

# **ETHNIC MINORITIES AND HIGHER EDUCATION ASPIRATIONS: EVIDENCE FROM BINH DINH PROVINCE, VIETNAM**

Nguyễn Duy Chinh

*Open University Ho Chi Minh City*

Đỗ Hữu Luật

*Vietnam – The Netherlands Programme for M.A. in Development Economics*

Lê Thị Kim Quý

*Nong Lam University*

## **Abstract**

*Using data survey in An Lao District, Binh Dinh Province in 2015, this paper aims to examine determinants of higher educational aspirations of high school students and check for the existence of ethnic gap. College choice predisposition modelling is conducted with variables from the sociological literature. The research result presents a robust evidence of a significant ethnical gap concerning predisposition choice of high school students is existing. Besides, academic performance, school-specific contextual effects, advocacies from parents, teachers and peers have statistically significant effects on high school students' college predisposition choice. These findings imply that certain ethnic students should be consulted and encouraged to enter university or college via targeted orientation policies. Moreover, a revised bonus point scheme policy should be considered in the future.*

## **1. Introduction**

The accelerated expansion of Vietnam tertiary education system after the reform in 1993 has reshaped the labor market structure from 'expert dearth' to abundance of skilled workers. Although controversies regarding education and training quality of such work force have been evoked in both scholastic and informal discussions, it is undeniable that national education system has contributed a significant amount of trained labor to the labor market. According to the General Statistics Office of Vietnam, from 2000 to 2014, the number of college and university student graduation has almost tripled from 162 to 441 thousands, respectively. Figure from technical secondary schools also witnessed a similar trend from 73 to 155 thousands.

Nevertheless, the provision of skilled labor seems to exceed demand at certain education levels. The annual unemployment rate numbers show a consistently high level of unemployment of highly educated workers, especially in college and university section. Moreover, the unemployment gap between technicians from secondary schools and higher education labor has become higher in recent years. That is, while four-year bachelors are struggling for jobs, graduates from vocational training, which only undertake two years of training, could increasingly get employed. The circumstance is even worse in the age 15-24, which has the unemployment rate of 6.63% compared to 1.35% of adults aged 26 and above in the first quarter of 2016. Ministry of Labor – Invalids and Social Affairs also forecasts a modest increase of job vacant of 0.4% in the second quarter of 2016 (MOLISA, 2016), prognosticating an incoming struggle for prospective degree holders.

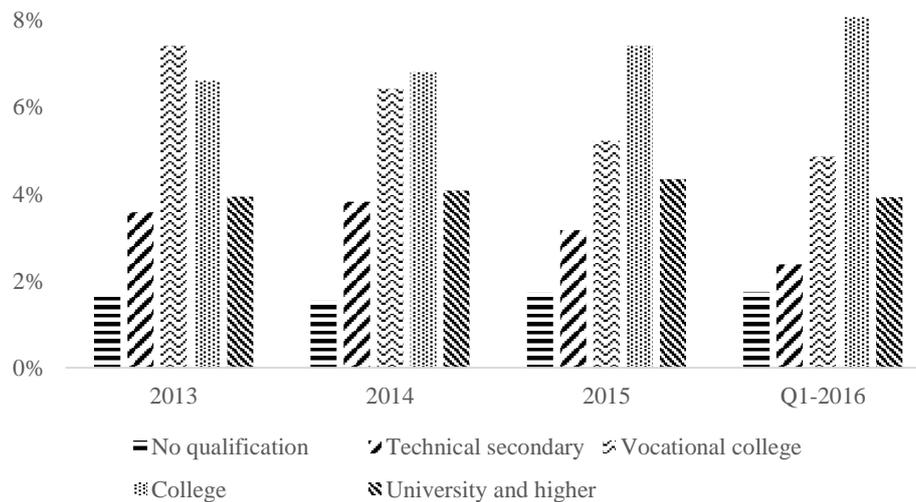


Figure 1. Vietnam annual unemployment rate by qualifications

*Source: GSO (2016)*

Although the causes for the unemployment in Vietnam are academically proved to be diverse, one widely-accepted motivation in many informal debates is the inconsistency between high skill labor supplying sectors and employers (Collins, 2005). That is, students from tertiary institutions do not match the need of the labor market in terms of both quantity and quality. This situation is further aggravated by the diploma-favoritism culture of Vietnamese, which is partially reflected in the annual figures by the high unemployment rate of workers with college (associate) degrees. While graduates from universities has already been facing with job difficulties, students from colleges are also additionally suffered from social discrimination towards their qualifications.

Another reason for the educator-employer inconsistency issue is the poor occupational orientation from high schools, which is demonstrated by the increasing student inflows into universities and contrasting vocational enrolment into vocational schools (GSO, 2016; MOLISA, 2016). Due to Confucianism nature of the society, high schoolers are encouraged to enter tertiary institutions in order to attain social status and to be able to seek good jobs regardless of academic performance and family socioeconomic status. Additionally, from 2006, the surge of being financially autonomous of colleges and universities has been advocated by the Government, or in other word, tuition fee is getting higher. This trend, coupled with the lack of orientation from high schools, may create inefficiencies in educational investments for households, especially in the rural and mountainous areas.

While the educational orientation has already been problematic even in urban areas, this kind of activity is much more difficult in mountainous areas, where most of Vietnam's ethnic minorities reside. One typical area of high concentration of ethnic minorities is An Lao District, which is one of the eight districts of Binh Dinh Province. Geographically, An Lao is a remote district surrounded by mountains and suffered from unfavorable atmospheric conditions. The whole district consists of three mountainous villages and seven high land villages, five of which are classified as 'especially poor' villages. The population of the district is 28 thousand people, mostly living by farming activities, 34% of which is ethnic minority people (Ba Na and H're ethnics).

Given these disadvantages, and the lack of communication means, low education level of ethnic people, poor infrastructure, poverty, all have hindered the orientation policies from being properly administered. Although many educational preferential policies aiming directly to ethnic groups have been carried out for years, it is still unclear whether Vietnam ethnic minorities aspirations to higher education differs from majorities or not.

Therefore, this paper attempts to investigate determinants of student educational aspirations through establishing a predisposition choice model with various student characteristics selected from the literature. Then, data analysis will be conducted with the representative data of high schoolers from An Lao District. Implications will be drawn from the subsequent findings. To be specific, two research questions will be addressed:

- What are determinants of college predisposition choice of high school students?
- Is there an ethnic gap in the aforementioned decision making process?

The result of the study will be particularly valuable with educational policy makers, teachers and counsellors in high schools, especially in poor mountainous provinces. The structure of this paper is as following. The second and the third section will be devoted to give detailed reviews of theoretical and empirical studies, respectively, from which a subsequent conceptual framework will be drawn. The fourth section focuses on describing the background of Vietnam education system. The fifth section establishes the econometric model based on the devised framework. Two last sections will present the model results, discussions and propose policy implications.

## **2. Theoretical review**

The college choice process is generally viewed under both economic perspective and sociological framework. Particularly, under neo-classical economic framework, a college choice of a student is subject to the expected utility derived from that choice, and the choice whose utility outweighs the utility of attendance of other alternatives will be selected. (Hossler, Braxton, and Coopersmith, 1989). The crucial assumption of the model is that the decision maker possesses the full knowledge on college alternatives as well as his expected utility from each choice, and that student will make his choice rationally to maximize his own benefits. (Hossler, Schmit & Vesper, 1999). Clearly, the economic theory does not hypothesize the composition of constructs which may potentially determine the college choice. These factors, however, is well-documented in the sociological literature.

In sociological framework of college choice, the aspiration of going into college is shaped under the general status attainment process, and theories concerning educational aspiration often focus on the postulation of factors which influence aspiration of college choice attendance (Paulsen, 1990). These theories generally refer to behavioral characteristics, background as well as interaction between these variables as determinants of a student's level of educational aspiration. Generally, compared to the economic perspective, the main differences of the status attainment models are the exclusion of institutional characteristics and the assumption of rationality. Moreover, the vast literature on the status attainment theory also allows for the adoption of a broad social constructs and student characteristics as well as their interactions (Hossler, Schmit and Vesper, 1999).

Given the advantages of both frameworks, the use of both economic and sociological theories for the analysis of educational aspiration is suggested by Hossler, Braxton & Coopersmith (1989). Specifically, the combination of both theories can maintain the strengths of each

models and give researchers opportunity to choose variables from either domain and concentrate on the sociological aspect of college choice as a process, while maintaining the decision making perspective of economics. Generally, the literature of college choice includes four sociological-economic models of Jackson (1982), Chapman (1984), Hansen and Litten (1982) and Hossler and Gallagher (1987) (Hossler, Schmidt & Vesper, 1989).

Jackson (1982) proposed that the college choice process of a student includes the stages of preference, exclusion, and evaluation. In the first stage, academic achievement has the strongest correlation with students' educational aspirations. In the second stage, the choice of college is the process of narrowing and evaluating college alternatives based on institutional factors to make the final choice. (Barnes-Teamer, 2003). The theory also drew on conclusions about importance of variables in stages. Specifically, family background and high-school academic performance are identified as significant influencers in all three stages. In the second stage, factors such as location, cost, quantity of information about an institution, and job prospects of graduates, as important influencers (Hossler, Schmidt & Vesper, 1999).

Chapman (1984) theory viewed the college choice is a process of five stages (pre-search, search, application, choice, and enrolment) which takes into account both individual and institutional characteristics. In the model of Chapman, significant student characteristics consisted of socioeconomic status, scholastic aptitude, educational aspirations, and academic performance. External influencers include characteristics such as cost, location, program availability and marketing. Additionally, the model also introduces the influence of significant persons as an external influence to the process. (Barnes-Teamer, 2003). However, no clear connections between the stages, student characteristics and external influences are specified in this model.

Hansen and Litten (1982) hypothesizes that college choice process includes the stages of college aspirations, college searching, information accumulating, applying and enrolling. Factors included in this model include background characteristics; personal attributes, such as academic ability, class rank, and self-image; high school characteristics such as social composition, programs, and curriculum; and college characteristics such as cost, size, programs, and timelines associated with responding to student inquiries (Barnes-Teamer, 2003). This model also introduces a new category which is broad variables such as financial aids and public policies.

Inheriting the earlier theories of Chapman, Jackson and Litten, Hossler and Gallagher (1987) propose a three-phase sociological model of college choice which emphasizes on the student characteristics rather than the institution throughout all stages. The first phase of the model is predisposition phase, which is the decision to continue to postsecondary education instead of seeking another status attainment routes. The search phase, which is the process of gathering information about specific institutions and their characteristics. The final phase is choice phase which occurs when applications are completed and the student choose a particular institution based on the comparison between academic and social attributes of college alternatives. Hossler & Gallagher (1987) also identifies a wide range of impacting constructs including student and college characteristics. The linkages between search phase and choice phases are also asserted in the model. Particularly, the choice of the student is dependent on the information accumulation in the search phase.

The previously described models, while contributing some insight into college choice analysis, expose several shortcomings. First, the magnitude of influence of common factors associated with college choice is not consistent throughout models. Second, none of the models clearly articulates the most important factors overall that influence college choice, perhaps because this approach would be too simplistic as the interaction of the various factors comes into play. Third, it is worth noting that all the theoretical college choice models are designed to provide a framework for analyzing student choice in the U.S. context. Given the major difference between U.S. educational system and others, studies which are conducted in other nations than U.S. should utilize these theories with discretion. Especially in the case of Vietnam, where college predisposition is heavily dependent on the annual national examination and household economic status of the student.

### **3. Empirical review**

Clearly, all the aforementioned theoretical works, most notably Hossler and Gallagher (1987), have pointed out that the educational aspiration will, in turn, lead to college predisposition decision of students. These sociological and economic frameworks have grounded numerous empirical studies of college aspiration. Among these studies, several common variables which help explaining whether a student will aspire to attend postsecondary education are demonstrated. Generally, it can be grouped into four broad categories. The first category encompasses the demographic characteristics of the students. The second category consisted of academic performance variables. The third is psychosocial-related factors. The final

category includes contextual effects, which could be the unobserved effect of attending a particular school which potentially alters aspiration of students.

### *Demographic group*

*Socioeconomic status* (SES) has always been an inseparable construct in explaining aspiration formation. The importance of SES emerged from the status attainment theory in which, in essence, reveals how socioeconomic status is transmitted in obtained. Generally, the impact of SES on college attending predisposition is noted as positive in the literature (Hossler et al., 1989). That is, students with higher SES backgrounds are more likely to have a predisposition to attend college compared to lower SES students. Cabrera & LaNasa (2001) argued students of lower classes are less competent in college attending process, which, subsequently, leads to weaker educational aspiration than students of higher SES backgrounds.

However, the channels through which SES affects aspiration formation is not necessarily direct. Blau and Duncan (1975) found that status affects aspirations through years of schooling. Moreover, the effect of SES may differ from students to students. McCarron and Inkelas (2006) found that SES is an important predictor of educational aspirations of first-generation college students only. However, despite the popularity of SES, the magnitude of SES-impact in comparison to other factors still remains unanswered. Rosebaum (1980) concluded that personal ability has stronger influence than SES in predicting aspirations, this finding is consistent with studies of Rehberg and Rosenthal (1978) but contradicting with results of Alexander and McDill (1976) and Alexander and Ecklund (1974).

While SES is one of the inarguably important factors in virtually every related studies, its composition, on the other hand, is probably the least clearly defined. To be specific, most of SES-utilizing studies only include family income as the mandatory component. The other components, however, varies from study to study. For example, a composite index comprised of household items, parental education, income and father's occupation is adopted in the study of Rosenbaum (1980). A similar index is also constructed using parental education, father's occupational and parental income in the study of Alwin and Otto (1977). Moreover, some studies also use SES components individually instead of merging into a single index (Burke & Hoelter, 1988; Trent, Gong, OwensNicholson, 2004). While this method allows for the drawing of specific important implications, it is worth noting that using different measures of SES may yield different results.

Contrary to the sociological studies where SES is used in diverse forms, in the economic empirical literature, *income* of the student family is the dominant variable determining college attendance. From the economic point of view, families in the low income groups are more sensitive to college-related costs and subsidies than the higher income counterparts, thus, hold low educational aspiration. Specifically, McPherson and Schapiro (1991) shows evidence of higher price-elasticity due to the change in tuition fee or scholastic awards of low income students. Consistently, behaviors of higher income students are generally price-inelastic (Heller, 1997). In the college enrollment stage of the college choice process, this effect is also empirically confirmed by St. John (1990).

Both the *education level and occupation of a student's parents* are widely acknowledged in aspiration formation studies as well as in the college choice process. Carpenter and Fleischman (1987) find that father education has a positively significant impact on postsecondary education aspirations. However, the role of mother education is rejected empirically in the same study. On the contrary, Burke and Hoelter (1988) demonstrated the ambiguous relationship between father education and postsecondary aspiration. Same conclusions were also drawn from other related studies (Bohon, Johnson, & Gorman, 2006; Erikson & Wiley, 1999; Wang, Kick, Fraser, & Burns, 1998). However, the use of this factor obviously assumes that the parents are influential persons of the students, which is highly dependent on the context in which the studies is conducted.

Similar to parental education, evidence for the importance of parental occupation is also inconsistent. In the sociological field, Burke and Hoelter (1988) find no influence of father occupation on student aspirations. Contrary to these findings, Wang, Kick, Fraser, and Burns (1998) concludes that parental occupation is a significant predictor in aspiration formation in a broad status attainment process. Korupp, Ganzeboom, and Van Der Lippe (2002) find the cross-countries evidence demonstrating the positive relationship of parental occupation to educational attainment of children. Despite these inconsistencies, parental education and occupation are still essential for the prediction of educational aspiration both theoretically and empirically.

A unique feature when incorporating parental education and occupational level into any model is the variability of this factor due to the context of the nation. For example, compared to the earlier context, women have become more highly educated, earn more and are increasingly to be the influential person of a household. Such changes suggest researchers should be cautious

when using and measuring parental variables. Empirical evidence has indicated, compared with the context in 1980, parental status such as parental occupation and education level are less associated to postsecondary education aspirations in 2002 (Goyette, 2008).

Another construct of interest is *gender*. Most of early sociological studies use samples of males (for example, Blau & Duncan, 1967, Bourdieu, 1977). This limitation is later addressed. However, the empirical findings concerning the role of gender in the educational aspiration are quite contrasting. While some studies found that gender has no association with aspiration formation (Carpenter & Fleishman, 1987; Manski & Wise, 1983), Hossler and Stage (1992) demonstrated that males are more aspired to postsecondary educational than female counterparts. Trusty (2000) argued that the aspirational stability of both male and female students is subject to different variables, but with different magnitudes. Specifically, common influencers of aspiration include mathematics score, self-efficacy, mother's motivation and parental involvement. Male students are also subject to the influence of home computer and school counselor. Interaction of gender with other student characteristics is also remarked in the literature. For example, Rosenbaum (1980) found gender effect in interaction with perceptions of academic track. The study revealed that male educational aspiration is more influenced by the perception of academic track in which they are. Kao and Tienda's (1998) found another interesting results that aspiration of male Black and Latino students is more inferior and instable than other ethnics.

*Race and ethnicity* are also major determinant of the social attainment (Perna, 2000). Although its importance, researchers also interested in its interaction to other variables which is also crucial to aspiration formation. Howell and Frese (1979) observed that race differentials vanish socioeconomic backgrounds of racial groups are the same. The correlation between parental expectations and aspiration of Black students are also higher than of White students. This suggests that race may not that affect aspiration formation but status variables that are associated with race are also important in predicting aspiration formation. While past studies only consider Black and White racial group, recent studies have taken into account Asian, Hispanic and Native American as well.

Arnold (1993) has found a weaker social status attainment of minority students than majority students. The reason could be subject to race, social class or gendered norms. Furthermore, educational attainment could be affected differently by different races, which, in turn, varies

scholastic aspirations. Wells & Crain (1994) also postulate that minority students have limited resources available to them, which influence their aspiration.

In sum, empirical studies have suggested race and ethnicity are important in predicting postsecondary aspiration. As long as racial gaps of other variables (income, parental education) have not been eliminated, it is necessary to include race and ethnic variable to examine the race and ethnical gaps in forming educational

#### *Academic group*

*Academic preparation* includes academic activities that facilitate students in attending postsecondary education. These could be academic track from high school, coursework taking. Additional coursework taking often occurs in Vietnam as the form of attending intensive tutoring classes.

Social reproductionists view tracking in schools is crucial in forming aspiration. To be specific, the theory state that schools reproduce the social structure and higher social status students will be assigned to tracks oriented to going into colleges. Rosenbaum (1980) also state that curricular track is also important to education aspirations. This is empirically supported by Smith-Maddox and Wheelock (1995), who found students in lower curricular tracks are discouraged to enter postsecondary education and unlikely to acquire adequate resources to form aspirations. However, the effect could differ among ethnical or racial groups (Smith-Maddox & Wheelock, 1995; Wimberly & Noeth, 2005).

*Academic preparation* is important in facilitating the entry to higher-level classes in school, which hold more opportunities to postsecondary education (Atenda, 1999). Moreover, students who do take intensive courses early tend to perform better in high school and college (Frome & Dunham, 2002). This, in turn, leads to higher likelihood of being assigned into college curricular tracks.

*Academic performance* plays an obviously influential role from the aspiration formation stage of the college choice process. Various empirical studies support the positive effect of academic performance in the predisposition of students to enter postsecondary education (Hossler, et al., 1989; Kao & Tienda, 1998).

In sum, the college choice literature emphasizes the importance of academic performance to predisposition tendency. Although it is unclear about the causality between performance and

other variables, such as parental encouragement. These findings are all consistent with even the earliest status attainment and social reproduction theories.

### *Psychological group*

A student's perception of his own academic ability is also important as academic performance in terms of predicting aspirations. It is empirically proved that belief of own ability is positively related to educational attainment (Weiner, 1979). Rosenbaum (1980) also suggested that perception of ability and actual ability are two separate constructs, which both play an important role in predicting the education outcome of students.

The influence of significant others is commonly referred in the aspiration formation literature in two common variables. The first is the influence of teachers, peers, siblings, teachers and others. The second is the parental influence, or parental encouragement. However, defining the subjects of 'significant' is often done by researchers, not by respondents.

Freeman, (1997) and Hossler, et al. (1999) Both advocated the role of counselors and teachers in influencing aspirations through possession of important information of higher education. The effect, however, may differ in different stages of education of students. The effect siblings and friends are also found to be significant in seventh or eighth grade compared to other grades (Schmit, 1991). Cheng & Starks (2002) also suggest different races are affected by this influence differently.

Parental encouragement plays a very important role in the aspiration phase. Conklin and Dailey (1981) and Ekstrom (1985) both find significantly positive effect of parental expectations on aspirations of students. Moreover, other than parental encouragement, parental involvement in school activities also give rise to aspirations (Qian & Blair, 1999; Wimberly, 2000). However, mothers and father encouragement may be different. Wimberly and Noeth (2005) and Noeth and Wimberly (2002) find that mothers motivation is much more helpful in forming aspirations than fathers.

### *Contextual effects*

Davis (1966) hypothesize that high school context may affect educational aspirations. Specifically, students in higher quality schools are less aspired than students in lower quality schools, assuming they hold same ability. Various studies have empirically confirmed this hypothesis, (Meyer, 1970; Nelson, 1972) while some others do not (Hauser, 1971; Jencks, 1972). Hu (2003) finds that schools located in rural areas have lower contextual effect towards

aspiration in comparison with urban and suburban schools. The contextual effect is also found to have impact on aspiration through financial channel, for instance, Jackson (1978) discovered the greater effect of financial aid of students in certain geographic regions of the US on enrolment.

*The conceptual framework*

Taking into account empirical review of related literature, the conceptual framework for the college predisposition is presented as follow:

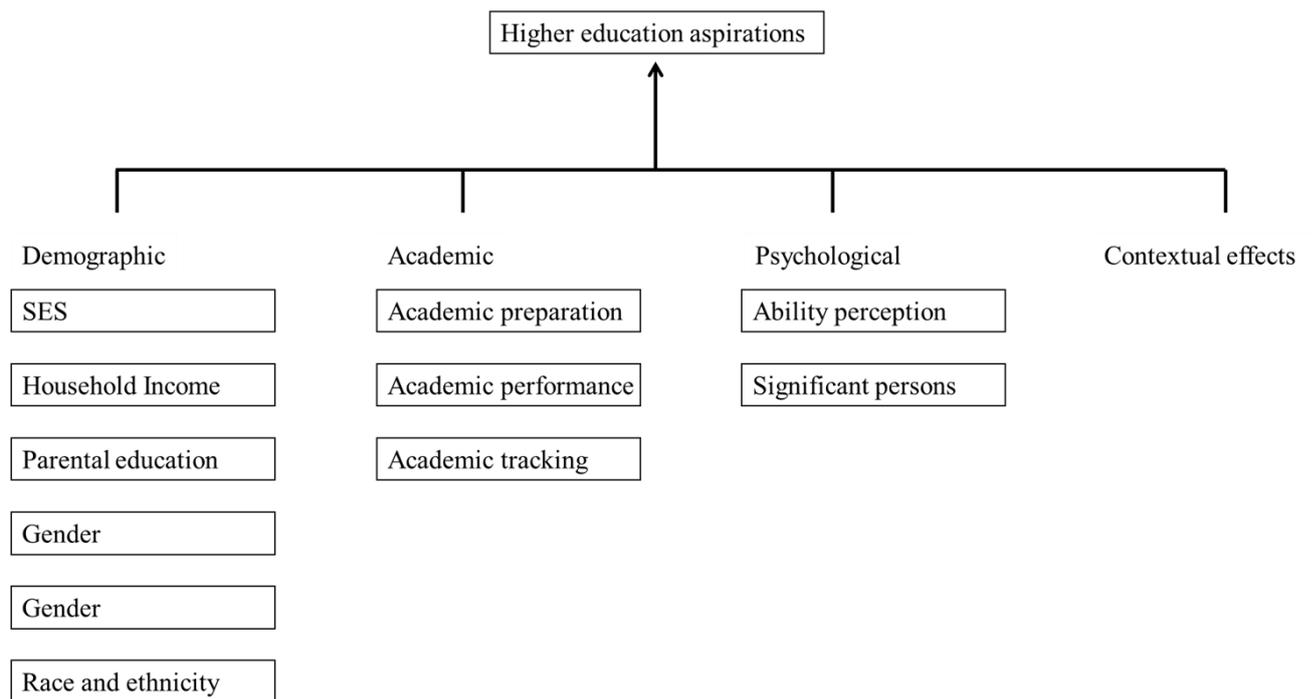


Figure 2. The conceptual framework of higher education aspirations

**4. Overview of Vietnam education system**

Prior to the educational reform in 1979, Vietnam has adopted the 10-year educational system which consists of three levels (elementary school, secondary school and high school). After the reform, the compulsory educational system spans across 12 years and operates under the administration of Ministry of Education and Training. Secondary level and high school level conclude with graduation examinations. The high school graduation, which was formerly held in May annually has six subjects pre-determined by the Ministry two months in prior. Later in 2015, the high school graduation exam was replaced with National high school exam.

Higher education system in Vietnam also underwent a significant reform in 1993. Specifically, Vietnam deserted the old Soviet model of small, specialized colleges and put in place of a new

system with large higher education institutions. Since then, the growth of the higher education sector has been rapid, especially with the introduction of non-public education institutions. In 1998, the government defined the separate status of universities and colleges. To be specific, college training duration is limited to 3 years and learners are granted with associate degree, while university level training could range from 4 to 6 years and learners are awarded with degree with the title of bachelor, engineer or medical doctor. This classification was further deepened by the forming of 'key universities' group in 2004. In 2005, another reform agenda was introduced with the main purpose of orientating higher education institutions into two schemes of research and application (Hayden & Thiep, 2010). These rapid structural reforms, while remains questionable in their viability, have undoubtedly generated social discrimination towards educational degrees. Conjunction with Confucianism nature of Vietnamese society, education has been made as a crucial standard for status recognition.

Not only in tertiary educational system, entry process to higher education level also experiences several transformations, two of which occurred in 2002 and 2015. Before 2002, higher education institutions hold the right to admit students from high schools on their own, in other words, universities and college can derive their own practice of selecting students. These methods range from composing institution-specific entrance tests, interviewing or holding aptitude examinations. The year 2002 remarked a huge change in the education history of Vietnam with the introduction of 'three common' national examination which would be held annually. Accordingly, students graduated from the national high school graduation examination in May are allowed to register for several majors of a college or university and then compete in an examination with a nation-common test in a date-common of July. Consequently, result of this exam would be commonly used by every higher education institution in Vietnam as an important basis for admission.

Given the enormous cost of two consecutive nation-wide examinations in a year, the newly implemented reform in 2015 aims to merge high school graduation exam and 'three common' university entrance exam into one 'national high school exam' which serves the purpose of both certificating high school students and selecting students for higher education system. To be specific, high school students are given a choice to either take the exam for high school graduation purpose only or both to graduate and to qualify for higher education system. Regardless their choice, students have to take a common examination whose subjects are individually chosen in the registration process. Generally, the mark requirements for graduation purpose is minimal and students who desire to continue to higher education have to match their

subject of choice with the subject combination required of the institution. However, the main difference in comparison to the former two-exam process lies in the timing of higher education registration. While the old procedure requires tertiary education decision to be made before the entrance exam, the new procedure allows for later submission of student exam results to institutions. Despite the flexibility of this change, controversies have been shown inevitable in practice.

Obviously, these forms of entry selection into tertiary education level has made some certain reputed institutions 'elite' and some 'inferior'. Furthermore, not all high school students could meet the tough exam requirements of colleges and universities. Coupled with strict discrimination of the society, the system itself has created an 'implicit' ranking of institutions where colleges are generally at lower 'rank' compared to universities.

While most high school students strive to enter colleges and universities, a modest portion of students orientated themselves to vocational training route or technical secondary schools. The advantage of vocational training over entering college and university is that vocational training does not require student to undertake the difficult entrance exam nor meet high requirements of colleges and universities. Moreover, if the student enters vocational schools with high school graduation, the duration of entire vocational training only lasts for two years. This reduces financial burden of education and allows a student to participate in the labor market two-year earlier compared to a four-year bachelor. However, it is clear that graduates from vocational schools are less likely to be recognized in terms of social status attainment. Still, choice of vocational training is viable with low-income households or students with poorer academic performance.

## **5. Research methodology**

In this study, student aspirations for higher education will be formulated as forthcoming choice of educational level upon completion of compulsory education. Within the economic framework, when faced with  $J$  mutually exclusive alternatives, an individual will make decision based on the utility maximization basis, in other words, he/she will choose the alternative which yields the highest utility compared to the rest. Thus, the probability of a student  $n$  choosing a certain educational level  $i$  instead of  $j$  is written as following:

$$P_{ni} = \Pr (U_{ni} > U_{nj}), \forall j \neq i$$

Where  $P_{ni}$  is the probability of  $n$  student choosing the  $i$  alternative.  $U_{ni}$  is the utility gained when  $n$  student choosing  $i$  alternative. Random utility maximization theory stated that  $U$  consists of two parts, which are deterministic component,  $V$  and an unobserved random component  $\varepsilon$ . The probability function can be rewritten as:

$$P_{ni} = \Pr (V_{ni} + \varepsilon_{ni} > V_{nj} + \varepsilon_{nj}), \forall j \neq i$$

$$P_{ni} = \Pr (\varepsilon_{ni} < \varepsilon_{nj} + V_{ni} - V_{nj}), \forall j \neq i$$

Assuming  $\varepsilon_{ni}$  and  $\varepsilon_{nj}$  are identically and independently distributed with standardized independent extreme value distribution (Gumbel distribution). The density function and cumulative density function the distribution are given as  $f(\cdot)$  and  $F(\cdot)$ , respectively. According to Train (2009), the function could be rewritten and transformed as following:

$$P_{ni} = \int f(\varepsilon_{ni}) \prod_{i \neq j} F(\varepsilon_{nj} + V_{ni} - V_{nj}) d\varepsilon_{ni}$$

$$P_{ni} = \frac{\exp(V_{ni})}{\sum_{j=1}^J \exp(V_{nj})}$$

The above model is the conventional multinomial logit model, which will be estimated using maximum likelihood method. In the context of facing with three choices, going into vocational school, college and universities, deterministic parts of utility could be linearly parameterized as:

$$V_{n\_college} = \beta I_n$$

$$V_{n\_vocational} = \beta_0 + \beta I_n$$

$$V_{n\_college} = \beta_1 + \beta I_n$$

Where  $\beta$  is the matrix of student characteristics. Within the context of this study, following sociological variables are included in the model:

- Household size (hh\_size) and number of students in household (hh\_student) are measured by the number of members and number of studying members (excluding the respondent), respectively.
- Household occupation (hh\_farming) indicates the main activity of the household. The area of survey mainly consists of farming households. Thus, hh\_occup equals 1 if the student's household occupation is farming, 0 otherwise.

- Household income (hh\_poor) denotes the economic status of the household of student, which equals 1 if the household is certified as poor household.
- Gender (male) equals 1 if the respondent is a male.
- Attending intensive tutoring classes (tutor) equals 1 if the respondent attend to a tutoring class in one or more subjects.
- Academic performance classification (academic\_good) of the students equals 1 if the student is classified as good or excellent.
- Parental and peers (parental\_moti), teacher (teacher\_moti), self-efficacy (self\_moti) motivation represent psychological factor of significant persons influencing the student choice. Each variable will equal 1 if the respondent states that the corresponding persons encouraged his/her choice.
- Contextual effect (anlao\_school) represents the school-specific effect which equals 1 if the respondent is the student of the An Lao high school and equals 0 if he/she is in An Lao 2 high school.

The data sample for the study is collected from a field survey of 235 last year students from An Lao high school and An Lao 2 high school in An Lao District of Binh Dinh Province in May, 2015. The data consisted of 61 ethnic minority students. The question for the dependent variable ask for respondents' choice for higher education level after taking the national exam, which could be either vocational schools, going into colleges or universities. While An Lao high school is a more developed school in terms of study conditions and infrastructure, An Lao 2 high school is a remote, poor school which is mostly comprised of ethnic minority students. The sample data is described as follow.

Table 1. Description of the data sample

	Total number of students	Total number of last year students	Number of students surveyed
An Lao high school	515	153	146
An Lao 2 high school	275	94	89

## 6. Results and discussions

Initially, the estimation of the multinomial logit model is run with the base outcome of college choice. Then, marginal effects are computed. The result is presented as following.

Table 2. Multinomial logistic regression results (marginal effects)

variable	vocational	college	university
hh_size	-0.033 (-0.60)	-0.009 (-0.27)	0.041 (0.69)
hh_student	0.043 (0.68)	0.016 (0.34)	-0.060 (-0.81)
hh_farming	-0.048 (-0.46)	0.08 (0.97)	-0.038 (-0.29)
hh_poor	-0.105 (-1.15)	-0.013 (-0.19)	0.119 (1.22)
male	0.193* (1.85)	-0.097 (-1.39)	-0.085 (-0.79)
ethnic	0.920*** (22.13)	-0.07 (-1.41)	-0.847*** (-17.39)
tutor	-0.108 (-0.80)	0.110* (1.69)	0.003 (0.02)
academic_good	-0.407*** (-6.54)	-0.298*** (-4.52)	0.706*** (9.28)
parent_moti	-0.293*** (-2.81)	0.022 (0.32)	0.270** (2.31)
teacher_moti	0.194* (1.92)	0.033 (0.51)	-0.226* (-1.93)
self_moti	0.153* (1.71)	-0.148** (-2.19)	-0.007 (-0.07)
anlao_school	0.301** (2.33)	0.011 (0.10)	-0.312** (-2.35)

*z-value is presented in the parentheses.*

*\*, \*\*, \*\*\* denote significance level of 10%, 5%, 1% respectively.*

At first glance, it is easily observed that household-related variables have no clear impact on student predisposition choice of college, suggesting that students choose their tertiary education regardless of their family socioeconomic status. While this result is alarming to poor households since their children could possibly further intensify the financial burden of the family, it reflects the learning fondness nature of Vietnamese, especially in the middle region of Vietnam. Most of students strive to enter higher education institutions with the anticipation that their study will help them and their families to escape poverty and attain social status.

Gender effect is also not robust. The result show that being a male will positively affect the likelihood of entering a vocational school. Indeed, the data show a high rate (87%) of choosing technical and engineering training, which are male-preferred jobs, among vocational applicators. Besides, the gender effect is statistically nonexistent on choices of college and university. This result, to some extent, casts doubt on the widely-recognized situation of gender discrimination in education in Vietnam.

Contrary to other SES indicators, ethnic variable shows high magnitude of impact towards vocational and university choices. That is, being an ethnic minority, *ceteris paribus*, decreases the probability of entering university and increases the likelihood of going into vocational training by 0.84 and 0.92 percentage point, respectively. This result implies a huge ethnic gap between majority and minority in terms of choosing tertiary education. Through sociological perspectives, the situation could be explained by the theory of blocked opportunities. To be specific, ethnic minorities disbelieve in the role of academic success in the socially advancing process, which, in turn, discourages academic aspirations (Ogbu, 1991). While it is contrasting with arguments of Sue and Okazaki (1990) that ethnic group strives to outperform majorities in education in order to atone for possessing innate disadvantages, the finding is consistent with the reality in the mountainous regions of Vietnam. In these areas, ethnic minorities are isolated with the majority people both linguistically and geographically. Moreover, ethnic students in An Lao 2 high school are assigned into ethnic-specific classes which could possibly deepen the gap with the majority counterparts.

In contrast with suggestions from empirical evidence postulating the positive impact of tutoring on academic performance (Dang, 2007), tutoring classes, in general, has no impact on education aspirations in this context. Though a high portion of the student sample attends tutoring classes, explicit reason for this inconsistency possibly lies in the purposes of attending. In particular, students may not necessarily attend tutoring classes to get entry into higher education, but to improve their grades. The finding is coherent with the context of quality-lacking high school teachers and the entrance examination reform in 2015, where every high school student is required to pass the national examination with the specified minimum grades to be certified as graduated. Thus, intensive tutoring activities are considered as an effective practice for students to ensure their passing, as well as for high schools to achieve the targeted graduation rate.

Academic ranking in high school positively and robustly affects to the higher education choice of university. This is in line with the study expectation and the reality. In the current curriculum of the compulsory education progress, 12<sup>th</sup> grade is mostly devoted to reviewing past knowledge and practicing advanced exercises. Thus, educational aspiration is greatly predicted by the performance in this grade. However, it is important to notice, despite high magnitude of being a good or excellent student towards university predisposition, marginal effect in college choice category is much lower than vocational choice. That is, average and below students tend to choose vocational schools instead of pursuing a higher educational degree.

Statistical results of the psychological category show several interesting findings. First, teacher and parental advocacies seem to have significant influence on the predisposition choice, while self-commitment effects are not robust. This is broadly supported in the field of education research (Kniveton, 2004) and suggests that high schoolers tend to make decisions based on recommendations of teachers, parents or peers rather than self-efficacy, which could be possibly due to the uncertainty about future career and the lack of occupational knowledge accumulation. Second, predisposition advocacies from parents or peers, and from teachers, are contradictory. Parents and relatives encourage students to pursue academic trajectories while teachers tend to do the reverse. The discrepancy in career orientations could be subject to numerous causes, one of which is the lack of occupational knowledge of parents, which in turn could misguide student choice.

Contextual school difference between An Lao and An Lao 2 high schools is also theoretically supported by Davis (1966). Compared to students in An Lao 2 high school, students in An Lao high school, where studying conditions is better, are less motivated into university, *ceteris paribus*. This effect, while remains empirically controversial and dubious due to the limited scope of the data, questions the Government preferential policy towards schools in less developed areas.

## **7. Conclusions and policy implications**

Through developing a conceptual framework and an econometric model of college predisposition in the context of Binh Dinh Province. Following main findings was found:

- There exists a significant ethnical gap concerning predisposition choice of high school students in Binh Dinh Province. Particularly, compared to a Kinh student with same characteristics, an ethnic student is less aspired in choosing university level of tertiary education, he/she tends to going to vocational training routine.

- Academic performance, school-specific contextual effects, advocacies from parents, teachers and peers are robust predictors of student choice of tertiary education level.

Several proposed policy implications are drawn from these findings:

Ethnics are less motivated to enter higher education. On the other hand, according to Van de Walle and Gunewardena (2001), returns to education of ethnic people in Vietnam are substantially higher than majority counterpart in the long-term, however, these effects are closely linked with the proximity between minority community and the majority area. These findings imply that while generalized occupational orientation programs for ethnicity may be misused, it is necessary have orientation policies targeted at certain ethnical communes to encourage ethnic students to enter universities or colleges. Such policies should be aimed at pessimistically average and above average graded students since they demonstrate a strongly reluctant intention of advancing scholastically. Especially in the context of the new national admission scheme beginning in 2015, where students are given freedom to choose a tertiary institution after having their exam results.

Despite nationwide preferential policies towards ethnic minority students when taking entrance examinations, it is recommended to reexamine these policies carefully. Current preferential policy gives fixed bonus points to students in high schools residing in the remote and less developed areas in entrance exams. While the policy may appear economically sensible, evidence from this study shows it may cause inequality in terms of psychological motivation. To be specific, it is possible for students from the lower quality schools, who already have stronger motivation compared to same students from higher quality schools, are further motivated with bonus points while having the school-specific disadvantages compensated with some means such as tutoring. This study suggests a new bonus point scheme to be individually reassigned to schools annually based on preceding academic performance of said schools. This way, school-specific academic effects is more clearly recognized and could be treated accordingly.

Finally, although socioeconomic condition does not affect students' aspirations, parental influence, however, does. Thus, diploma-mindedness-reducing propagation should be aimed directly at parents. While this is not a new suggestion, it is required in the remote and farming-reliant communes where cultural standard is low and people are conservative.

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