to a market economy that could pose problems for Vietnam. These include: a) an increasing share of health spending accounted for by hospitals, and by treatment costs, rather than by prevention and health maintenance programs; b) equipment purchases and new construction undertaken with little apparent attention to future recurrent costs implications, which could lead to future strains on funding for disease prevention programs; and c) the high proportion of health expenditures that are due to drug consumption, which suggests a need for substantial changes in the drug industry, particularly the way drugs are priced and the way doctors and hospitals are paid (World Bank, 1992).

VI THE IMPACT OF VIETNAM'S REFORMS ON EDUCATION SERVICES AND OUTCOMES

This section examines how the provision of education, and ultimately education outcomes such as school enrollment and years of completed schooling, have been affected by the Doi Moi policies adopted in Vietnam in the late 1980's. Basic time series data on education outcomes in Vietnam are available, namely school enrollment ratios at the primary and secondary level. This information, which is provided in Figure 4, shows the extent to which households were using education services in Vietnam during the adoption of Doi Moi policies. The overall finding is that primary school enrollment rates have been remarkably stable, while secondary school enrollment rates dropped soon after the adoption of Doi Moi policies and recovered only very recently. While these trends are useful summaries of what happened in the education sector, they are not complete because they do not fully reflect changes in school quality and in costs households are expected to bear. The remainder of this section will examine the pathways by which Doi Moi policies may have caused these trends.

A. Income effects

The first pathway by which the policies affect education outcomes is income growth. As explained in the previous section, Vietnam started out with a relatively equitable distribution of income, and all seven regions have experienced economic growth since the late 1980's, although some have had more than others. Thus, as in the case of health, one would expect an improvement in education outcomes given positive growth in real per capita income. However, it has already been seen how enrollment in secondary school has initially faltered during these years. This suggests that one or more of the other six pathways has had an opposite effect. The remainder of this section will examine these other pathways in detail.

B. Price effects[15]

Policy reforms can also affect education services, and ultimately outcomes, by affecting prices. The 'price' of education services is paid by households in two forms: official user fees and a variety of contributions and payments required of students. Before the Doi Moi policies were introduced, no tuition fees were charged at any level of education. Other types of fees were often imposed, but

15 This section draws from World Bank (1996b).

they were probably not very large since people's incomes were so low. Instead, financing for education was often done at the commune level using funds generated by the operation of agricultural cooperatives.

Under the Doi Moi policies, the official pricing policy for education has changed. Although it is still the case that no tuition fees are charged for primary education, tuition fees have been introduced at higher levels of education. In general, these fees are higher in urban areas than in rural areas. In both urban and rural areas, annual fees in lower and upper secondary schools rise with each grade level, ranging between VND 18,000 and VND 45,000 in lower secondary schools and between VND 45,000 and VND 63,000 in upper secondary schools.[16] To reduce the burden of fees at the secondary level, partial or full exemptions are offered to certain categories of students, such as children of war invalids, orphans, certain ethnic minorities, residents of remote mountainous areas and children of public sector workers.

For post-secondary education, government regulations specify tuition fees ranging from VND 40,000-100,000 per month, plus fees for various services such as matriculation, examinations, boarding and graduation. There are also regulations regarding which students should be granted full exemptions from fees (war invalids, orphans, and those with outstanding academic achievements) and 50 per cent reductions in fees (students from certain ethnic minority groups and children of public employees and soldiers).

In fact, the official fees discussed above do not provide a complete picture. A recent household survey conducted in 1996 reveals that the government's user fee policy for education represents only a small portion of the private expenditures incurred by families to obtain public education for their children. Even in primary school, where tuition fees are waived for all students, household expenditures are significant. In urban areas, each child enrolled in a public primary school pays, on average, about VND 261,000 (about $24), and in rural areas, primary students pay almost VND 105,000 (about $9-10).[17] These payments for primary school take the following forms: school improvement fees (13 per cent), parent association fees (3 per cent), insurance (5 per cent), textbooks (10 per cent), supplies and materials (16 per cent), tutoring (6 per cent), meals away from home (19 per cent), and other costs (4 per cent) (GSO and ADB, 1996).

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16 These figures refer to data collected in 1996, when one U.S. dollar was equal to about 10,500 Vietnamese dong.

17 Of course, these costs do not including the opportunity cost (foregone earnings) of children.

Private expenditures for secondary school are also much higher than one would infer from the official user fee policy. Average total private payments for secondary school are five to six times higher than official user fees. In urban areas, a typical lower secondary school requires household payments of VND 488,000 ($44) per year for lower secondary and VND 788,000 ($72) for upper secondary school. In rural areas, students pay, on average, VND 203,000 ($18) for lower secondary school and VND 503,000 ($46) for upper secondary school (GSO and ADB, 1996). To provide some perspective on the level of payments being shouldered by Vietnamese households, per capita annual household expenditures in 1996 was VND 1.4 million (rural residents) and VND 2.4 million (urban residents). Thus for the typical rural family of five, total annual household expenditures in 1996 were VND 7 million, so the cost of sending a child to primary school amounted to 1.5 per cent of annual expenditures. Analogous costs for lower and upper secondary school were 2.9 per cent and 7.2 per cent, respectively. For a typical urban household of four, the analogous figures are 2.7 per cent (primary), 5.1 per cent (lower secondary) and 8.2 per cent (upper secondary). Of course, these fees are a much higher percentage for families that are poorer than average.

Finally, higher education also requires private payments well beyond the official tuition charged by the individual institutions. In 1995 the average level of fees collected from students was about VND 420,000 per year (GSO and ADB, 1996). Other payments associated with study (i.e. books, transportation and room and board while studying) more than double household expenditures on higher education, making the cost well over 10 per cent of a rural household's annual expenditures and about 10 per cent of urban household expenditures.

In summary, prices for education can be substantial, especially at the secondary and post-secondary levels. However, it would be premature to claim that increased prices are responsible for the decline in secondary school enrollment in Vietnam in the late 1980's. Glewwe and Jacoby (1998) used the 1992-93 Vietnam Living Standards Survey to examine the causes of this decline, but before turning to that study an examination of the other factors that determine use of educational services is needed.

C. Time costs

Another determinant of school enrollment, and ultimately of years of schooling attained, is the time cost of attending school. Because school attendance uses much more time than use of health services, changes in time costs may have large effects on school attendance and enrollment. The fact that incomes have been rising in Vietnam implies that this pathway may be particularly important.

However, the most important effect is probably not the general increase in income but the fact that under the previous agricultural cooperative system household incomes were only loosely related to the amount of time household members spent working. In contrast, the current system of family farming implies that a farm household will bear the full cost of time its children spend in school, since they will then not be available to work on the family's farm. This time in school effect probably greatly outweighs other time effects, such as changes in travel time. In fact, travel time has probably not changed at all because very few private schools have appeared in Vietnam to date.

The fact that secondary school enrollment dropped substantially after the introduction of Doi Moi policies in 1986 is consistent with the hypothesis that the switch from agricultural cooperatives to family farms greatly raised the incentives of rural households to remove their children from school and put them to work on the family farm. Indeed, Glewwe and Jacoby (1998) show that the decline in secondary school enrollments was primarily a rural phenomenon, and was accompanied by a dramatic increase in labor force participation by children of secondary school age. Whether this is the main cause of the dip in secondary school enrollment will be discussed below. At this point it is sufficient to note that it may have been in important determinant of that phenomenon.

D. Quality

As with publicly provided health services, there is virtually no information on changes in the quality of public schools since the Doi Moi policies were adopted in Vietnam. While private schools are no longer prohibited, they are still relatively rare, enrolling only 2-4 per cent of primary and secondary school students in 1992-93 (see Glewwe and Patrinos, 1998). Thus, changes in quality are primarily changes in the quality of public schools.

One way to get at changes in school quality indirectly is to examine changes in public expenditures for education and training over time. Such expenditures rose from 1.9 per cent of GDP in 1991 to 3.5 per cent by 1994. Since GDP was rising quickly during this period, real per capita expenditures more than doubled from VND 21,866 per student to VND 47, 931. The largest share of these expenditures went to primary education (30 per cent), followed closely by secondary education (27 per cent), higher education (13 per cent), and vocational training (11 per cent). Between 1991 and 1994, primary education's share of the education budget declined by 8 to 10 percentage points, while secondary's share increased by about the same amount. Higher education and vocational training's share declined over the period while 'other expenditures' (largely administration) increased significantly (for a detailed description, see

World Bank, 1996b). It is unlikely that this increased funding was completely wasted, so it appears that, on average, school quality increased in Vietnam in the early 1990's.[18] This may explain at least part of the recovery in secondary school enrollment in Vietnam that began in 1993.

E. Other determinants of school enrollment and attainment

The other three determinants of households' use of education services are the value they place on education for its own sake, the contribution of education to income, and government regulations requiring school enrollment. As with health, there is little reason to thing that the value households place on education for its own sake has changed due to Doi Moi policies, yet there have been changes in the other two factors.

Changes in the value that households place on education due to its positive income effects are more likely to explain increases in schooling. In general, prior to the Doi Moi reforms Vietnam, like many socialist countries, tended to set wages so as to reduce inequality among people with different skills. This implies that education had a lower economic return than would have prevailed in a market system. While government workers may still be subject to such wage compression after the introduction of Doi Moi policies, private sector workers now earn whatever the market will bear for someone with their educational background. Thus it is likely that education has become more attractive for remunerative reasons, which should result in generally higher levels of school attainment.

Finally, there is the issue of government requirements that children attend school. Before Doi Moi policies, there was no official regulation that children attend school, although education was strongly encouraged. In 1991, a law was instituted requiring all children to attend primary school (Ahn, et al., 1995). However, it is clear that this law is not strictly enforced, and it is likely that it has not had an appreciable effect on school enrollment in Vietnam.

F. An econometric analysis of the determinants of school attainment

A recent study by Glewwe and Jacoby (1998) investigates the causes of changes in primary and secondary school enrollment rates over time in Vietnam. Using times series data based on retrospective information provided in the 1992-93 VNLSS, as well as econometric analysis of current school enrollment patterns using the same data, they draw several tentative conclusions regarding school

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[18] School quality could have declined in certain regions or among certain socioeconomic groups, but regrettably there are no data with which to check this possibility.

enrollment trends in Vietnam. First, they find almost no evidence that the increase in the price of schooling had an effect. This is because: a) the decline in enrollment at the secondary level preceded the increase in school prices in 1989; b) the increase in the full cost of primary schooling had no apparent effect on trends in primary school enrollment; and c) cross-sectional regression analysis showed only weak support for price effects on school enrollment and completion and decisions.

Glewwe and Jacoby also investigated whether the switch to family-based farming led to the decrease in secondary school enrollment rates. The time series evidence supports this hypothesis, since labor force participation jumped dramatically among children of secondary school age in the late 1980's. In addition, while there is some evidence that primary schooling makes farmers more productive, there is no evidence that secondary education has a similar effect. Finally, the fact that secondary school enrollments declined much more in rural areas than in urban ones is also consistent with this hypothesis. However, cross-sectional regressions did not show any negative effect of rural wages on completion of (lower) secondary school, although there were significant negative effects at the primary level.

The final determinant of changes in school enrollment considered by Glewwe and Jacoby is school quality. Both the time series analysis and the cross-sectional regression estimates offer some support for the hypothesis that quality played a role, but some evidence is not consistent with this conjecture, and the data on school quality are very simplistic. Thus there is only weak evidence in favor of the hypothesis that changes school quality are an important determinant of school enrollment trends in Vietnam.

G. A case study: Ha Tinh province

Another approach to analyzing the overall effect of Doi Moi policies on educational outcomes is to look again at the case study of the two districts in Ha Tinh province by OXFAM (1996). The study goes back well before the Doi Moi reforms. The earliest time period described is 'the war period' (1960's and 1970's), when teachers taught and students studied with 'revolutionary fervor', despite shortages of funds and materials. The second era was 'the post-war, pre Doi-Moi period of discouragement', which covered most of the 1980's. Education was free, but compensation for teachers stagnated, educational supplies were in short supply, and both young people and their parents saw few returns to their households from education.

The third period, which soon followed the introduction of the Doi Moi reforms, is referred to as the '1990-92 shock'. Soviet aid was cut off and macroeconomic

imbalances led to severe stabilization and adjustment measures. The decollectivization of the economy presented new income earning opportunities, but the social services provided by collectives disappeared. Households increased production to cover costs previously paid by the state. Parents removed their children from school and put them to work, in part because of pressing short term demands for food and basic necessities. This is consistent with the econometric analysis of Glewwe and Jacoby (1998) presented above. High dropout rates and decreases in teaching quality characterized this period. The fourth period covers 1993 to the present. It can be characterized as the 'post-Doi Moi adjustment' period. During this period the number of pupils has risen. Parents are placing greater priority on long term needs and benefits. Financial security has increased as households have adjusted to an economy without collectives. At the same time due to higher tax revenues, teacher salaries and teaching quality increased. (OXFAM, 1996).

This case study of Ha Tinh province provides a scenario that is fairly consistent with the evidence presented above. The initial Doi Moi reforms raised school fees as well as the opportunity (forgone labor) costs of school attendance, and the cut-off of Soviet aid may have led to declines in school quality. All of these factors reduced school attendance, particularly at the secondary level. However, continued increases in income let to direct increases in the demand for education, and also increased demand indirectly by adding to funds available for the government to spend on school quality. Thus, despite an initial dip in school enrollment immediately following the Doi Moi reforms, access to education has improved for the vast majority of the population. However, there is still much room for improvement, particularly with regard to the quality of education.

VII CONCLUSIONS AND LESSONS FROM VIETNAM

Based on the analysis presented above, several lessons emerge from this study of health and education outcomes in Asian transitional economies. First, protecting and improving health and education outcomes depends heavily upon the general success of economic reforms in raising household income. Where economic growth is strong, as in China, Laos and Vietnam, it is much easier for governments to finance improvements in publicly provided services, and for households to contribute to their financing through user fees. But again, although higher incomes provide the right opportunities for progress, governments must consider how to combine effectively both public and private

finance and provision of health and education services, and where to allocate scarce public resources.

Second, the initial structure of the economy is important for determining the impact of policy changes on the provision of health and education services. The nature and sequencing of 'market-oriented reforms' appropriate for any country will depend on specific country circumstances. In Vietnam, the dissolution of large numbers of state enterprises had little effect on social sector delivery systems, since the mainly agrarian labor force was largely unaffected by these shutdowns. On the other hand, the dismantling of agricultural cooperatives in Vietnam did seriously undercut local sources of financing for health and education services.

Third, when adopting market-oriented reforms some experimentation on a small scale is useful, and if an experiment fails the government must move quickly to stop it, or at least counteract its negative effects. An example of this is Vietnam's provision of health services. When the dismantling of agricultural cooperatives in rural areas left communes unable to finance basic health services, the central government stepped in, providing funds to pay three health workers per commune. In general, pilot tests of proposed policies can allow governments to scrap bad policies and improve the effectiveness of good ones.

Fourth, after the initial reforms, governments need to carefully consider medium- and long-run plans for blending public and private health and education services. This requires government institutions that can both provide public services and create an enabling environment for private provision to develop. A clear definition of the role of government is an extremely important task during the transition in order to determine when public revenues must be relied upon and when private sector funds and initiatives can meet the demand for specific health and education services.

Finally, it is almost inevitable that some groups will face serious barriers that prevent them from benefiting from market-oriented policy reforms. Identifying vulnerable groups must be part of government activity in a market economy. Careful analytical work, using including household surveys and other types of information, is extremely important. The only alternative is to let political agendas and/or anecdotal experience guide national policy, which will sooner or later lead to policy failures that will threaten the health status and educational prospects for millions of citizens.

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APPENDIX

Table A.1 *Real GDP per capita for five Central Asian transition economies*
(In billions of national currency)

	Kazakstan	Kyrgyz Republic	Mongolia	Turkmenistan	Uzbekistan
1980	2,435	1,631	3,735	4.23	2.30
1981	2,503	1,669	3,941	4.33	2.35
1982	2,588	1,727	4,164	4.48	2.43
1983	2,682	1,784	4,297	4.62	2.51
1984	2,742	1,819	4,451	4.71	2.56
1985	2,770	1,832	4,590	4.75	2.58
1986	2,850	1,881	4,898	4.87	2.65
1987	2,904	1,909	4,940	4.95	2.69
1988	3,033	2,000	5,235	5.18	2.82
1989	3,102	2,043	5,329	5.29	2.88
1990	3,003	1,983	4,906	5.14	2.98
1991	2,608	1,816	4,341	4.87	2.95
1992	2,238	1,556	3,870	4.59	2.61
1993	1,987	1,311	3,697	4.11	2.54
1994	1,484	1,030	3,710	3.22	2.38
1995	1,345	1,027	3,866	2.82	2.28
1996	1,343	1,034	3,924	2.93	2.21

Table A.2 *Real GDP per capita for four East Asian transition economies*
(In billions of national currency)

	Cambodia	China	Lao PDR	Vietnam
1980	193,532	454	112,122	308,285
1981	191,813	468	126,854	319,493
1982	187,460	500	130,238	338,856
1983	189,743	545	130,306	356,135
1984	192,333	621	134,379	378,791
1985	195,231	698	143,232	392,438
1986	196,528	743	145,953	397,557
1987	190,589	816	140,476	398,659
1988	203,127	894	134,000	411,073
1989	203,883	916	143,575	434,421
1990	200,095	937	145,881	445,669
1991	208,796	1,011	148,177	461,622
1992	216,660	1,138	154,954	489,541
1993	218,727	1,274	160,409	518,796
1994	221,296	1,420	168,467	552,540
1995	231,541	1,551	175,317	591,932
1996	242,311	1,684	183,246	634,412

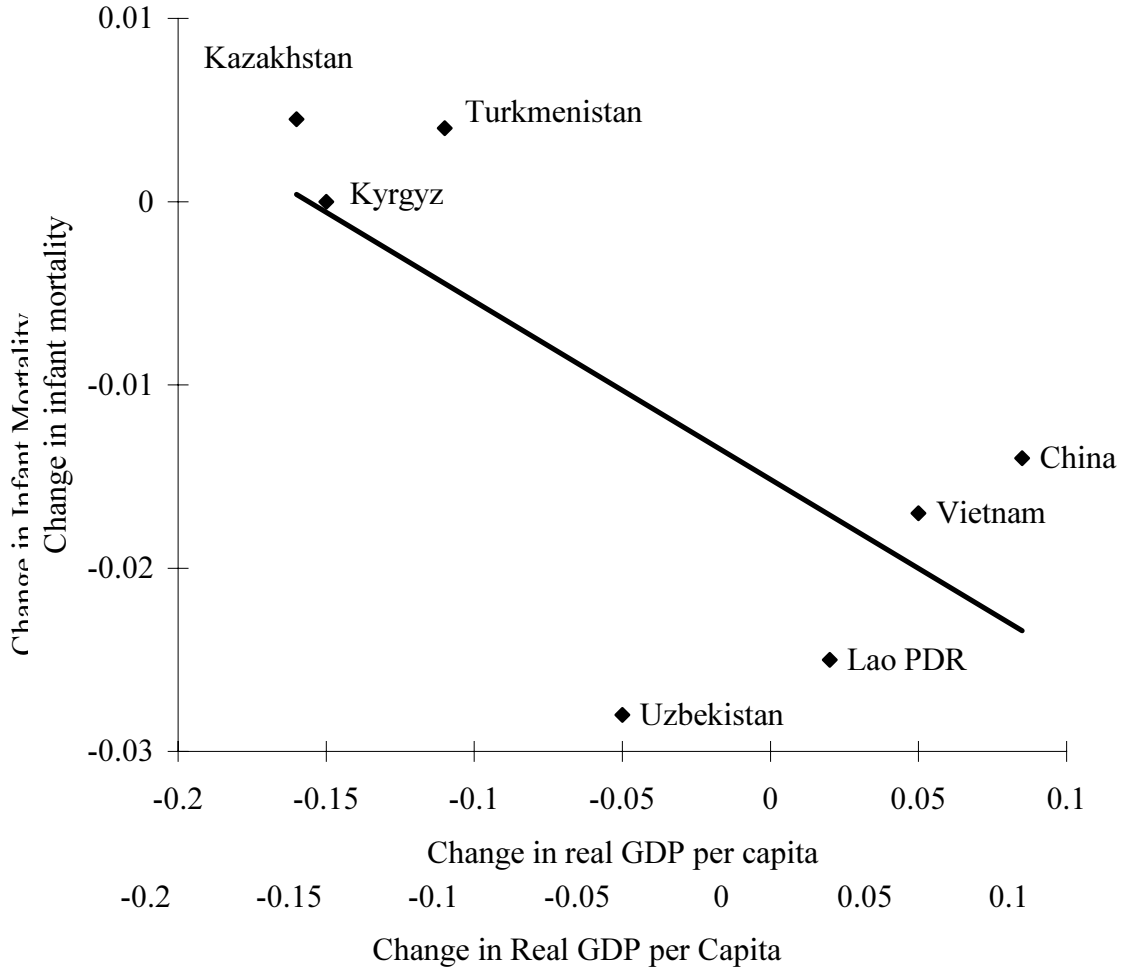
Table 1 *Trends in health and education outcomes in Central Asian transition economies*

	Infant mortality					Secondary school enrollment
Year	Kazakstan	Kyrgyz Republic	Mongolia	Turkmenistan	Uzbekistan	Mongolia
1985	30	42	-	52	45	92
1986	-	-	-	-	-	
1987	-	-	68	-	-	
1988	-	-	-	-	-	
1989	26	32	-	55	38	91
1990	26	30	-	45	35	86
1991	27	30	-	47	36	-
1992	26	32	60	44	37	80
1993	28	32	55	46	32	78
1994	27	29	53	46	28	82
1995	27	30	55	46	30	-

Table 2 *Trends in health and education outcomes in East Asian transition economies*

	Infant mortality rate				Secondary school enrollment rate		
Year	China	Cambodia	Laos	Vietnam	China	Laos	Vietnam
1982	39	160	122	53	-	-	-
1983	41	-	-	-	-	-	-
1984	38	-	-	-	-	-	-
1985	37	-	-	-	39	23	43
1986	-	-	-	-	-	-	-
1987	38	130	110	47	-	-	-
1988	-	-	-	-	-	-	-
1989	-	-	-	-	46	25	35
1990	-	-	-	-	48	-	33
1991	31	-	-	-	51	22	-
1992	31	116	97	44	54	24	32
1993	31	113	95	43	55	25	35
1994	30	110	92	42	52	-	41
1995	34	107	90	41	-	-	-

Figure 3 *GDP growth and changes in infant mortality rates*



Notes:

1) The time period for each country is from the year the transition began: 1990 in Central Asian countries, 1980 in China, 1986 in Vietnam and Laos, and 1989 in Cambodia, until 1995.

2) For Laos and Vietnam, the infant mortality data are from 1987 because there are no data for 1986.

Figure 1 *Real GDP Per Capita in Central Asian Transition Economies*

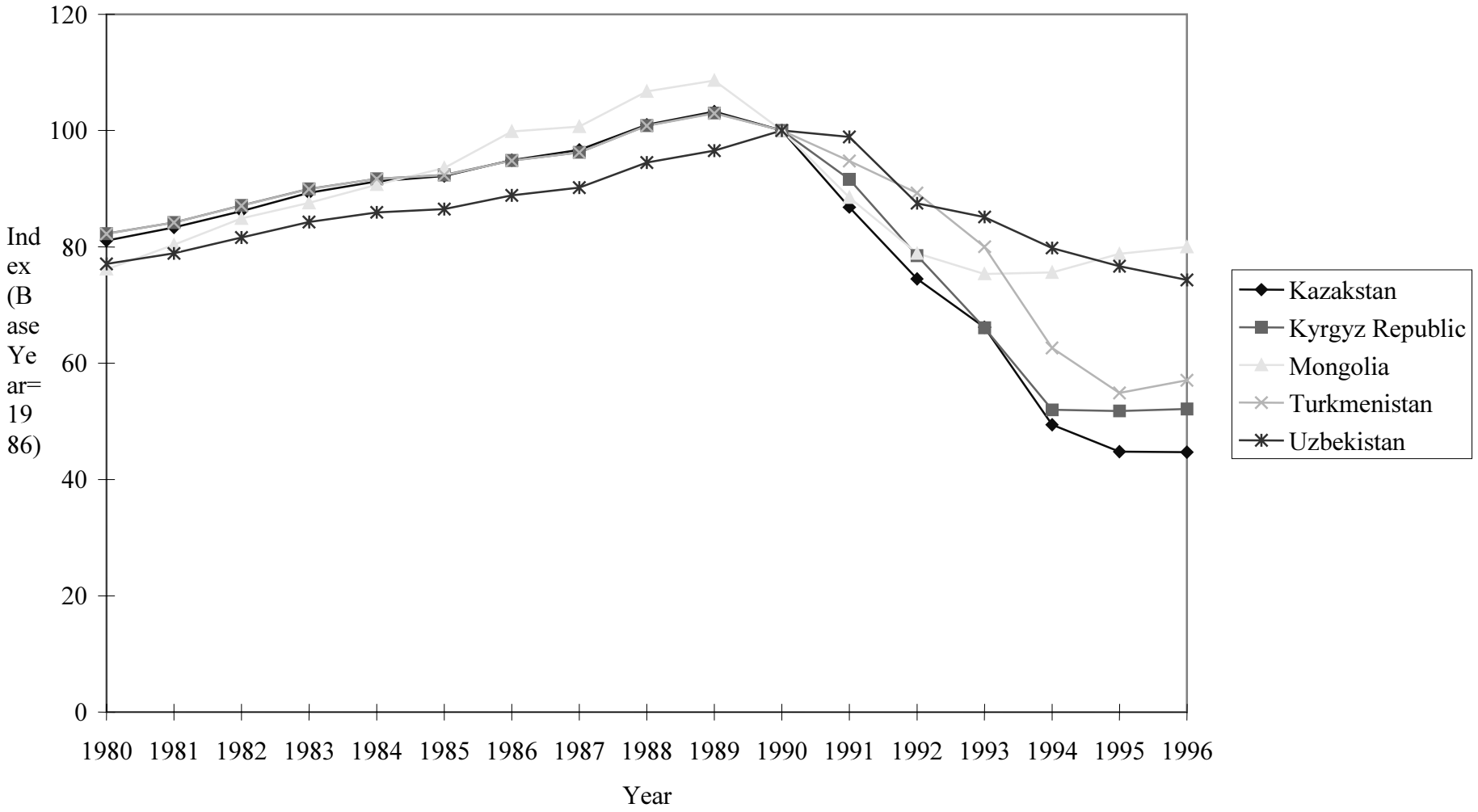


Figure 2 *Real GDP Per Capita in Four East Asian Transition Economies*

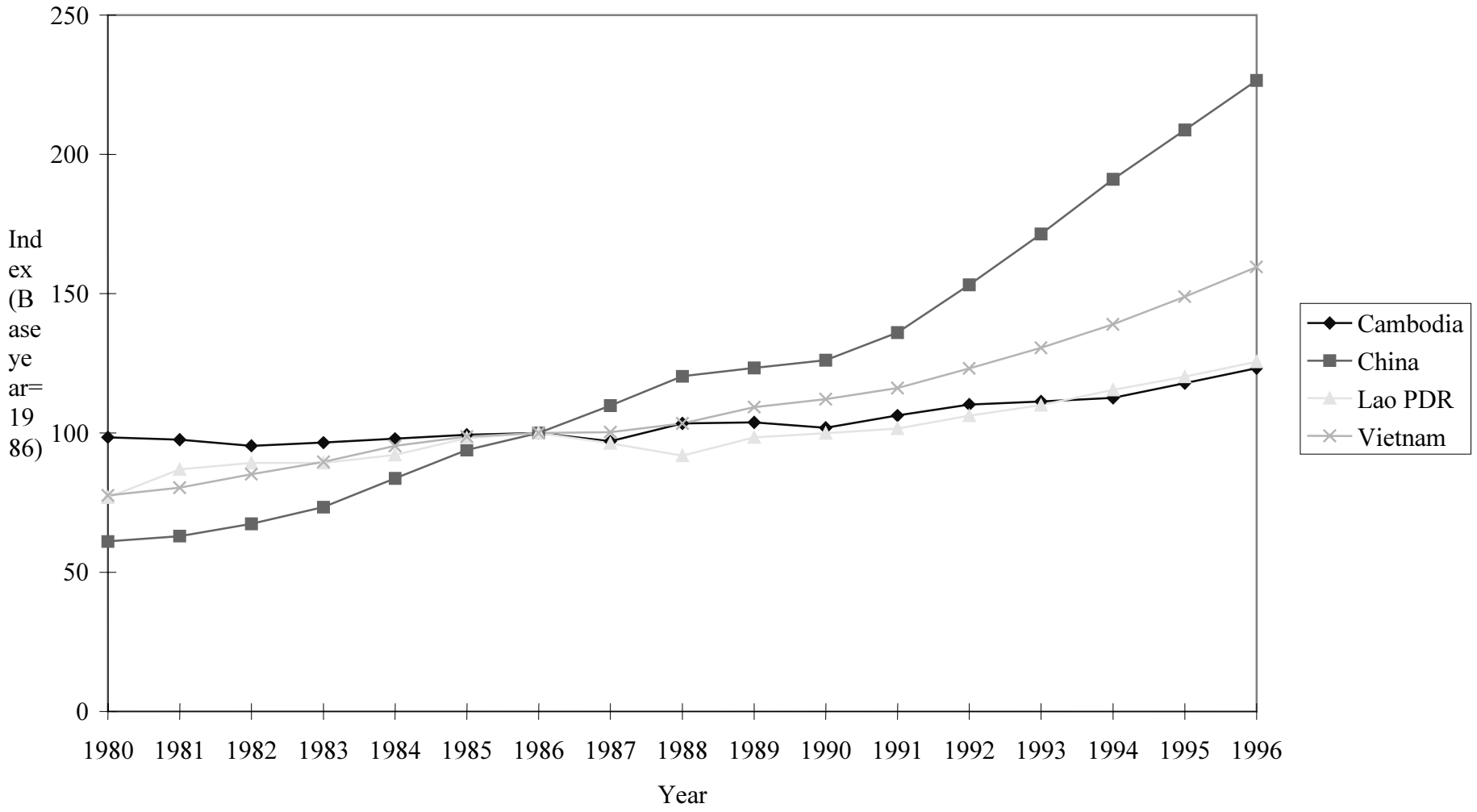


Figure 4 *School Enrollment Rates in Vietnam*