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Equity and Access to Tertiary Education: The Case of Vietnam

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April 2010

Acknowledgements

We would like to thank the World Bank for providing a generous funding to complete this report. We are also thankful to the participants of the higher education meeting at the Ministry of Education and Training (MoET) on 3 February 2010 for their useful comments. Our special thanks should go to Dr. Emanuela di Gropello (Human Development Unit, East Asian Region of the World Bank) for her enthusiasm and excellent comments and suggestions, which helped us to improve our analysis. All possible errors, however, remain our responsibilities.

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1. Introduction

Tertiary education is a key indicator in a nation's effort to develop a highly skilled workforce needed to compete in today's global economy. There are important private and public benefits to participating in tertiary education.[1] Higher salaries, better employment opportunities, increased savings, and upward mobility are some of the private economic benefits obtained by taking part in tertiary education. A tertiary education graduate also obtains non-economic benefits including, a better quality of life, improved health, and greater opportunities for the future. Tertiary education can also be linked to the demand for high quality skills in the new knowledge economy. Tertiary education, through the creation of new knowledge, development of innovative technologies and development of scholars in varied specialties, can bolster the labor force in today's global and competitive economy.

Given the extensive social and private benefits that result from tertiary education, access and inclusion are essential for achieving social justice, and ensuring the realization of the full potential of all young people. First, in the interest of fairness, every individual must be given an equal chance to partake in tertiary education and its benefits, irrespective of income and other social characteristics including gender, ethnicity, and language. Second, there is a strong efficiency argument in favor of equity promotion. A talented but low-income student who is denied entry into tertiary education represents a loss of human capital for society. The lack of opportunities for access and success in tertiary education will lead to underdeveloped or undeveloped human resources.

Gender inequality in tertiary education also persists in many parts of the developing world, particularly in the countries of the Middle East, Sub-Saharan Africa and South Asia. Even in the few countries where gender parity has been achieved in tertiary education, "gender streaming" of women toward specific types of non-university institutions and/or toward specific disciplines leading to low-paying occupations can be observed. Female over-representation persists in teaching institutes, nursing schools, and secretarial schools. Women are commonly over-represented in the humanities, while most often underrepresented in subjects such as agriculture, medicine, business, science and engineering programs. Women are also underrepresented in leadership roles in tertiary education institutions.

There are both non-monetary and monetary barriers to entry into tertiary education. Academic ability, information access, motivation, inflexibility of university admission processes, family environment and others forms of cultural capital are some of the non-monetary reasons that have been recognized as important factors in explaining poor participation of low-income individuals in tertiary education. There are also three monetary barriers to tertiary education, including the cost-benefit barrier, the cash-constraint or liquidity barrier, and the internalized liquidity constraint or the debt aversion barrier. The cost-benefit barrier occurs when an individual decides that the costs of attending university (including tuition and living expenses as well as opportunity costs of not working during the duration of the course) outweigh the returns to their education. Liquidity barriers refer to a student's inability to gather the necessary resources to pursue tertiary education after having decided that the benefits do outweigh the costs. And, the debt aversion constraint occurs when a student values the benefits of tertiary education over its costs, can borrow to obtain access to sufficient financial resources, but, regardless of these factors, chooses not to matriculate because the financial resources available to him/her include loans. All three

[1] In this paper, tertiary education and higher education are use alternatively.

of these monetary barriers are contributing to rising inequity in tertiary education participation.

The objective of the case study on equity of and access to tertiary education in Vietnam is to document the significance and consequences of disparities in tertiary education opportunities and to offer concrete recommendations on effective policies directed toward the ideas of widening participation. The research aims are particularly important as Vietnam will enter a so-called 'demographic bonus', in which working-age population, particularly youth, will be increasing quickly for about two decades. Our analysis will focus only on students at colleges and universities, and not those in vocational training institutions. To pursue these research objectives, the Vietnam Household Living Standard Survey (VHLSS) in 2006 and the 2009 National Economics University (NEU) surveys are used.

The research is organized as follows. In the next part, we will provide a brief view on education system in Vietnam and the evolution of the tertiary education since *Doi moi*. Then, our methodology and data will be described in Part 3. In Part 4, we will analyze disparities in access, affordability, and performance of the students, using both VHLSS 2006 and NEU Survey 2009. To explore the results in Part 4 more thoroughly, we will conduct some regression models to flesh out the determinants of disparities in Part 5. In Part 6, we will provide some evaluations of government policies on tertiary education, such as tuition and fee policies and student loan policy. We will provide some concluding remarks in the last part of the paper.

2. Education system in Vietnam and the evolution of tertiary education since *Doi moi.*

In this section, we address the question of how access and equity are, or rather, should be defined in the economic and social context of Vietnam. We will start with a review of the education system in Vietnam, and how the role of tertiary education has evolved amid overall national education priorities.

2.1. Higher education in Vietnam: Background and evolution

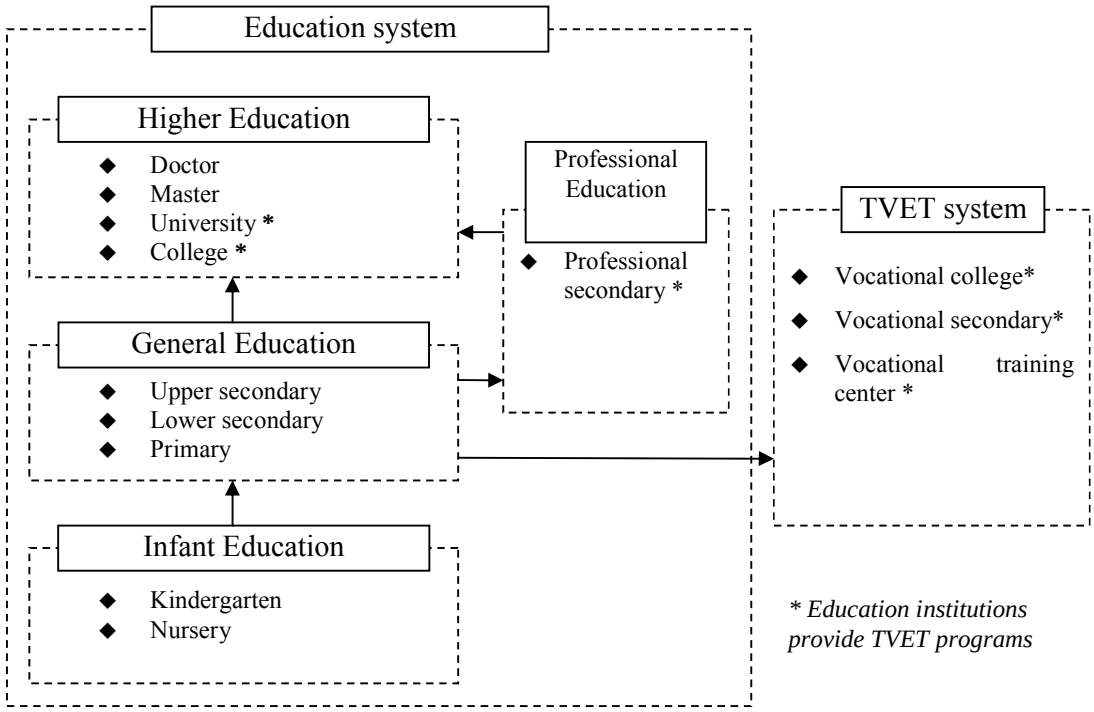
Higher education in Vietnam has quite a long history, but the current system is in need of essential reform because it has lagged in comparison with the higher education systems in most other developing and developed countries. The first university in Vietnam was established in 1076for the royal family and their children. The French colonial regime, which ruled Vietnam from the latter half of the 19th century to September 1945, invested very little in tertiary education. And in the forty years from 1945 to the late 1980s, the higher education system in Vietnam was modelled on the former Soviet education system. Most of the current public universities, which were established in that Soviet inspired time, still are highly specialized in only one or a few fields of study.

Since 1986, when the Communist Party and the Government of Vietnam adopted *Doi moi* to replace the centrally-planned economy with a market economy, Vietnam has undergone dramatic changes along economic and social aspects. These changes, on the one hand, have facilitated and promoted the development of the education system; on the other hand, they have exacerbated the pressures on the education system in general and the higher education system in particular. Under the reforms, the higher education system has

seen the unification and restructuring process, including the establishment of semi-public and non-public educational institutions.

The current education system in Vietnam has five levels: pre-primary education; primary education; lower secondary education; upper secondary education; and higher (tertiary) education. The higher education (HE) system includes university (from 4 to 6 years, depending on the field of study), college (3 years), master (from 1 to 3 years after getting university degree, depending on the field of education and the forms of study) and doctorate education (2 to 4 years after getting master degree) (Figure 1).

Figure 1: The current structure of the education system in Vietnam



Source: Mori and Nguyen (2008)[2]

Table 1: Number of enrolled students, 2000-2008

Unit: 1,000 people

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Primary	10,063	9,751	9,337	8,841	8,350	7,773	7,318	7,041	6,872
Lower secondary	5,767	5,918	6,254	6,498	6,612	6,671	6,445	6,218	5,858
Upper secondary	2,159	2,400	2,529	2,768	2,977	3,269	3,530	3,627	…
Tertiary	732	749	785	829	1,328	1,355	…	1,588	1,655

Source: World Bank Education Statistics and UNESCO Education Statistics.

Table 1 shows the enrolment numbers at different education levels from 2000 to 2008. The figures show that the tertiary system has expanded at the expense of primary schooling. From 2000 to 2008, the number of tertiary students increased by 120 percent, from 732 thousand students to 1.66 million students. At the same time, the number of enrolled primary students reduced by 32 percent from 10.06 million to 6.87 million people. Thus, there were 13.7 primary pupils per each tertiary student in 2000. In 2008, there were

[2] Mori, Junichi and Nguyen, Thi Xuan Thuy. (2008), "Development of Industrial Human Resources for FDI-oriented Industrialization in Vietnam". http://www.vdf.org.vn/Doc/2008/VDFConfContribution2.pdf, accessed 30 November 2009.

4.2 primary pupils per each tertiary student. There are at least two reasons for this substantial change in the composition of Vietnam's education system (Figure 2). First, reducing birth rates during the last decade means that the population of primary school age has reduced, while the population of tertiary school age has increased. Second, there has been a shift in government policies in recent years that aim at expanding Vietnam's higher education system.

Figure 2: Change in composition of Vietnam's education system, 2000 & 2007

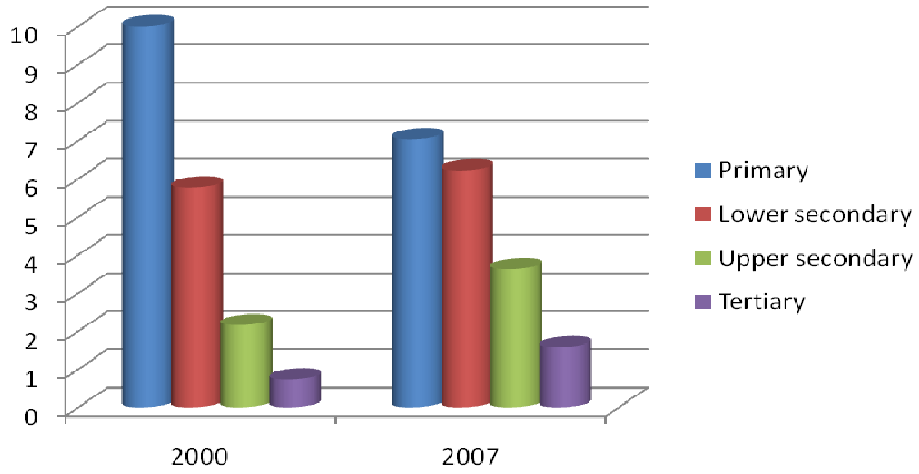


Table 2: The swift development of the higher education system in Vietnam

	1987	*1997*	*9/2009*
Number of HE Institutions	101	126	376
Non-public HE institutions	0	15	81
Number of students	133.136	715.231	1.719.499

Source: Ministry of Education and Training (2009)

Table 2 shows that the HE system in Vietnam has developed swiftly in a short period of time. In 1987, there were only 101 public HE institutions, no private HE institutions, and 133 thousand students. After two decades, by 2009, the numbers were 376; 81; and more than 1.7 million, respectively.

Table 3: Selected Tertiary Education Indicators

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Enrollment									
Female enrollment share (%)	41.6	42.1	42.8	43.0	40.9	40.9	48.2	49.3	48.8
Number of teachers (1,000)	30.3	32.2	35.9	38.6	46.7	47.6	48.6	53.5	56.1
Female teachers share (%)	37.9	38.7	39.3	39.7	40.5	40.5	42.2	44.4	45.0
Ratio of student/teacher (%)	24.2	23.3	21.8	21.5	28.4	28.4	..	29.7	29.5
Private enrollment share (%)	13.1	10.6	9.1	8.8	10.2	10.2		11.8	11.4
Graduates									
Total graduates (1,000)	..	..	..	..	..	182.5	..	242.0	243.5
Female graduates share (%)	..	..	..	..	..	42.4	..	43.8	43.1

Source: World Bank Edstats, accessed on January 10, 2010 at:
http://ddp-ext.worldbank.org/ext/DDPQQ/member.do?method=getMembers&userid=1&queryId=189,

Table 3 summarizes selected tertiary education indicators since 2000. Both the number of students and the number of teachers have increased steadily during the decade. However, the growth rate of teachers has been lower than that of students. As a result, the

student to teacher ratio increased from 24.2 in 2000 to 29.5 in 2008, which could be an imperative to increasing both access to, and quality of, the higher education system.

There has been a steadily increasing trend of female enrolment in tertiary education. Female enrolment share increased from 41.6 percent in 2000 to 48.8 percent in 2008. At the same time, the ratio of female teachers also increased from 37.9 percent in 2000 to 45.0 percent in 2008. The share of the private enrolment fluctuated during the period. It reduced from 13.1 percent in 2000 to 8.8 percent in 2003 before increasing again to 11.4 percent in 2008.

Table 4: Graduates in tertiary education, by specialization in 2008

	% of graduates	Female share (%)
Education	33.22	52.50
Social sciences	27.29	52.96
Engineering	19.76	22.43
Agriculture	5.02	38.73
Services	3.99	18.32
Humanities and arts	3.93	31.33
Health	3.19	44.70
Others	3.60	38.57
Total	100	43.1

Source: World Bank Edstats

Table 4 presents graduates in tertiary education by specialization in 2008. We can see that the share of female graduates was relatively the same as that of male graduates in some social research-related fields such as education and social sciences, but was much smaller than that of male graduates in some technical fields such as engineering.

2.2. Previous studies on equity of and access to tertiary education in Vietnam

To the best of our knowledge, this topic has not been well examined in Vietnam. However a few academic studies on other aspects of education in Vietnam, have explored the issues on equity and access. Most of these studies have focused on the enrolment quotas and indicate that the current HE system does not meet the demand in various senses: unequal rates of enrolment in HE institutions, uneven spread of investments between public and non-public HE institutions, especially universities, between urban and rural areas, between HE and other educational levels.

One of the recent studies evaluating this issue is World Bank (2008).[3] To measure the level of access to higher education, this study uses the gross enrolment rate (GER) in higher education, which is calculated by the total number of students enrolled in higher education divided by the total adults in the age group of 18-24 years old. Comparing the GER figure calculated from the Vietnam Household Living Standard Survey (VHLSS) in 2004 with those from other regional countries, the study concludes that, despite an impressive growth of the HE system, the GER in Vietnam is still lower than that of other performing countries, i.e. China, Malaysia, the Philippines, and Thailand.

In addition, the estimation of completion and enrolment rates of higher education by area (urban and rural), income quintiles (the richest and the poorest), and gender (males and females) suggests that the HE completion rates are quite different between these

[3] World Bank (2008), *Vietnam: Higher education and skills for growth*. The World Bank Asia and Pacific Region.

groups of people. For instance, the rate of women enrolled in HE is 48 percent, while that of men is 52 percent. The difference in access is large between ethnic minorities and non-minorities, considering both the number of students enrolled in HE and the number of individuals holding higher education degrees. The distribution of HE enrolment by income quintiles suggests that the richer are likely to have to better access to HE than the poorer; the richest quintile has the highest level of enrolments in HE, and it is about four times that of the poorest.

However, the causes of the said disparities have not been carefully examined. The study suggests that there are some specific barriers that may be limiting individual's access to HE. These obstacles include a limited number of universities and faculties, financial barriers, and familial characteristics.

In an excellent overview of studies on the issues of access and equity in the higher education system in Vietnam, Oliver (2004) provides some critical findings. As quoted in his analysis, World Bank (1997)[4] shows that the richest 20 percent account for more than half of all those enrolled in upper secondary and tertiary education. Also, Dang (1998)[5] indicates that children of poor families still do not have equal access to higher education in comparison with better income families.

In his review of higher education system in Vietnam, Ngo (2006)[6] states that access to higher education for young people from rural, remote and mountainous areas and children of underprivileged families has increased by about 70 percent annually. He attributes this widening access to the government policies, including the establishment and development of public and non-public higher education institutions, especially those in remote areas; the introduction of a student loan programme; and the expansion of "in-service" higher education. However, his study does not provide in-depth analysis on the access to higher education and its determinants.

This study, to the best of our knowledge is the first attempt to investigate the factors that influence higher education access, equity, and performance in Vietnam.

2.3. Government policies regarding the tertiary education

In 1993, the Government of Vietnam issued the Decree 90/CP, dated 24 November 1993, which declared that Vietnam would have a unified HE system. In the Articles 3 and 4 of this Decree, the government declared that all people, regardless of their circumstances, should have the right of access to HE. This declaration was legalized in the Law of Education of Vietnam (1998, 2005, and the amended 2009). The Law stated that:

- All citizens have the right and responsibility to pursue education.

[4] World Bank. (1997). Vietnam education financing. (World Bank Stock No. 14023). Washington, DC: The World Bank.

[5] Dang, Xuan Hai. (1998). "Vietnam". Country report presented at the National Institute for Educational Research, Tokyo (Japan), United Nations Educational, Scientific and Cultural Organization, Bangkok (Thailand), and Asian Centre for Educational Innovation for Development Seminar on Recent Reform and Perspectives in Higher Education, Bangkok, Thailand. In NIER Report (1998), pp. 152-158. (ERIC Document Reproduction Service No. ED 346 082).

[6] Ngo Doan Dai (2006). "Vietnam." in *Higher Education in South-East Asia, Asia-Pacific Programme of Educational Innovation for Development*, United Nations Educational, Scientific and Cultural Organization. Bangkok: UNESCO Bangkok, 2006, 219-250.

- All citizens, regardless of ethnicity, religion, gender, family status, or economic circumstances, are equal in terms of access to education.

- The government is responsible to maintain the equity of access, to create favourable conditions for disadvantaged people in access to education.

To meet these aims of equity of and access to tertiary education in Vietnam, some key policies have been created and implemented in the past 10 years. Below are some of the most important policies.

First, the Priority in University Recruitment policy, in which students from special groups will enjoy a lower University Entrance Examination Cut-Off Score. These groups includes: students from remote and mountainous areas (namely Region 1), from rural area (namely Region 2-NT), and students whose parents are ethnic minorities or veterans with disabilities.

Second, the University Entrance Nomination policy, in which every year the Ministry of Education and Training (MoET), Ministry of Investment and Planning (MPI), and Ministry of Labour, Invalids and Social Affairs (MoLISA) allow a number of students from disadvantaged provinces to enter the assigned public universities without participating in any university entrance exams. The number of students is proposed by the provincial governments based on their socio-economic development level. These students, however, are still required to pass the national upper secondary exams as well as pursue an intensive one-year education before entering normal university courses. Ethnic minority students are given preference when the provincial governments make their selections.

Third, the Student Loan Policy, established by the government through the State Bank of Vietnam (SBV) in 1995. The first trial of this loan program was only for a limited number of students in public universities through the former Vietnam Industrial and Commercial Bank (now Vietnam Industrial Bank, Vietinbank). In March 1998, the Government of Vietnam issued Decision No.51/1998/QĐ-TTg on the setting up of the training credit fund (later on, it was replaced by Decision No.107/2006/QĐ-TTg, dated 18/05/2006, on credit for pupils and students), and in July 1998, the SBV issued the Decision No.219/1998/QĐ-NHNN1 for the guidelines on credit fund for students. The SBV also appointed Vietinbank as the credit provider and managing institution in chargeof the repayments. After 9 years of implementing the student loanpolicy, only 100,000 students were granted loans amounting toa total disbursement of 290 billion (VND). On average, each student has borrowed only VND 2.9 millions, and the beneficiaries only account for 1 percent of the total number students. The main reasons for such a low rate of student loan disbursement include: (i) the credit limit is low (at first it was VND 150.000 per month, and then increased to VND 300,000 per month); (ii) only full-time students can borrow money; and (iii) students have to repay the loan after only 6 months from their graduation.

To improve the situation, in 2007, the Government issued the Decision No. 157/2007/QĐ-TTg on the student credit loan. Specifically, the credit allowance was increased from VND 300,000 per month to VND 800,000 per month. The repayments would be deferred for one year after the graduation. Thus, only about two years after the Decision, the number of students benefiting from the policy arose to 1,335,000 with a total disbursement of VND 13,517 billion.

In June 2009, in a conference aimed at discussing theresults of the student credit program, Vice Prime Minister and Minister of Education H.E. Nguyen Thien Nhan stated that there were no poor students in Vietnam who had to stop their studies due to the lack of money. He also confirmed that the Government would try its best to allocate more money for this program. It was considered that this statement would support the idea that increasing HE tuition fees in the coming years would not heavily affect disadvantaged people from pursuing HE (considering they are academically qualified to be admitted to HE). In the latter part of this research, this statement will be carefully examined with the data from our case study at NEU.

3. Methodology and Data Sources

3.1. Concepts and measures

In this section, we define the concepts and measures that represent equity of and access to tertiary education.

3.1.1. Equity in access to tertiary education

Several indicators are selected to capture different aspects of access to tertiary education. Anisef (1985)[7] discusses two types of access to tertiary education: Type I refers to the extent of access among the population, while Type II is related to the background and composition of participants with access. This approach has been used in Usher and Cervenan (2005)[8] and Murakami and Blom (2008)[9]. In this paper, we measure Type I access by the participation ratio, gross and net enrolment ratio of tertiary education, and by the attainment rate of tertiary education, while Type II access is captured by the education equity index and the gender parity index. In particular, we calculated the following indices:

- **Type I access**

  - *Participation Ratio (PR):* is the percentage of population enrolling in tertiary education (including post-graduate degrees, such as master and doctoral degrees).

  - *Gross Enrolment Ratio (GER):* is calculated by expressing the number of students enrolling in tertiary education, regardless of age, as a percentage of the population of a certain age group. In this paper, that age group is defined as the age ranging from 18 to 22, which is that of the five-year age group after the high school leaving age.

  - *Net Enrolment Ratio (NER):* is the number of students in the theoretical age group for tertiary education enrolled in tertiary education expressed as a percentage of the population in that age group. In this paper, this age group is 18-22.

[7] Anisef, P., Bertrand, M.A., Hortian, U., James, C., (1985). "Accessibility to Postsecondary Education in Canada: A Review of the Literature." Secretary of State, Ottawa, ON

[8] Usher, A., Cervenan, A., (2005). "Global Higher Education Rankings 2005." Educational Policy Institute, Toronto, ON.

[9] Murakami, Y., Blom, A. (2008). "Accessibility and Affordability of Tertiary Education in Brazil, Colombia, Mexico and Peru within a Global Context." World Bank Policy Research Working Paper 4517.

- *Education Attainment Ratio (EAR)*: is measured as a percentage of population that attains a particular education level. We calculate the ratio between the people aged 25 to 34 years who completed college or university education in relation to the total population in the same age range. Thus, the advantage of EAR is that it measures completion of tertiary education before the age of 34 (Murakami and Blom, 2008).

- **Type II access**

  - *Gender Parity Index (GPI)*: is defined as the ratio of GER of female students enrolled at a given level of education to GER of male students at the same level (Murakami and Blom, 2008). A value of less than one indicates differences in favour of males, whereas a value near one indicates that parity has been more or less achieved. Proximity to gender parity is another possible indicator of equity in higher education access. In this indicator, any deviation from gender parity is treated as being indicative of inequality and, therefore, negative.

  - *Educational Equity Index (EEI)*: is an indicator to measure socio-economic status (SES) determinants of access to education. Usher and Cervenan (2005) and Murakami and Blom (2008) define Education Equity Index (EEI) as the ratio of students' socio-economic status (SES) to the SES of the general population, using father's education as a proxy for students' SES. In our analysis, we use household head's education instead of father's education as an indicator for socio-economic status. Head of household's education is used as a SES indicator for two reasons . First, the data from the VHLSS 2006 includes data on household members based on the relationship between the members and the household head. Thus, if a student is a grandchild of the household head, we are not able to know the educational qualification of that student's father or mother. Using father's education as a proxy for a household's SES in that case will exclude from the sample all extended families as well as the households in which the fathers are missing. Second, since a household head is generally considered the household decision-maker, using a household head's education as a proxy for the household's SES is more appropriate than using father's education. Third, there are no convincing arguments in using father's education instead of such alternatives as mother's education to represent a household' SES. Thus, generating EEI in our study requires two indicators: (i) the percentage of students in tertiary education living in households in which household heads have a tertiary education degree (this measure indicates the SES of the student population), and (ii) the percentage of household heads with tertiary education degrees among the general population, which measures the SES of the general population. The index is a ratio of the second indicator to the first one, and then multiplied by 100.

    The formula for EEI is:

$$EEI_h = \%(H_h/PR_h)*100, \quad (1)$$

    in which H_h is a percentage of household heads with tertiary education and PR_h is a percentage of students living in such households in which the household heads have completed tertiary education. EEI is usually lower than 100, reflecting that the SES of the student population is often better than the SES of the general population. Therefore, the higher the EEI score, the more the SES of

the student population resembles that of the general population, indicating that tertiary education is more equitable. In contrast, the lower the score, the less equitable the system of tertiary education is.

In order to capture the disparity in accessibility in tertiary education in both types, we develop a composite index, namely Education Accessibility Index (EAI). The EAI reflects both the extent of and the equity in access to tertiary education. EAI is defined by adding four different indexes: net enrolment ratio, gender parity, education attainment ratio, and education equity index, using their weights. The weights chosen for this study are based on Usher and Cervenan (2005): they are 25 percent for net enrolment ratio, 10 percent for gender parity, 25 percent for education attainment ratio, and 40 percent for education equity index. The reason behind the weights is that we attach equal importance to Type I and Type II access (both 50%). We consider net enrolment ratio and education attainment ratio to have similar importance. However, we consider education equity to be more important than gender parity, and thus we give more weight to education equity (40%) than to gender parity (10%).

The deriving formula is as follows:

*Education Accessibility Index = 0.25*Net Enrolment Ratio +*
+ 0.1 100*abs (1-Gender Parity) + 0.25*Education Attainment Ratio +*
*+ 0.4*Education Equity Index.* (2)

In this study, the access indices will be calculated both for the whole population in Vietnam, and across groups differentiated by such dimensions as income and ethnicities.

3.1.2 Affordability in tertiary education

In analyzing equity and access to higher education, it is crucial to examine affordability in tertiary education. We express the estimated costs of attending tertiary education as a function of ability to pay. This study uses real per capita income to express ability to pay. We measure the costs of attending tertiary education by four indicators of affordability, taking into account direct cost and indirect costs.

The four indicators are the combinations of cost components including tuition, other education costs and education benefits. They are defined as in Table 5. Net education cost ratio is the most important indicator, reflecting overall affordability of the higher education.

Table 5: Definition of Indicators for Affordability

Indicators (per income per capita)	*Formulas*
Tuition ratio	Tuition
Education cost ratio	Tuition+ other education costs (fund contribution, uniform, textbook, attending extra costs, transportation, lodging)
Education benefit ratio	Scholarship+ educational subsidies (for lodging, transportation etc.)
Net education cost ratio	Education cost- Education benefit

3.1.3 Performance indicators in tertiary education

To assess equity in education performance, there are a number of methods. Some commonly used performance indicators in education literature include:

- Non-completion rates: the proportion of students who leave the system without completing the requirements of their institution in a given school year.

- Promotion rate: is the proportion of students who have successfully completed a grade and proceeded to the next grade the following year.[10]

- Repetition rate: the proportion of students who repeat a grade once or twice.

- Percentage of repeaters: Percentage of repeaters at a particular grade.

- Duration of schooling: This calculates the duration of schooling at tertiary institutions, normally in comparison with the generally "normal period" needed to obtain a degree at such institutions.

- GPA (Grade Point Average): Among many indicators, a student's performance can be assessed by his/her GPA. In this study, we use GPA as the indicator reflecting a student' performance at tertiary institutions. The higher a student's GPA, the better performance he/she has.

3.2. Description of Data

3.2.1. The Vietnam Household Living Standard Survey 2006 (VHLSS 2006).

The Vietnam Household Living Standard Survey (VHLSS) 2006 is the main dataset used in this study. The survey covers 45,000 households, out of which 75 percent live in rural area. The survey collects information on household socio-economic status, including income, education, health, and employment. The education module in VHLSS 2006 has more details than the previous surveys in 2002 and 2004. It includes such information as education achievement, education costs, subsidies, and extra classes.

Although most of the modules in VHLSS 2006 collect information on all 45,000 households, the expenditure module collects details on household consumption in only 9,189 households. Therefore, it is possible to estimate poverty rates based on either consumption (with data on 9,189 households) or income module (with data on 45,000 households). The General Statistics Office of Vietnam (GSO) defines poverty based on expenditure module, and it was VND 2,556 thousand per capita per year. In 2006, the national poverty headcount was estimated at 16 percent, based on the expenditure data (World Bank, 2007).[11]

[10] In some universities in Vietnam, students need to fulfil some requirements before being accepted to promote in to higher grade ('Year'). Thus, if a student fails in some courses in Year 1, he/she may not be accepted to enter Year 2.

[11] World Bank (2007), *Vietnam Development Report 2008: Social Protection*. Hanoi: World Bank.

3.2.2. The NEU Survey 2009

The main aim of this survey is to provide supplement data in order to further explore the disparity in performance in higher education. We conducted a survey on 400 second-year students in order to get their first year GPAat NEU. The current system at NEU is the credit system, in which, students can decide to enrol in the subject of their choice. However, for the first year, most students will have the same list of subjects, which makes them comparable.

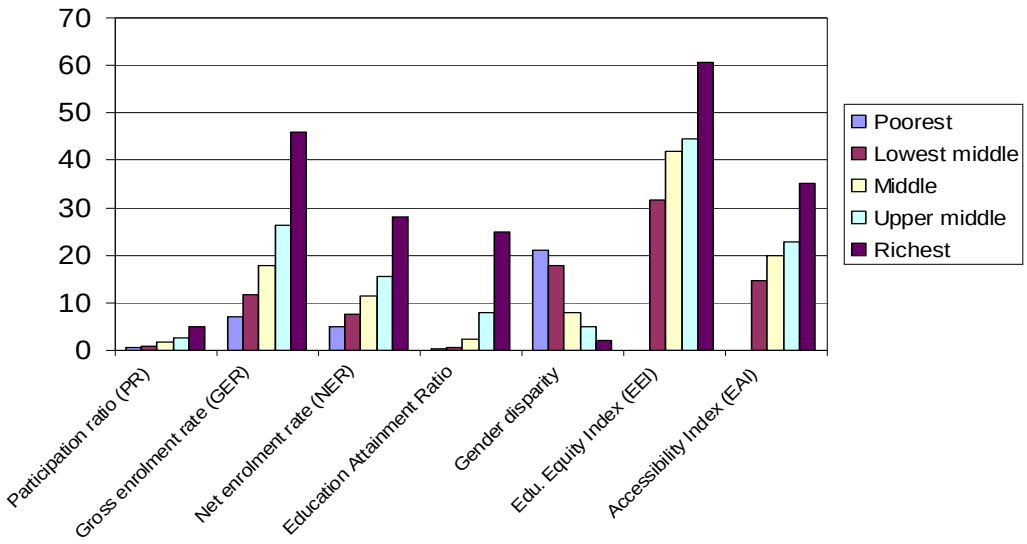
4. Inequality in access, performance and completion in tertiary education

In this section, we will describe and analyze disparities in access and performance in tertiary education along the dimensions of socio-economic groups, gender, regions, and ethnic groups.

4.1. Disparity in access

To estimate accessibility indicators, we use data from the education, demographic, expenditure and income modules of the VHLSS 2006. The education section provides data on school participation, the highest level of education completed, head of household;seducation, and current level of education. The demographic section of the survey includes age, gender, relationship of the respondent to household head, geographic characteristics and ethnicity of the head of household and household size. The income and expenditure sections provide data on household income and expenditure per capita.

Figure 3: Comparing tertiary education indicators among income quintiles*



Note: *gender disparity index is defined as 100* abs (1-gender parity)
Source: Own estimates from VHLSS2006.

Figure 3 shows that there is a marked difference in tertiary education accessibility among quintiles. Similar trends are also observed in the expenditure groups as well as in the poor/non-poor categorization.

Table 6: Accessibility to Tertiary Education Indicators

	Type I				Type II		Con In
	Participation ratio (PR)	Gross enrolment rate (GER)	Net enrolment rate (NER)	Education Attainment Ratio (EAR)	Gender Parity (GP)	Education Equity Index (EEI)	Acce Inde
Whole country	2.29	20.84	15.27	8.48	1.03	37.76	
By area							
Urban	4.12	37.37	27.75	19.68	1.04	58.05	
Rural	1.60	14.65	11.05	3.69	0.98	31.17	
By region							
Red River Delta	3.13	28.78	22.38	15.01	1.01	47.24	
North East	2.14	18.02	13.22	5.30	1.20	29.71	
North West	1.08	8.80	4.82	5.86	0.76	25.66	
North Central Coast	2.59	23.76	18.59	6.21	1.08	29.03	
South Central Coast	2.96	27.52	20.74	9.75	0.83	36.74	
Central Highland	1.79	16.70	12.26	4.40	1.17	46.59	
South East	2.71	25.57	17.72	12.85	1.02	48.94	
Mekong River Delta	1.20	11.08	7.61	3.98	1.07	28.30	
By ethnicities							
Kinh and Chinese	2.54	23.36	17.32	9.61	1.02	39.38	
Minority	0.70	5.99	3.81	1.60	1.33	21.32	
By gender							
Female	2.14	21.14	16.19	7.96		46.61	
Male	2.44	20.57	14.44	9.02		35.35	
By income quintiles							
Poorest	0.53	6.04	5.16	0.24	1.22	--	
Lowest middle	0.99	10.08	7.71	0.66	0.83	31.61	
Middle	1.72	15.24	11.94	2.39	1.09	41.74	
Upper middle	2.72	22.22	16.07	7.80	1.04	44.65	
Richest	4.89	39.94	30.04	24.96	1.03	60.66	
By poverty status							
Non-poor	2.54	22.46	16.47	9.52	1.03	39.91	
Poor	0.47	5.44	4.58	0.22	1.47	--	

Note: -- unavailable data.
Source: Own estimates from VHLSS2006.

Table 6 summarizes the accessibility indices. Gross Enrolment Ratio (GER) is quite high (at 20.84), and much higher than the corresponding figure of 10.0 in 2002 from the UNESCO Education Statistics. A reason is an explosive expansion of tertiary system over the past years. From 2002 to 2007, the number of students in tertiary system doubled, from 785,000 students in 2002 to 1,588,000 students in 2007 (UNESCO Education Statistics).

Table 6 shows remarkable variability in accessibility among different population groups. Generally, rural and lower-income people have much less access to higher education than urban and higher-income people, respectively. Thus, for example, only 0.24 percent of the poorest quintile of the 25-34 age group completed tertiary education. In contrast, 24.96 percent of the richest quintile of that age group could complete tertiary education.

Based on the composite accessibility index, Table 6 indicates substantial variation in tertiary education accessibility among regions. Residents in Red River Delta and South East have highest accessibly to tertiary education, as indicated by their respective composite accessibility index of 28.4 and 27.4. The two regions also have highest income per capita. In contrast, people in North West, Mekong River Delta, and North East have low accessibility to education. In particular, North West has the lowest accessibility index. It is also the region with the lowest gross (and net) enrolment ratio, the lowest equity index and the worst gender disparity. Since this region is also the poorest region in the country, limited financial resources could be a primary reason for low education accessibility.

The case of Mekong River Delta should also be noted. This region has relatively large land areas per head and is economically better-off than most other regions, except South East and Red River Delta. Yet, its accessibility index is lower than all other regions, except the North West. This fact shows that the regions with better incomes are not necessarily the ones with better education achievements. An opposite case to Mekong River Delta is Central Highlands, which is among the poorest regions but has a relatively high accessibility index, mostly due to its high education equity index.

It is also interesting to compare the gender parity index among regions. While gender disparity[12] between boys and girls is low nationwide and in both rural and urban areas, there is much variability in this index across regions. The two richest regions, i.e. Red River Delta and South East, have low gender disparity. On the other hand, North West, North East, Central Highlands, and South Central Coast have high gender disparity. Yet, the gender disparity in North West (0.76) and South Central Coast (0.83) tend to favour boys to girls, while girls have more advantages than boys in accessing tertiary education in North East (1.20) and Central Highlands (1.17).

Ethnically speaking, the Kinh and Chinese groups have better access to tertiary education than the ethnic minority households. In fact, the Kinh and Chinese have higher indicators than the minority in the composite indicator as well as in all component indicators.

Comparing between men and women, it shows that men have higher participation ratio and education attainment ratio than women. However, women have higher gross and net enrolment ratio and higher educational equity index than men. It means that over time, women have increased their access to tertiary education..

[12] Calculated by the absolute value of one minus gender parity index, multiplied by 100: *100× (1-abs (GPI))*.

Table 6 shows that there is much larger variability among the EAI than the PR, GER or GP across groups. For example, while the GERs of Red River Delta and South Central Coast are slightly different (28.78 and 27.52 respectively), the EAI of Red River Delta (15.01) is much higher than that of South Central Coast (9.75). Since GER reflects *current* enrolment, while EAI indicates *completed* tertiary education, it means that today's tertiary education is more equal between South Central Coast and Red River Delta than in the past. In other words, the gap in tertiary education access between South Central Coast and Red River Delta has narrowed during recent years.

Regarding EEI, Table 6 reveals that people in Red River Delta, Central Highlands and South East have more equal access to tertiary education compared to those in the North Central Coast, North East, North West, and Mekong River Delta regions. The differences in equity of access across regions can be caused by several factors, such as affordability of tertiary education, inequality in high school graduation rates, and government policies aimed at expanding access to disadvantaged students.

Table 7: Basic access indices across countries

	EEI*	**GP**
Netherlands	67	1.08
Finland	61	1.23
United Kingdom	64	1.23
United States	57	1.35
Canada	63	1.34
Australia	59	1.24
Ireland	63	1.29
France	55	1.27
Sweden	55	1.54
Italy	47	1.34
Germany	43	0.92
Belgium	37	1.18
Austria	38	1.19
Colombia	26	1.09
Mexico	17	1.05
Peru	37	0.7
Brazil	12	1.25
Vietnam	*37.76*	*1.03*

Note: EEI is calculated based on head's educational level in Vietnam but based on father's educational level in other countries.

Source: Own estimates for Vietnam with data from VHLSS2006; and Murakami and Blom (2008) for other countries.

Table 7 compares the EEI and GP across a sample of developed and developing countries. Vietnam has the highest gender parity in the sample. Vietnam however, has the lowest EEI in the sample, with the exception of Mexico and Brazil.

4.2. Disparity in affordability

Our results show that affordability is a serious issue in Vietnam's education. Table 8 summarizes affordability indices by different education levels. Altogether, education costs account for 16.3 percent of per capita income. After deducting education benefits alongwith

scholarships and grants, net education costs are about 15 percent of per capita income. Net education cost share is a little higher in urban areas (19.0 percent) than in rural areas (13.9 percent).

***Table 8: Affordability indicators, by educational levels** (% of per capita income)*

	Tuition cost	*Education cost*	*Education benefit*[13]	*Net education cost*	*Tuition/ Education cost*
All level	***4.53***	***16.26***	***0.24***	***15.29***	***19.52***
Rural	3.72	14.89	0.25	13.93	16.67
Urban	6.75	19.99	0.20	18.98	27.24
Primary	***0.34***	***7.74***	***0.58***	***7.18***	***2.62***
Rural	0.15	7.11	0.64	6.54	1.41
Urban	1.04	10.02	0.35	9.51	6.94
Secondary	***1.73***	***11.34***	***0.71***	***10.56***	***14.15***
Rural	1.41	10.33	0.79	9.51	13.24
Urban	2.87	14.91	0.43	14.27	17.35
High school	***4.85***	***20.27***	***0.67***	***19.43***	***22.80***
Rural	4.58	19.82	0.75	18.91	22.07
Urban	5.58	21.47	0.46	20.82	24.77
Tertiary	***19.25***	***47.72***	***2.67***	***44.21***	***44.13***
Rural	20.85	53.58	3.04	49.96	40.03
Urban	17.46	41.00	2.29	37.62	48.72

Source: Own estimates from VHLSS2006.

Table 8 also indicates that education costs increase along with higher levels of education. Primary schooling costs are 7.7 percent; secondary schooling costs 11.3 percent; high school costs 20.3%; and tertiary education costs 47.7 percent of per capita income. While education cost share is lower in rural areas than in urban areas at pre-tertiary levels, it is higher in rural areas than in urban areas at tertiary levels (53.58 percent vs. 41.00 percent). There are at least two reasons for it. First, tertiary students living in urban areas are often richer than rural students. Therefore, tertiary education cost, as a proportion of income is lower for urban students than for rural students. Second, the "education costs" collected in the survey include lodging costs. Since urban students usually live in their parents' houses and pay no rents, their lodging costs are considered zero. In contrast, lodging costs are considered part of education costs for rural students who study in the cities and pay rents for their housing. From Table 8, it is clear that tertiary education is more affordable to urban dwellers than for rural dwellers.

Table 9 summarizes affordability indices at tertiary education, categorized by levels and ownership. Annual education costs are about VND 3.6 million at junior colleges; VND 4.4 million at bachelor level; and VND 7.8 million at master level. However, net education costs at master level are smaller than those at junior college and bachelor level, because of substantial education benefits at this level. In terms of monetary values, education costs at junior college level are lower than at bachelor level. Yet, the share of education costs to household income per capita is higher than the bachelor level because average income per capita of junior college students is significantly lower than that of university students. In addition, tuition costs in non-public schools are higher than those in public schools by 75 percent. Nevertheless, it seems that there is less non-tuition education costs in non-public schools than in public schools. As a result, education costs and net education costs in non-public schools are only higher than those in public schools by 42 percent and 37 percent, respectively.

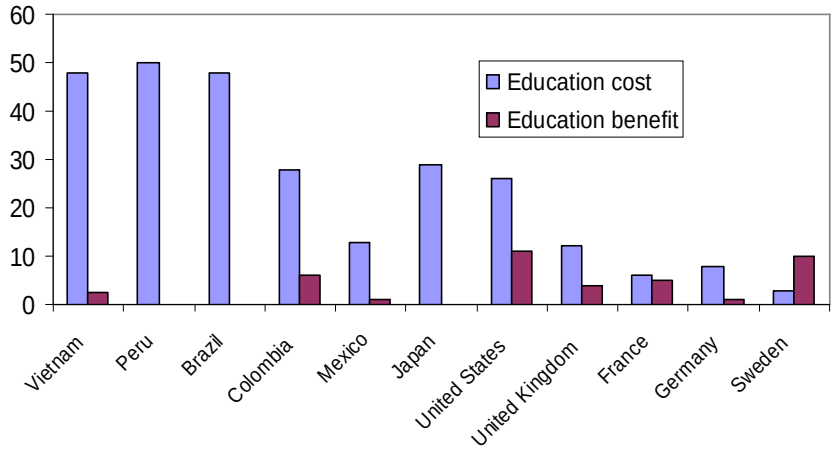
[13] It would be interesting if we can include student loans as benefits in our analysis. This information, however, is not available in the VHLSS 2006.

Table 9: Affordability indicators at tertiary education, by levels and ownership

Costs	*Junior college (3 years)*	*Bachelor (4-5 years)*	*Master*	*Public*	*Non-public*
Tuition cost (VND thousand)	1,476	1,779	2,318	1,580	2,769
Education cost (VND thousand)	3,569	4,397	7,749	4,036	5,747
Education benefit (VND thousand)	172	300	4,554	280	605
Net education cost (VND thousand)	3,397	4,097	3,195	3,756	5,142
Tuition cost share (%)	21.03	18.69	14.58	18.39	26.46
Education cost share (%)	48.81	47.29	49.53	46.86	55.12
Education benefit share (%)	2.92	3.35	27.61	3.36	4.79
Net education cost share (%)	45.89	43.94	21.92	43.50	50.34
Tuition/Education cost (%)	41.5	45.03	46.84	42.93	54.14

Source: Own estimates from VHLSS2006.

Figure 4: Education cost and education benefit
(as % of per capita income)



Source: Own estimates for Vietnam's data from VHLSS2006; and Murakami and Blom (2008) for others

In comparison to some selected countries, Figure 4 shows that similar to Peru and Brazil, Vietnam has a high share of education costs; the costs are also much higher than Colombia, Mexico and other developing countries.

Table 10 (below) summarizes affordability indicators for different population groups. Among regions, households in South Central Coast and Mekong River Delta must pay the highest share of their income to tertiary net education costs. On the other hand, tertiary net education cost ratios are lowest in North West and Central Highland, possibly because tertiary students in these regions tend to attend some low-cost, government-supported colleges and universities in their localities.

In terms of ethnicity, net education cost ratio is lower for the ethnic minority households, mostly due to the availability of large educations grant and scholarships. Men tend to pay more than women for tertiary education, mostly because their non-tuition education costs are higher.

Table 10: Affordability of Different Population Groups
(% of household income per capita)

	Tuition ratio	*Education cost ratio*	*Education benefit ratio*	*Net education cost ratio*	*Tuition per education cost*
All country	***19.32***	***48.42***	***2.74***	***44.67***	***43.55***
By area					
Urban	17.33	41.10	2.19	37.92	48.15
Rural	20.97	54.33	3.24	50.11	39.75
By region					
Red River Delta	19.60	47.40	1.74	44.86	45.18
North East	21.05	48.82	3.15	45.47	43.46
North West	12.07	38.24	6.55	30.74	26.40
North Central Coast	18.37	51.82	3.32	45.73	35.56
South Central Coast	23.40	54.63	3.67	52.67	45.56
Central Highland	14.43	38.68	4.36	31.01	37.81
South East	18.90	44.54	2.10	40.57	50.96
Mekong River Delta	18.16	51.72	2.55	48.56	42.58
By ethnicity					
Kinh and Chinese	19.45	48.32	2.37	45.11	44.43
Minority	16.73	50.21	10.37	36.39	26.98
By gender					
Female	18.89	44.67	2.87	40.49	45.30
Male	19.68	51.57	2.63	48.18	42.06
By income quintiles					
Poorest	49.37	126.25	5.94	122.29	33.74
Lowest middle	30.09	77.12	5.22	64.49	34.31
Middle	26.96	62.87	2.88	60.72	43.51
Upper middle	21.84	55.54	2.70	50.75	41.49
Richest	13.23	33.62	1.88	31.20	46.29
By poverty status					
Poor	48.85	118.33	8.24	109.19	34.46
Non-poor	18.98	47.59	2.58	43.90	43.66

Source: Own estimates from VHLSS2006.

Table 10 shows marked differences in affordability across income groups. While net education cost is just 31 percent of per capita income in the richest quintile, it is 122 percent of per capita income in the poorest quintile. Undoubtedly, paying tertiary education is a severe issue for poor households, which in turn, may defer tertiary education enrolment of bright but poor young men and women.

4.3. Disparities in performance

Using the NEU survey with a sample size of about 400 second-year students, we examine the factors determining student performance. We first compare the performance, which is measured by the mean of the first year GPA, between different student groups in terms of their

backgrounds: original residential regions (region 1; region 2-rural; region 2-urban; and region 3 (metropolitan); ethnic groups (ethnic minorities and non-minorities); parents' educational levels (with five levels: no schooling, primary education, lower-secondary education, upper-secondary education, and post-secondary education); parents' careers; and family income. Using the estimated data, we conduct one-way ANOVA test to examine the statistical significance of the above differences. Our findings are as following.

Table 11.1. Mean GPA of Student from different regions.

GPA

Region	Mean	N	Std. Deviation
Region 1	7.1289	47	.53738
Region 2 - Rural	7.2512	137	.52937
Region 3 - Urban	7.3221	141	.54606
Region 3 - Metropolitan	7.5121	70	.52623
Total	7.3082	395	.54527

Source: Own estimates from NEU survey.

Table 11.2: Difference in GPA due to different original residential regions

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.895	3	1.632	5.683	.001
Within Groups	112.249	391	.287		
Total	117.143	394			

Source: Own estimates from NEU survey.

Table 11.1 shows the difference in GPA due to different original residential regions. Table 11.2 shows that with the F-ratio of 5.683, regional differences are5.7 times for intra-regional GPA (1.632 vs. 0.287), and it is statistically significant at 1 percent significance level. This means that, at the NEU, students coming from regions with better socio-economics development levels could perform better than those coming from lower socio-economics development levels.

Table 12.1 : Mean GPA by different ethnicities groups

GPA * Ethnic

GPA

Ethnic	Mean	N	Std. Deviation
Kinh	7.3222	371	.54007
Minority	7.0921	24	.59089
Total	7.3082	395	.54527

Table 12.2 : Difference in GPA in terms of ethnicities

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.193	1	1.193	4.044	.045
Within Groups	115.950	393	.295		
Total	117.143	394			

Source: Own estimates from NEU survey.

Table 12.1 and Table 12.2 show differences in GPA in terms of ethnicities. The non-minority students are clearly doing better than the minority ones. The average GPA of Kinh students is 7.32, while the average GPA of ethnic minority students is 7.1. This difference is statistically significant, as the results from ANOVA test are statistically significant at 5-percent significance level.

Table 13.1: Mean GPA by students' fathers' education levels

GPA * Father_Edu

GPA

Father_Edu	Mean	N	Std. Deviation
Primary Edu	7.0875	8	.54363
Lower Secondary Edu	7.3639	62	.48263
Upper Secondary Edu	7.2618	105	.55999
Teriary Edu and Higher	7.3345	208	.55803
Total	7.3142	383	.54698

Source: Own estimates from NEU survey.

Table 13.2: Mean GPA by students' mothers' education levels

GPA * Mother_Edu

GPA

Mother_Edu	Mean	N	Std. Deviation
No-schooling	7.2567	3	.26764
Primary Edu	6.8833	6	.70828
Lower Secondary Edu	7.3606	62	.57925
Upper Secondary Edu	7.2688	123	.51615
Teriary Edu and Higher	7.3350	189	.54987
Total	7.3102	383	.54641

Source: Own estimates from NEU survey.

Table 13.3: Difference in GPA due to Fathers' education levels

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.938	3	.313	1.045	.372
Within Groups	113.351	379	.299		
Total	114.289	382			

Source: Own estimates from NEU survey.

Table 13.4: Difference in GPA due to Mothers' education levels

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.587	4	.397	1.333	.257
Within Groups	112.465	378	.298		
Total	114.051	382			

Source: Own estimates from NEU survey.

As the number of students with parents who have no-schooling education is too small, we will not consider this level of education in the analysis. Tables 13.1–13.4 provide the results of the survey. The results indicate that the performance of the students whose parents have lower educational levels is the same as those whose parents have higher educational levels. The results from ANOVA test supports this statement, as the difference is not statistically significant. This means that, once students enter the university, given other things constant, their performances depend on their ability, and not their parents' background.

Table 14.1 : Mean GPA by students' parents' careers

Father_Job	Mean	N	Std. Deviation	Mother_Job	Mean	N	Std. Deviation
Wages	7.3318	208	.52672	Wages	7.3252	183	.54115
Sales	7.3440	42	.59370	Sales	7.3168	72	.56353
Argriculture	7.3232	84	.53046	Argriculture	7.3422	97	.54825
Production	6.9472	18	.52538	Production	6.9473	11	.50307
No work	7.3060	35	.61335	No work	7.2122	32	.50844
Total	7.3111	387	.54642	Total	7.3082	395	.54527

Source: Own estimates from NEU survey.

Table 14.2 : Difference in GPA due to fathers' careers

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.532	4	.633	2.145	.075
Within Groups	112.718	382	.295		
Total	115.250	386			

Source: Own estimates from NEU survey.

Table 14.3 : Difference in GPA due to mothers' careers

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.898	4	.475	1.606	.172
Within Groups	115.245	390	.295		
Total	117.143	394			

Source: Own estimates from NEU survey.

Tables 14.1–14.3 show that parental career also seems not to affect astudent's performance in the university. The average GPAs of the students from four groups are quite similar with the exception of the group of students whose parents are in production (manufacturing) industries. The number of observations of this group, however, is small (less than 20), so the results might not be precise. The results from ANOVA test show no statistical differences between groups.

Table 15.1: Means of GPA by family income quintiles.

Statistics

		Income	GPA
N	Valid	395	395
	Missing	0	0
Mean		4264.6329	7.3082
Percentiles	20	2000.0000	6.9000
	40	3000.0000	7.1540
	60	4000.0000	7.5000
	80	6000.0000	7.7500

Source: Own estimates from NEU survey.

Table 15.2: Difference in GPA due to family income

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.989	33	.424	1.484	.046
Within Groups	103.154	361	.286		
Total	117.143	394			

Source: Own estimates from NEU survey.

Tables 15.1 and 15.2 present our average estimated GPA for students with different family income quintiles. It shows that family income does affect students' performances: students from families with lower income (20% poorest quintile) have the lowest average GPA (6.9), while other students from higher income families have a higher average GPA. In particular, students from the richest families have the highest average GPA (7.75). The ANOVA results when comparing the mean GPA to family income in Table 15.2 has statistically proved that the family income affects the students' GPA.

Table 16: Determinants of GPA of first-year university students

	Coef.	Std. Err.	t-stat	P-value
Disadvantaged areas (KV1)	-0.04	0.02	-2.20	0.03
Rural areas (KV2-NT)	-0.03	0.01	-2.91	0.00
Other urban areas (KV2-TT)	-0.02	0.01	-1.82	0.07
Log(Entrance score)	0.26	0.05	4.79	0.00
Log (Household income)	0.00	0.01	0.50	0.62
Log (Education expenditure)	0.01	0.01	1.74	0.08
Kinh ethnicity	0.00	0.03	0.16	0.87
Father has post-high school degrees	0.00	0.01	0.23	0.82
Mother has post-high school degree	0.01	0.01	1.05	0.29
Father has wage job	0.00	0.01	0.29	0.78
Father is self-employed	0.02	0.01	1.15	0.25
Mother has wage job	-0.02	0.01	-1.24	0.22
Mother is self-employed	-0.03	0.01	-2.28	0.02
Constant	1.10	0.19	5.90	0.00
Number of obs	350			
F(13, 336)	4.01			
Prob > F	0			
R-squared	0.1344			

Note: Default area: Metropolitan (KV3). Default father's and mother's job: Agriculture.
Source: Own estimates from NEU survey.

Table 16, which presents the results form an OLS regression model, shows that the localities also have significant effects on students' performances. Students from disadvantaged areas, rural areas and other urban areas have lower GPA than those having metropolitan background. The most important determinant of a student's GPA is his/her entrance score. Education expenditures, which cover such costs as tuition and extra-class expenses, also affect positively a student's performance in class. On the other hand, household income, parent's education and parent's job appear to have no effects on a student's performance. The exception is when a student's mother is self-employed. In this case, the student's performance is negatively affected.

5. Factors determining access, performance and completion in higher education

5.1 Determinants of access

In this section, we will identify the socio-economic factors influencing the access to tertiary education. In Table 16, we summarize the characteristics of tertiary education studenst between the ages of 18 and 22.. These factors are categorized into three groups: demographic factors, parents' education, and income-related factors. For each variable, we compare the mean value of the tertiary education participants with the non-participants. The latter can be further decomposed into those having completed high school and those who have not.

Table 17 shows that there are noticeable differences between the students and the two groups of non-students. Compared to the non-students, the students in higher education institutions often live in urban areas, in households which are smaller and have a smaller proportion of children. On average, 45.6% of students live in urban areas, while 21.4% of non-students live in urban areas. The average household size is 4.8 persons in the students' households, but 5.5 persons in the non-students' households. Females and males have similar acesss to tertiary education and high school degrees. About 50.2% of the tertiary students are female, and 49.9% of the non-students who completed high schools are female. In contrast, females account for only 45.1% of all people aged 18-22 who neither finish high school nor go to college.

Parental education seems to have a strong correlation with their children's probability of participating in higher education. Among the group of tertiary education students, 29.6% have a father who completed high school and 16.9% have a father who completed bachelor degree or above. In contrast, only 13.6% of non-students have a father who completed high school and 2.5% have a father who completed bachelor degree or above. Likewise, 19.9% of students have at least a parent with a bachelor degree or above. The corresponding proportion in non-students is only 3.1%.

Furthermore, better-off households have higher participation rates than the poorer ones. About 44.6% of students belong to the richest income quintile, and only 5% belong to the poorest quintile. On the other hand, 18.1% of non-students belong to the richest quintile, and 16.6% belong to the poorest quintile. On average, income per capita of students is 53% higher than that of non-students, while expenditure per capita of students is 73% higher than that of non-students.

In order to determine the factors affecting access to tertiary education, we first use a probit regression model (Model 1). The dependent variable is a binary variable which has a value of one if the person is enrolled in a higher educational institution in 2006 and has a zero value

otherwise. Model 1 is run for every person aged 18-22. There are two variants of this model: the first conditional on a person completing high school (Model 1A) and the second unconditional, i.e. applying to all people aged 18-22 (Model 1B). Therefore, Model 1A compares students with all non-students who have completed high schools (and aged 18-22). Model 1B compares students with all non-students in the same age group including those who have not completed high schools. Each variant is run with and without sampling weights.

Table 17: Socio-economic factors and tertiary education access

	% of the population in the 18-22 age group			
	Tertiary students	**Non students**		
		Completed high school	No high school degree	All non-students
Demographic				
Living in urban areas (%)	45.58	29.02	17.21	21.42
Female (%)	50.19	49.92	45.14	46.85
Female head (%)	25.32	21.15	19.54	20.12
Minority (%)	3.80	9.34	21.70	17.29
Head's age (%)	50.82	50.44	50.17	50.27
Household size (persons)	4.78	5.12	5.72	5.50
Children proportion (%) (<15 years)	6.92	8.90	14.71	12.64
Elderly proportion (%) (>59 years)	5.49	5.55	5.79	5.71
Parents' education				
Father, primary schooling (%)	16.13	26.61	51.97	40.80
Father, lower secondary (%)	37.21	47.78	39.05	42.90
Father, high school (%)	29.55	21.20	7.68	13.64
Father, junior college (%)	2.50	0.88	0.33	0.58
Father, university (%)	16.98	4.19	1.22	2.53
Mother, primary schooling (%)	21.99	33.47	54.61	44.63
Mother, lower secondary (%)	39.87	48.01	39.53	43.53
Mother, high school (%)	26.48	15.77	5.06	10.12
Mother, junior college (%)	4.76	1.14	0.44	0.77
Mother, university (%)	6.86	1.55	0.35	0.92
At least a parent, high school or above (%)	53.13	31.01	10.23	19.09
At least a parent, college or above (%)	19.88	5.33	1.44	3.10
Both parents, high school or above (%)	29.36	10.23	2.69	6.47
Both parents, college or above (%)	7.60	1.01	0.30	0.66
Income-related				
Head working for wage (%)	42.54	33.47	30.16	31.34
Head working in agriculture (%)	45.86	61.83	69.00	66.44
Head, non-farm self-employment (%)	28.71	26.07	17.27	20.40
Income per capita (VND thousand)	10,615	8,153	6,087	6,823
Expenditure per capita (VND thousand)	9,540	6,913	4,787	5,555
Contribution of agricultural income (%)	25.64	36.61	44.41	41.63
Contribution of wages income (%)	39.34	35.57	36.17	35.96
Lowest income 20% (%)	4.97	9.99	20.19	16.55
Low to middle income 20% (%)	9.17	15.14	22.02	19.57
Middle income 20% (%)	16.79	21.70	22.58	22.27
Middle to high income 20% (%)	24.44	26.33	21.00	22.90
Highest income 20% (%)	44.62	26.84	14.21	18.71

Note: Parents' education data are for only individuals who are sons or daughters of a household head.
Source: Own estimates from VHLSS2006.

The regression results are presented in Table 17. Table 17 shows that between regions, young people in South Central Coast are more likely to enrol in tertiary education than those in Red River Delta. In contrast, young people in North East are less likely to go to colleges than those in Red River Delta. Young people living in urban areas are more likely to attend college than those in rural areas.

Among the determinants of tertiary education access, both head of household and head of household's spouse's education levels have strong impacts. Children living in households whose heads or head of household's spouses have only primary education or no formal schooling are less likely to go to college, although the effect is only significant in Model 1B. Meanwhile, those living in households whose heads have high school degrees or tertiary decrees are more likely to go to colleges and universities. Coefficients for head education and head spouse's education at both junior college and bachelor level are higher than those at high school. Therefore, children living in households whose heads or head spouses finish junior college and bachelor level are more likely to enrol in tertiary institutions than those living in households whose heads or head spouses only finish high school.

Table 18: Probit regression model 1*

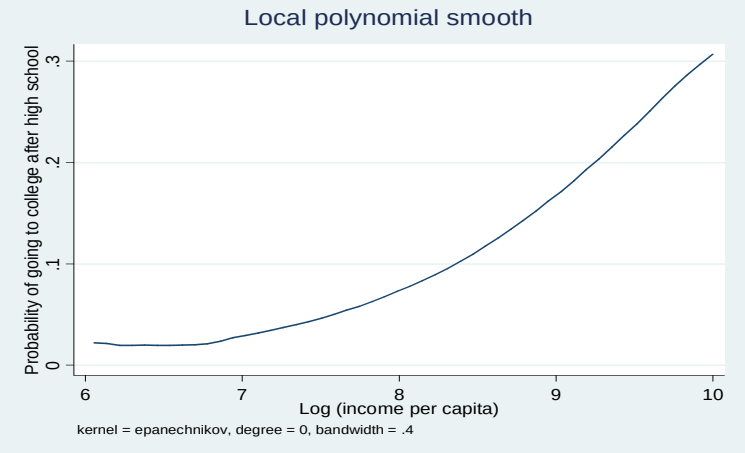
Dependent variable (1=tertiary education enrolment; 0= no enrolment, age range: 18-22)								
	Conditional on finishing high school (model 1a)				*No Conditional (model 1b)*			
	Weighted		Unweighted		Weighted		Unweighted	
	Coef.	Z	Coef.	Z	Coef.	Z	Coef.	Z
Urban	0.88	1.6	0.84	1.7*	1.01	1.9*	0.98	1.9*
North East	-0.16	2.2**	-0.15	2.1**	-0.16	2.5***	-0.15	2.3**
North West	-0.18	1.1	-0.17	1.1	-0.17	1.2	-0.16	1.1
North Central Coast	0.03	0.5	0.04	0.6	0.03	0.5	0.05	1.0
South Central Coast	0.35	4.2***	0.36	4.3***	0.40	5.5***	0.41	5.7***
Central Highlands	0.23	2.0**	0.19	1.7*	0.13	1.4	0.10	1.1
South East	0.09	1.0	0.11	1.2	0.15	1.9*	0.14	1.8*
Mekong River Delta	0.13	1.5	0.11	1.3	0.06	0.8	0.05	0.6
Head's education								
Primary or no schooling	-0.10	1.6	-0.10	1.6	-0.25	4.8***	-0.25	4.8***
High school	0.20	3.5***	0.21	3.9***	0.31	6.0***	0.31	6.3***
Junior college	0.49	2.6**	0.47	2.6**	0.61	3.5***	0.55	3.3***
Bachelor or higher	0.64	4.2***	0.61	4.0***	0.64	4.5***	0.64	4.5***
Head's spouse education								
Primary or no schooling	-0.09	1.6	-0.09	1.6	-0.18	3.5***	-0.18	3.7***
High school	0.16	2.4**	0.16	2.5**	0.31	4.9***	0.30	5.1***
Junior college	0.66	4.5***	0.57	3.8***	0.76	5.5***	0.69	5.0***
Bachelor or higher	0.70	4.0***	0.65	3.9***	0.86	5.1***	0.77	4.9***
Female	0.04	0.9	0.04	0.9	0.08	2.1**	0.09	2.4**
Female head	0.02	0.2	0.00	0.1	0.09	1.1	0.07	0.9
Head's age (log)	0.50	2.8***	0.44	2.4**	0.59	4.7***	0.55	4.0***
Household size	-0.05	2.9***	-0.04	2.2**	-0.05	3.2***	-0.04	2.6**
Children proportion	-0.59	2.7***	-0.75	3.7***	-0.98	5.1***	-1.10	6.3***
Income per capita (log)	0.06	1.6	0.10	2.6**	0.11	3.0***	0.14	4.2***
Minority	-0.33	3.1***	-0.31	3.3***	-0.31	3.4***	-0.29	3.5***

Poor commune	-0.21	2.1**	-0.21	2.3***	-0.18	2.2**	-0.17	2.2**
Remote commune	0.02	0.2	0.03	0.3	-0.07	-0.9	-0.07	1.0
High school in commune	0.00	0.1	0.03	0.6	0.02	0.3	0.05	0.9
Constant	-2.80	3.6***	-2.95	3.9***	-3.91	6.8***	-4.11	6.8***
Number of obs	4158		4158		7640		7640	
Wald chi2(26)	266.7		309.9		620.8		776.5	
Prob > chi2	0		0.00		0		0	

Note: Default region: Red River Delta; default head and spouse education: lower- secondary school. *: significant at 90% confidence interval; **: 95% confidence interval; ***: 99% confidence interval
Source: Own estimates from VHLSS2006.

Income per capita has significant impact on student enrolment in tertiary education. It indicates that richer households have better access to higher education than poorer households. This can be further demonstrated by a Kernell regression in Figure 5 (below) run on all people aged 18-22 who had finished high school. The figure shows that, as income per capita increases, the probability of attending college also increases.

Figure 5: Probability of attending college/university after high school, persons aged 18-22



Source: Own estimates from VHLSS2006.

However, the coefficient for income is substantially lower than the coefficients for education levels, implying that adult education is a more important determinant of tertiary education access than income.

In addition, ethnic minority people have lower access to tertiary education than those of the Kinh or Hoa group. People living in poor communes as defined by the Government Program No. 135 have lower participation than those in other communes. Larger households and households with higher proportion of children have lower access to higher education than others. A possible elucidation is that in these households, household expenditure in general, and education expenditure in particular, must be allocated to more household members and more children than otherwise. Household head's age has significant positive impact on the access to tertiary education. On the other hand, the "female" variable has significant impact on the access to education in Model 1B, but not in Model 1A.

Table 18 shows that head's education and head spouse's education have significant impact on a person's access to tertiary education. Yet, it is still unclear from Table 18 what are the particular roles of father's and mother's education in determining a person's access to tertiary education. In order to examine that, we use a sub-group of the sample including all individuals at

the age range from 18 to 22 years who are sons or daughters of the household's head. As we already know the gender of the household's head as well as the education levels of both household heads and head's spouse, it is possible to infer father's and mother's education levels of these individuals. We run a probit regression similar to the one in Table 18 but with father's and mother's education levels in places of household head's and head spouse's education levels. The results are summarized in Table 19.

Table 19 shows that both father and mother's education levels at high school and bachelor degree have a positive impact on the enrolment to tertiary schools. The 'bachelor or above' coefficient is much higher than the 'high school' coefficient, indicating that the ones whose parents have tertiary degrees are much more likely to go to colleges and universities than those whose parents only have high school degrees. On the other hand, if a father or a mother only has primary schooling or no formal education, there is smaller probability that the child will go to college and university.

Table 19: Probit regression model 2

Dependent variable (1=tertiary education enrolment; 0= no enrolment, age range: 18-22)								
	Conditional on finishing high school				*Unconditional*			
	Weighted		Unweighted		Weighted		Unweighted	
	Coef.	z	Coef.	z	Coef.	z	Coef.	z
Urban	0.82	1.5	0.78	1.5	0.98	1.8*	0.95	1.8*
North East	-0.16	2.2**	-0.15	2.1**	-0.16	2.5**	-0.15	2.3**
North West	-0.16	1.0	-0.15	-0.9	-0.13	0.9	-0.12	0.9
North Central Coast	0.04	0.6	0.05	0.8	0.04	0.6	0.06	1.1
South Central Coast	0.35	4.1***	0.35	4.3***	0.39	5.3***	0.40	5.5***
Central Highlands	0.22	1.9*	0.18	1.7*	0.14	1.4	0.10	1.1
South East	0.08	0.9	0.10	1.1	0.15	1.8*	0.14	1.8*
Mekong River Delta	0.14	1.5	0.12	1.3	0.07	0.9	0.05	0.7
Father's education								
Primary or no schooling	-0.06	0.9	-0.06	1.0	-0.21	4.0***	-0.22	4.1***
High school	0.13	2.3**	0.14	2.5**	0.26	4.9***	0.26	5.1***
Junior college	-0.32	1.5	-0.30	1.4	-0.19	0.9	-0.20	1.0
Bachelor or higher	0.62	4.4***	0.58	4.2***	0.68	5.1***	0.66	5.1***
Mother's education								
Primary or no schooling	-0.12	2.0**	-0.11	2.0**	-0.19	3.7***	-0.19	3.7***
High school	0.25	3.7***	0.25	3.9***	0.37	5.9***	0.37	6.1***
Junior college	0.77	4.8***	0.67	4.2***	0.78	5.3***	0.72	4.9***
Bachelor or higher	0.88	3.8***	0.84	3.9***	0.96	4.4***	0.89	4.5***
Female	0.05	1.0	0.05	1.1	0.11	2.9***	0.12	3.2***
Female head	0.00	0.0	-0.03	0.3	0.05	0.7	0.03	0.4
Head's age (log)	0.46	2.3**	0.39	2.1**	0.45	2.8***	0.40	2.5**
Household size	-0.05	2.7***	-0.04	2.0**	-0.05	3.1***	-0.04	2.7***
Children proportion	-0.57	2.6**	-0.74	3.6***	-0.92	4.7***	-1.04	5.8***
Income per capita (log)	0.07	1.8*	0.11	2.8***	0.11	3.1***	0.15	4.4***
Minority	-0.34	3.2***	-0.33	3.4***	-0.33	3.6***	-0.31	3.6***
Poor commune	-0.22	2.3**	-0.22	2.4**	-0.18	2.2***	-0.17	2.2**
Remote commune	0.03	0.3	0.04	0.4	-0.06	0.8	-0.07	1.0

High school in commune	0.01	0.2	0.04	0.7	0.02	0.4	0.05	1.0
Constant	-2.71	3.3***	-2.88	3.6***	-3.40	4.8***	-3.58	5.2***
Number of obs	4083		4083		7210		7210	
Wald chi2(26)	255.6		304.1		566.2		710.4	
Prob > chi2	0.00		0.00		0.00		0.00	

Note: Default region: Red River Delta; default head and spouse education: lower- secondary school. *: significant at 90% confidence interval; **: 95% confidence interval; ***: 99% confidence interval
Source: Own estimates from VHLSS2006.

Comparing between the coefficients and the statistical significance of father's and mother's education, it appears that mother's education has a relatively higher effect than father's education on children's enrolment. All the other variables have similar signs as in Table 19.

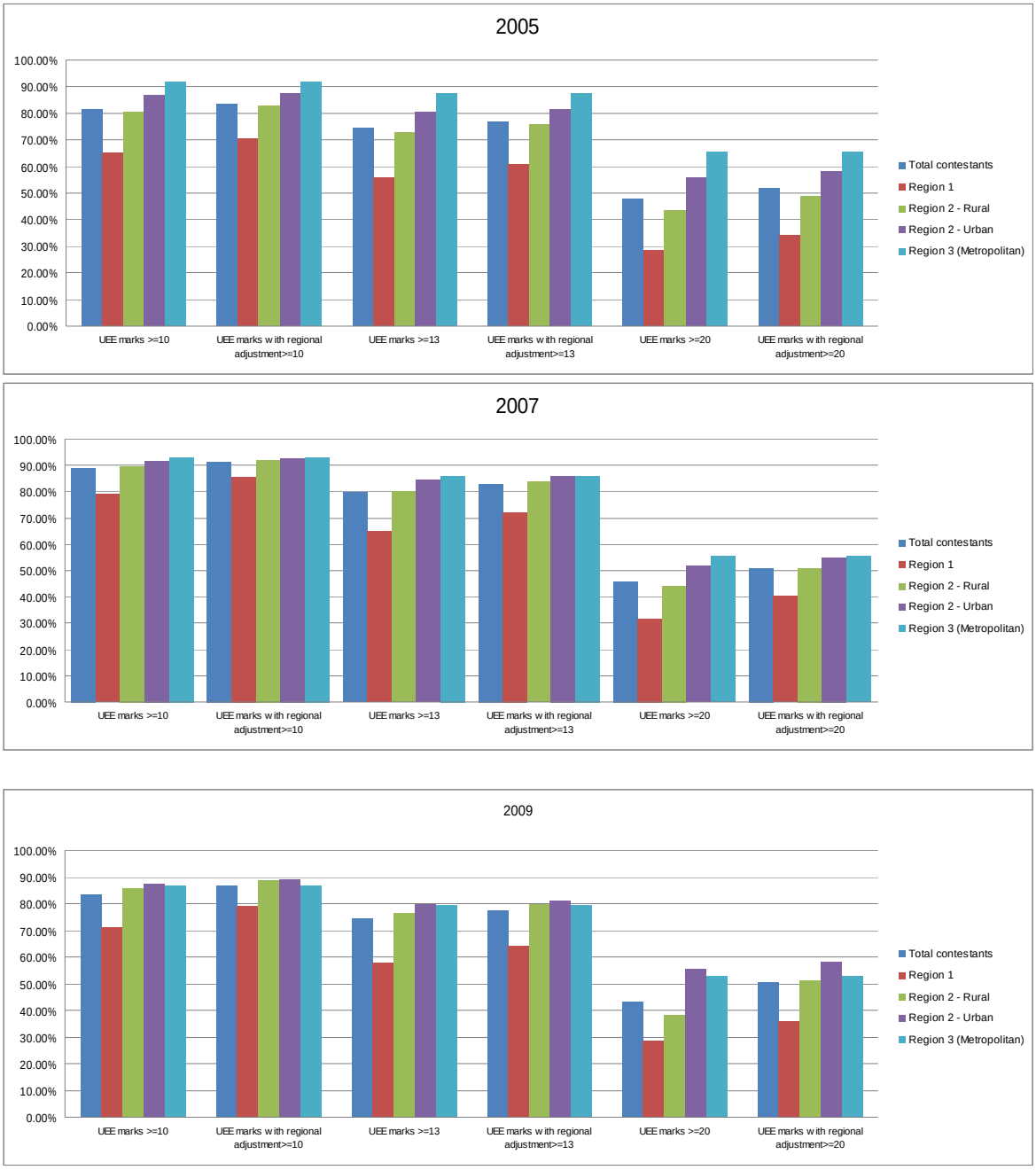
To further examine disparity in the higher education admission of students, we also use NEU survey data. The data was collected via the National University Entrance Examination (UEE), which takes place in the first two weeks of every July. All upper-secondary graduate students are eligible to apply for the examination (except some special Tertiary Institutions, such as Police Academy, Military Academy, and Art Performance Academy will require some non-academic preliminary selection). Students will be required to sit for three subject tests in three separate half-day sessions. At NEU, the subjects are Mathematics, Physics, and Chemistry. When all the National UEE results are available (usually at the end of August), MOET will set out the cut-off marks for tertiary institutions admission: the popular mark for college admission (3-year education) is 10, and the mark for university admission is 13. Colleges and Universities then will publicly announce their cut-off marks, the admission short list and acceptance of applications from students whose National UEE results is higher than the cut-off marks. Most top universities will require higher cut-off marks, which is around 20.

For our analysis purpose, we will compare the average results of students coming from four different regions: Region 1 (remote and mountainous area); Region 2-rural; Region 2-urban, and Region 3-metropolitan (such as some centre districts of Hanoi, Ho Chi Minh city, Hai Phong city, and Da Nang city) to see the disparities. Four regions have different socio-economic conditions which affect academic performances of students. Thus, the Government of Vietnam, MOET has a policy that students coming from different regions will be required to pass lower cut-off marks to get the tertiary education admissions. The general table of preferential cut-off marks is as below:

Regions	Cut-off marks	Regional Adjustment
Region 1 – mountainous and remote areas	**N-1.5**	**1.5**
Region 2-rural areas	**N-1.0**	**1.0**
Region 2-urban areas	**N-0.5**	**0.5**
Region 3 - metropolitan	**N**	**0**

For this case study, we will test data from the 2005, 2007 and 2009 University Entrance Exams at National Economics University. We do not use the data from 2004, 2006, and 2008, since there was a tendency that some students would not apply for the National UEE at NEU in these years because they saw high cut-off marks from the previous years. Therefore, the data from 2005, 2007, and 2009 will be relevant to analyze the change in disparity over a period of time. Figure 6 presents the data, and can provide some conclusions.

Figure 6: Distribution of national UEE marks by regions



Source: Own estimates from the NEU survey.

First, there is disparity in the performance on the admission test among regions. With or without regional adjustments, the students from Region 1 are falling behind in the test in comparison with their counterparts from the other regions with better socio-economic conditions.

Second, with regional adjustment marks, students from Region 2-rural, Region 2-urban seem to "catch up" with the students from Region 3 in the National UEE over time. In 2005, Figure 6 clearly shows that students from Region 3 had the best performance in the National UEE, followed by students from Region 2-urban and then Region 2-rural. In 2007, however, the difference in performances between students from different regions in National UEE was lower. And in 2009, such differences were minimized. This would suggest that: (i) differences in socio-

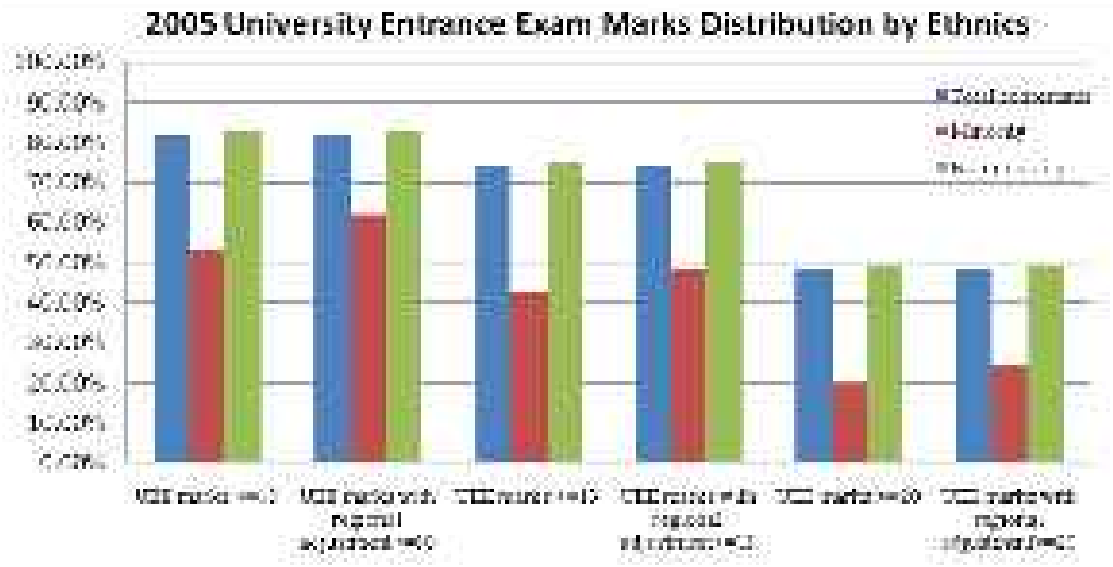
economic conditions between regions were reduced, which resulted in lower disparities in students' academic performances; and (ii) the region adjustment mark was relevant for Region 2 (both rural and urban), but Region 1 should have a higher mark adjustment.

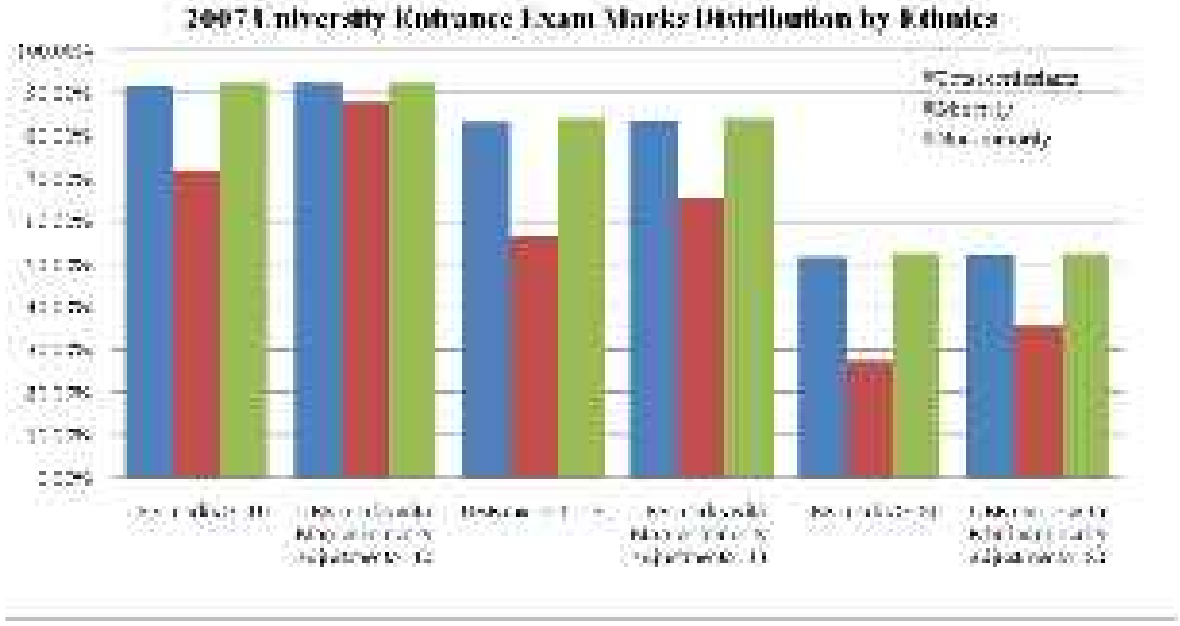
And third, differences between students' performances from the four regions increases when we increase the cut-off marks. This means that students coming from regions with lower socio-economic development levels would have less academic chances to get admitted into more well-known tertiary education institutions. To combat this issue, MOET recently has allowed some provinces with low socio-economic development and high demand for high quality human resources to select students who: (i) reside in the province territory, (ii) have National UEE marks compared to the standard university cut-off mark (13), and (iii) agree to pay the fees by themselves or by families, and send them to the province's choice of university.

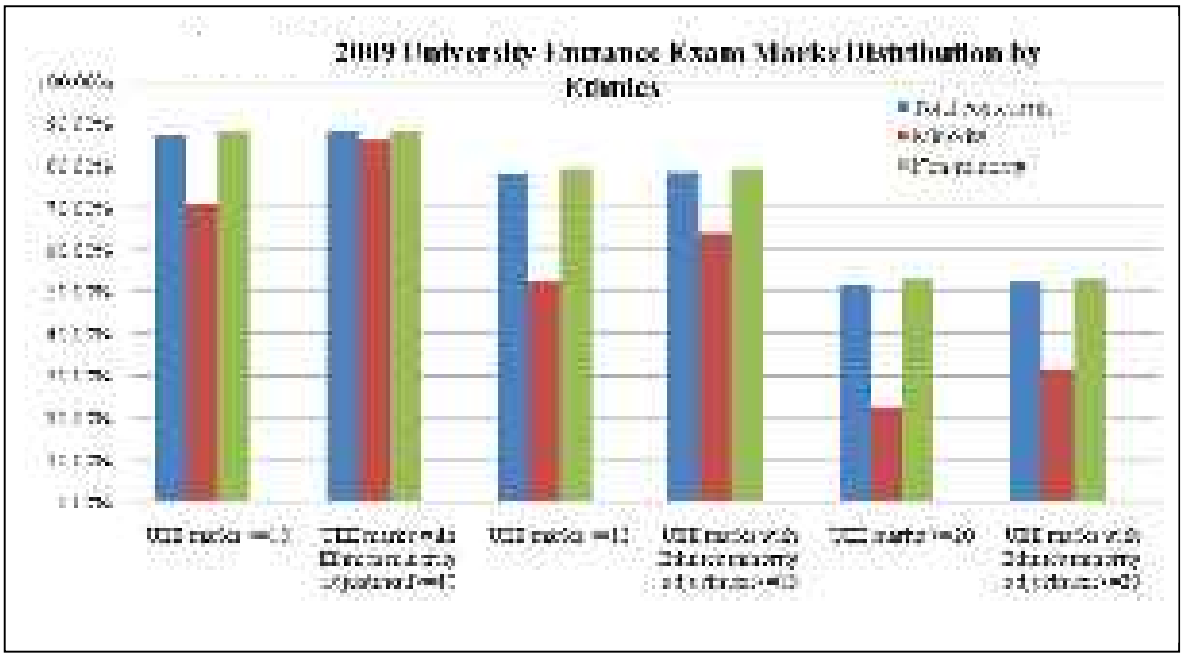
Cohorts	Cut-off marks	Ethnics Minority Adjustment
Non-minority group	**N-2.0**	**2**
Minority group	**N**	**0**

Looking at the disparity in performances between non-minority students and minority students (which have different consideration in terms of entrance exam marks as in the table above), we also can see three similar comments: First, there is a considerable disparity in the performance on the admission test between the two groups. Second, with the "ethnic minority" adjustment marks, the disparity gap is narrowing down over time. And third, differences between two student groups' performances increases when we increase the cut-off marks. In another words, minority students will have less chance to be in the good (public) tertiary institutions.

Figure 7. University Entrance Exam Marks Distribution by Ethnics







5.2. Determinants of performance and completion

Using the NEU survey data, we conduct an OLS regression to determine factors influencing a student's performance, represented by his/her first year GPA. Table 19 shows that the localities have significant effects on a student's performance. In particular, students from disadvantaged areas, rural areas, and other urban areas have lower GPAs than those from metropolitan areas.

Table 20: Determinants of GPA of first-year university students

	Coef.	Std. Err.	t-stat	P-value
Disadvantaged areas (KV1)	-0.04	0.02	-2.20	0.03**
Rural areas (KV2-NT)	-0.03	0.01	-2.91	0.00***
Other urban areas (KV2-TT)	-0.02	0.01	-1.82	0.07*
Log(Entrance score)	0.26	0.05	4.79	0.00***
Log (Household income)	0.00	0.01	0.50	0.62
Log (Education expenditure)	0.01	0.01	1.74	0.08*
Kinh ethnicity	0.00	0.03	0.16	0.87
Father has post-high school degrees	0.00	0.01	0.23	0.82
Mother has post-high school degree	0.01	0.01	1.05	0.29
Father has wage job	0.00	0.01	0.29	0.78
Father is self-employed	0.02	0.01	1.15	0.25
Mother has wage job	-0.02	0.01	-1.24	0.22
Mother is self-employed	-0.03	0.01	-2.28	0.02**
Constant	1.10	0.19	5.90	0.00
Number of obs	350			
F(13, 336)	4.01			
Prob > F	0.0000			
R-squared	0.1344			

Note: Default area: Metropolitan (KV3). Default father's and mother's job: Agriculture.
Source: Own estimates from the NEU survey.

The most important determinant of a student's GPA is his/her entrance examination score. Education expenditures covering such costs as tuition fees and extra-class expenses also positively affect a student's performance in class. On the other hand, household income, parent's education and parent's job appear to have no effect on a student's performance. The exception is when a student's mother is self-employed. In this case, the student's performance is negatively affected.

6. An examination of government policies

6.1 Policies on tuition and fees

The policies on tertiary education tuition fees in Vietnam have changed in the past 20 years. Before 1987, all university students were fully funded. From 1987 to 1994, MOET allowed some public universities to recruit a larger number of students, in which case, some of them had to pay tuition fees (which were based on national entrance examination results). Since 1994, all students are required to pay tuition fees. Before 1998, the highest fee was VND 120,000 per month. In March 1998, the government set out the tuition fees scheme for public university at VND 50,000-180,000 per month (Decree No.70/1998/QĐ-TTg by Prime Minister). On 21 Aug 2009, after a long debate, Prime Minister agreed to change the tuition fee policies. Under the new plan, from the 2009/10 academic year onwards, the highest fee will be VND 240,000 per month (60,000VND or 33% higher than the former plan).

According to the latest proposal from MOET, from 2010, the tuition fees plan will be as follows:

Discipline	*2010-2011*	*2011-2012*	*2012-2013*	*2013-2014*	*2014-2015*
Medicine and Pharmacy	340.000	450.000	560.000	680.000	800.000
Fine Arts, Sports	310.000	390.000	480.000	560.000	650.000
Technology & Engineering	310.000	390.000	480.000	560.000	650.000
Natural Science	310.000	390.000	480.000	560.000	650.000
Argriculture - Forestry - Fishery	290.000	350.000	410.000	480.000	550.000
Social Science, Economics, Law	290.000	350.000	410.000	480.000	550.000

In non-public universities, students will have to pay the full fees, and the government has not imposed any explicit restriction of the level of tuition fees.

What has worked in this policy regarding equity and access? The analysis includes estimating the cost of higher education compared to household income.

Table 21: Higher education cost per month
(as a percentage of total household expenditure, by income quintile, 2004)

Income Quintile	Total HE costs ('000VND)	Percentage of Nominal Total Expenditure
Poorest	256	27.1
Near Poorest	223	24.3
Middle	252	17
Near Richest	258	12
Richest	374	8.6

Source: Adapted from WB(2008, p.139)

Table 22: Higher education cost per month
(as a percentage of total income, by income quintile, 2009)

Income Quintile	Average Monthly HE costs ('000VND)	Average Monthly Income ('000VND)	HE cost as Percentage of Income
Poorest	1,264	1,808	70.1
Near Poorest	1,564	2,884	54.2
Middle	1,798	4,008	44.8
Near Richest	2,054	5,007	41.1
Richest	2,388	8,737	29.6

Source: Own estimates from the NEU survey.

The HE costs in the survey include the tuition fees, extra-class fees, living and accommodation costs. From Tables 21 and 22, we can see that: first, the current student loan limit at VND 860,000 per month is not enough for students who are from poor families to "survive". It should be increased to at least VND 1,200,000 per month to ensure that students from poor families can be able to pursue HE; second, an increase in tuition fee by VND 60,000 per month from 2010 to 2015 will be equivalent to only 2.5%-4.7% of the average monthly HE costs. Considering Vietnam's expected GDP growth rate at more than 5 percent per year in the coming time, such an increase is acceptable.

The data in Table 22 is also in line with the estimates in Table 10 when considering the education cost ratio. In the table 10, for example, the education cost ratio for poorest quintiles is 126.25% of household income per capita. If a typical family in Vietnam has 4.1 to 5 members, this is equivalent to 126.25% /(4.1 to 5) =25.5 to 30.8% of average income. In Table 22, the real education cost ratio for poorest income quintile is in the same range: (1264-860)/1808 = 22.4% (860 is the loan from the bank, so the real education cost is 1264-860)

6.2. Other policies[14]

6.2.1. Credit (loan) policies to support education

Since the Decision No. 157/2007/QĐ-TTg dated 27 September 2007 by Prime Minister, MoET has coordinated with the Bank for Social Policy to create a loan program for education. By 30 June 2008, there were 754 thousand pupils and students receiving loans in the amount of VND 5,292 billion. A recent survey by MoET shows that in 103 training institutions (24 universities, 4 academies, 46 colleges, and 29 professional high schools) there were 9,493 students out of 32,850 pupils and students (or 28.9%) who could get loans.

Survey data from 77 schools show that loans were mostly for students' daily-life necessities: 18,871 pupils and students (accounting for 46.15%) said that the loan of VND 800,000 per month was not enough to cover education and daily life costs; 20,548 pupils and students (accounting for 50.26%) thought such an amount was just enough; and remaining 1,463 pupils and students said such an amount was more than requested. The surveyed schools and universities evaluated that 34,897 pupils and students (90.23%) are using the loan as precisely as they proposed; 3,442 pupils and students (8.90%) are using as partially precisely as they proposed; and the remaining (338 pupils and students, or 0.87% of the total) are not using the loan as they proposed.

6.2.2. Scholarships promoting studies

Previously the high amount of scholarship provided to the pupils and students was about VND 120,000 per month. According to the current Decision No. 44/2007/QĐ-BGDĐT dated 15 August 2007, this scholarship amount was increased and the minimum amount is equal to tuition fee that a scholarship recipient has to pay. Another improvement in the scholarship policy was that a recipient of this scholarship was that the scholarship amount could now receive 100 percent as opposed to the previous limit of 40 percent (VND 120,000). As such, with this scholarship, pupils and students with economic difficulties can cover tuition fees.

6.2.3. Social assistance policies

A pupil or student receiving social assistance according to the Decision No. 1121/1997/ QĐ-TTg, can get VND 100,000 per month. Particularly, an ethnic minority pupil or student can get VND 140,000 per month. According to a survey in 2006 of 162 educational institutions, there were 34,188 pupils and students eligible for social assistance; this included10,884 ethnic minority pupils and students.

Due to evolving economic status and education costs, such an amount is not sufficient any more. Thus, beneficiaries need to get further assistance from the government and MoET so as to overcome the financial difficulties in pursuing their studies. According to the Education Law in 2006, responsibility for the expenditure for this program was transferred to local governments, and regulated by MoLISA, but there have been no guidelines for implementation.

6.2.4. Other priority policies

Pupils and students receiving lump-sum assistance or tuition fee deduction and exemption are regulated with Circular No. 16/2006/TTLT/BLĐTBXH-BGDĐT-BTC. Monthly amount for

[14] This part is heavily drawn from a recent report by MoET (2008), "Chinh sach an sinh xa hoi trong giao duc-tao dao o Vietnam" (Social security policies in education and training in Vietnam", mimeo.

the ethnic minority beneficiaries is VND 470,000; assistance to national merits' children who are studying at kindergarten is VND 200,000; primary schools is VND 250,000; professional schools, universities, and ethnic minorities is VND 300,000.

Though the number of beneficiaries is increasing, some of eligible people could not get assistance; these include students who are disabled due to parents affected by orange agents.

6.2.5. Tuition fee deduction and exemption

Following are the beneficiaries of policies on tuition fee deduction and exemption:

- Decision No. 70/1998/QĐ-TTg dated 31 March 1998 by Prime Minister and Inter-circular No. 54/1998/TTLT by MoET and MoF dated 31 August 1998 indicate that deduction of 50 percent of tuition fee would be applied to pupils and students whose father and/or mother (i) was a war veteran; (ii) was a public-sector staff who had occupational accident and get monthly assistance; (iii) are poor.

- According to the regulations of the Inter-circular No.16/2006/TTLT/BLĐTBXH-BGDĐT- BTC dated 20 November 2006 by MoLISA, MoET, and MoF, prioritized pupils and students enrolling in educational institutions would be exempt from tuition fees (for public institutions), or be partially supported (for private institutions). Specifically, VND 250,000 per month will be given to students at universities; VND 200,000 per month for students in vocational training colleges; and VND 150,000 per month for students in professional schools.

- Decision No.62/2005/QĐ-TTg dated on 24 March 2005 on supporting policies to universalize high school education. At least 50 percent of tuition fees and other contributions would be deducted for disabled pupils or pupils living in poor households. A deduction of 100 percent for tuition fees, other contributions, in addition to the support of textbooks and study tools for ethnic minority pupils.

- Decision No.267/2005/QĐ-TTg dated on 31 October 2005 by Prime Minister, and Inter-circular No.65/2006/TTLT/BTC-BLĐTBXH dated 12 July 2006 by MoF and MoLISA to guide implementation of policies for vocational training provision to ethnic minority pupils.

In the year 2006, there were 10,315,177 pupils and students (accounting for 53 percent of the whole country's number of pupils and students) to get tuition fees deducted. The percentages of pupils and students at various educational levels to get deduction were: kindergarten 28%; primary 100%; secondary and upper-secondary 28%; vocational training 15%; medium-level professional education 23%; college and university 22,5%. In the period 2001-2006, the percentages of pupils and students who got tuition fees deducted remained stable.

7. Concluding remarks

In this research paper, we attempted to diagnose the current development of the tertiary education system in Vietnam, as well as analyze (in)equality in access, performance and completion of tertiary education, using a number of individual and household characteristics from two sets of data, i.e., the VHLSS in 2006 and the NEU survey in late 2009. Our findings show that improvements of social and economic conditions of the country resulted from *Doi moi* have obviously facilitated and developed the education system in general and tertiary education

system in particular. As a result, many groups of people in Vietnam, particularly people living in mountainous and remote areas, have been able to increase their access to education, including tertiary education; this has been due to a combination of various government policies promoting education as well as greater efforts from the people themselves. However, as indicated in the paper, there have been a number of people left behind who could not access education at any level, including tertiary education. On the one hand, these people are facing a lot of social and economic difficulties, which make them struggle for a living rather than trying for an education. One the other hand, these people are also extremely vulnerable without governmental assistance to education.

As such, our paper suggested that the government pay more attention to disadvantaged groups by promoting economic growth in their localities, facilitating education environment, as well as revising student loan policies to finance education costs; all in order to improve access to tertiary education. It is hoped that after getting tertiary education, they will in turn help promote growth and development of their provinces through higher quality human resources.

Appendix

Figure A1: Tertiary education enrolment, by age

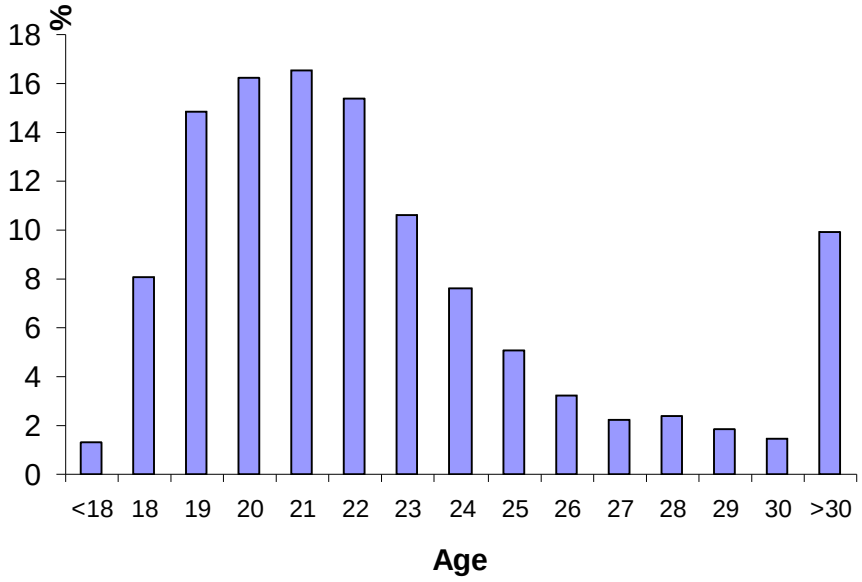


Figure A2: Education levels of household head, head's spouse, father and mother.