

University of Economics in Prague

**Faculty of Economics and Public  
Administration**

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**DETERMINANTS OF FOREIGN  
STUDENTS' SUCCESS AT THE  
CZECH UNIVERSITIES**

*Bachelor's Thesis*

Author: Viet Anh Do

Thesis Supervisor: Ing. Mgr. Petr Koblůvský, Ph.D.

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## **Dedication**

I would like to dedicate this study for my entire family, including my girlfriend. I am eternally grateful for their support during my entire life.

Prohlašuji na svou čest, že jsem diplomovou práci vypracoval samostatně a s použitím uvedené literatury.

Viet Anh Do  
V Praze, dne 6. 4. 2013

## **Abstract**

This study analyzes determinants of students' success using various of perspectives (sociological, psychological, economic, cultural, organizational) in order to find out related influences. Our theoretical framework predominantly base on personal insights and experience as the author himself was able to spend a lot of time with immigrant students. This research was delimited to baccalaureate students. The reason is that the linguistic, institutional, cultural and other effects are more distinct and might change enrollment conditions and requirements *ex tunc*. Our study data collection was empirically analyzed and result into varied findings. Basically, both studied immigrant students groups (Vietnamese and post-Soviet) are academically considerably weaker. This should be caused by their study limited barriers, which were theoretically assumed by an author. Therefore, this study is conceptualized to explore specific limitations.

## **Keywords**

students' success, foreigners, Czech university, Vietnamese, Russian

## **JEL Classification**

I21, I25, F61

## **Abstrakt**

Studie analyzuje determinanty zahraničních studentů s použitím široké škály úhlů pohledu (sociologický, psychologický, ekonomický, kulturní, institucionální) za účelem nalezení relevantních vlivů. Teoretická část je založena na osobních zkušenostech autora, jelikož měl možnost strávit se zahraničními studenty mnoho času. Tato studie se zaměřila výhradně na bakalářské studenty. Důvodem byla větší průkaznost jazykových, institucionálních, kulturních a dalších vlivů, ale také možnost změnit podmínky přijímacího řízení od začátku vysokoškolského studia. Datový soubor byl empiricky analyzován a dospěl k neurčitým závěrům. Dá se však konstatovat, že obě zkoumané imigrantské skupiny studentů (Vietnamští studenti a studenti ze zemí bývalého Sovětského svazu) byly akademicky slabší. To může být způsobeno bariérami limitující studium, které byly autorem teoreticky předpokládány. Na základě toho, je tato studie koncipována na odhalení těchto specifických limitací.

## **Klíčová slova**

akademický úspěch, zahraniční, vysoká škola, česká, Vietnamci, Rusové

## **JEL Klasifikace**

I21, I25, F61

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## Chapter I - National Perspective

In the last few decades, society has become more diverse than ever before. This has resulted in frequent debates and public discourse about the subjective well-being of foreigners and immigrants in economic research “(e.g. the Stiglitz-Sen-Fitoussi Report on social progress and well-being, commissioned by Nicholas Sarkozy; the British National Well-Being Project embraced by David Cameron)” (Koczan, 2013: 2).

Increasing diversity of population has also begun to occur in the Czech Republic. The number of foreigners in 2010, registered by Ministry of the Interior of the Czech Republic and Alien Police inspectorate, reached 424 291 which represented 4% of the population of the Czech republic (Czech Statistical Office, 2012b). Although this number may not be significant, we can see a significant growth of foreigners over the years – during the period from 1985 to 2010 by 1,141 % (by 387 114 people) (Czech Statistical Office, 2011a). The diversification of foreigners has also changed enormously. In 2010, the largest minority group was represented by 124 281 Ukrainians (31 %), followed by 71,780 Slovaks (17 %), and also a significant presence of the Vietnamese (60 289, 14%), Russians (31 807, 7 %) and Poles (18 242, 5 %) (Czech Statistical Office, 2011b). These numbers do not include the considerable number of foreigners who acquired Czech nationality, second generation immigrants and undocumented foreigners.

The diversity of the Czech society is also shown in the university statistics. The number of non-Czech students have increased by 1 501 % in 18 years – from 2 505 foreign students in 1992 to 37 588 students in 2010 (Czech Statistical Office, 2012c). In 2010, the 9 109 foreign students were first enrolled (Ministry of Education, Youth and Sports of the Czech Republic, 2010a) and 20,283 undergraduate students at Czech universities were foreigners (Ministry of Education, Youth and Sports of the Czech Republic, 2010b).

Naturally, the total number of students of predominatly non-Czech minorities (Slovaks, Vietnamese, Post-Soviets) have also been permanently increasing for some time. For example, in 2000, the number of Slovak students reached 3 719, in 2010 it was more than 24 000; a similar trend can be seen with post-Soviet students<sup>1</sup> and

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<sup>1</sup> I had chosen, just in this case, the largest post-Soviet group for illustration – Russians: 187 (y 2000) - 2 549(y 2010), but we can see comparable raise in all post-Soviet minorities

Vietnamese students<sup>2</sup> (Ministry of Education, Youth and Sports of the Czech Republic, 2013). The consistent growth of foreign students implicitly means that the number of enrolled students in all mentioned groups has also been constantly increasing. Based on this enrollment progress and the number of foreign students, it is more relevant and important now than ever to explore foreign students' conditions, and any potential obstacles and adjustment issues they face. Developed countries aim at creating learning environments that promote and value diversity (Zhao, Kuh, & Carini, 2005). As a result, such countries have generally implemented cross-border interaction (Andrade, 2006), because international cooperation promotes a worldwide improvement in human welfare.

Both academic and non-academic observers frequently claim that one of the primary intentions of education is to teach students to live and work effectively alongside people from different backgrounds (Smith & Schonfeld, 2000; Zhao et al., 2005). This insight is not an ivory-tower, naïve or unnecessary luxury for developed countries. Foreign students indisputably and noticeably (Andrade, 2006; Gurin, Nagda, & Lopez, 2003; Gurin, 1999) bring sizeable economic and non-economic benefits to the economies.

Support for international students provided by their college is often not enough, it requires deeper cooperation between the government and education bodies (Berger & Braxton, 1998) to realize and finance outreach programs and marketing, centralized websites with higher education information, and simplified visa and university application processes.

The trend of increased diversity of students was apparent in other countries, before it started emerging in the Czech Republic. In countries where the number of foreign students is traditionally proportionally higher, such as United States of America, Great Britain, Australia or Canada, there are numerous studies that have analyzed foreign, international students' success, issues, and questions. As research addressing the aforementioned questions has not been conducted in the Czech republic, we decided to explore for the first time the problems of minority, immigrant and foreign university students.

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<sup>2</sup> 85 (y 2000) – 724 (y 2010)

## **Chapter II - Introduction**

This study explores the determinants of foreign undergraduate student success at the University of Economics in Prague. We use empirical analyses, however the theoretical basis is partly inspired by the theory of investment in human capital (Becker, 1975; Schultz, 1961).

This thesis describes the determinants of students' success including sociological, socioeconomic, organizational, psychological, cultural and economic perspectives. A number of studies have already paid attention to international (foreign) student success (Andrade, 2006; Clarkson, 2007; Foster, 1965; Chapdelaine & Alexitch, 2004; Nelson, Nelson, & Malone, 2004; Nguyen, 2007; Wait & Gressel, 2009; Welch, Vo-Tran, Pittayachawan, & Reynolds, 2012; Zhao et al., 2005).

In this study, we use a relatively wide range of empirical variables. Although the research papers mentioned above analyze a relatively complex range of perspectives,<sup>3</sup> they rarely focus on foreign-domestic intelligence diversity. Hence, we also define intelligence as one of control variables. On the other hand, a few studies did investigate the relationship between intelligence and academic performance (Lounsbury, Sundstrom, Loveland, & Gibson, 2003; Ridgell & Lounsbury, 2004), but they did not control for other effects<sup>3</sup>. The intelligence test we employed in this paper had been created specifically for this study by Czech Mensa to provide relevant data.

## **Organization of the Study**

This study is comprised of nine chapters and is structured as follows: Chapter I familiarizes the reader with the population evolution of the Czech Republic and outlines the basis for this study. Chapter II includes the main purpose and scope of this thesis that led to the formulation of the main research questions. The following Chapter reviews the literature on human capital, students' success and international students' success. The theoretical framework is introduced in Chapter IV, which includes also the main hypotheses and consecutive specification, as well as the delimitations of the study. Chapter V focuses on data collection procedures, whereas Chapter VI presents methodological analyses of the obtained dataset. Chapter VII contains the results,

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<sup>3</sup> sociological, organizational, psychological, cultural and economic

including confirmation and refutation of the presumptions and hypothesis and shortly discusses potential inaccuracies of our study findings. Finally, in Chapter VIII, we sum up our main study purpose and present recommendations for future studies.

## **Purpose and Scope**

The purpose of this study is to identify and quantify predictors determining success of Vietnamese students and students from post-Soviet countries by using various perspectives (Socio-psychological, sociological, organizational, cultural, economic and intelligence).

The research questions that formed the basis of this study are as follows:

1. Do foreigners achieve academic results comparable to Czech students?
2. Do institutional, language and other barriers of foreigners persist despite coming to the Czech Republic at an early age?
3. Is there a significant negative correlation between language and institutional barriers, and academic achievement?

## **Chapter III - Review of the Literature**

### **Introduction**

This literature review covers published in the area of investment in human capital, particularly relevant to tertiary education. The review is divided into 3 main parts. In the first part, we explore the motivations and mediators of investment in human capital. In the second part, we concentrate on the general determinants of students' success, including those of socio-psychological, organizational, cultural, and economic natures. In the third part, we discuss whether these determinants are relevant for this study.

The majority of the reviewed studies have been published between 2000 and 2012. We use electronic information sources, such as JSTOR, EBSCO, ProQuest Central, NBER or SAGE. The articles covered were largely from the United States (27 studies), but also from United Kingdom, Australia and Canada.

## **Investment in Human Capital**

Studies, theories, that are going to be highlighted having almost paradigmatic character of investment in human capital issue.

The most common investment in human capital is education. Educational institutions are specializing in the production of training. Kurt Lewin's well-known quotation aptly illustrates educational importance: "there is nothing so practical as a good theory" (1951: 169). Some of the educational institutions could be more specific and specialize in one skill, like those for stewardesses or actors, while others, such as universities, offer a large and diverse set (Becker, 1975).

Basically, why are the main reasons for using leisure to improve skills and knowledge instead of satisfying consuming preferences? There is an intuitive answer: To increase future consumption, which results in the rise of future earnings. An empirical study confirming that the answer has a relevant basis was published by Pennington (2004). Her research found that US university graduates earn almost a million dollars on average more during their life than secondary school graduates. Nowadays, it is clearer than ever that the mediator of the long-term monetary<sup>4</sup> improvement of one's life correlates with his/her education. Becker (1975) said that emotional and physical strength have always been important individual criteria, but knowledge is becoming more meaningful than ever. The most relevant mediator of knowledge has always been education. Importance of education is now, almost forty years after publishing of Becker's article, even more influential, because human capital has grown much faster than conventional (nonhuman) capital (Schultz, 1961). In addition, Schultz explained that there are differences in national outputs by unequal volume of investments in human capital in each country. Therefore, in the remainder of the paper, we will concentrate on the most discussed form of human investment - higher education.

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<sup>4</sup> implicitly possibly social and/or psychological

## What Matters to Students' Success

We simplify and divide impacts, which should influence students' success as follows: impacts related to students' behavior and impacts related to educational institutions. We will mostly analyze impacts related to students' behavior.

Reviewed studies define student's success as persistence and educational attainment, or achieving the desired degree or educational credential. There are many aspects that can influence students' success. For the ease, we summarized the available research in the following categories: socio-psychological, intelligence, organizational, cultural and economic perspectives.

### Socio-psychological Aspects

For deeper understanding of socio-psychological impacts, it is good to start shortly with a few of Becker's (1975) interesting insights. First Becker's point of view that we are going to stress is that typical investor in human capital (i.e., typical long-term student) is more impetuous and more prone to making mistake than tangible/material capital investor. Secondly, what could be at first glance counterintuitive is that entities studying at the highly selective educational institutions, where they had been exposed to mentally extremely tiring situations, seemed to be more psychologically stable and balanced. Berger & Braxton (1998)<sup>5</sup> published that first-year departure rate of highly selective universities was only 8 %; in comparison, general four-years collegiate institution first-year departure rate was 28,5 % or two-years colleges which exceeds one half. The reason is pre-selection process of mentally and academically above standard students. Abler individuals actively do want to be more trained and examined.

Correlation discussed by Berger and Braxton was also stressed by Reder (1967). He (Reder, 1967: 102) argued that "ability and amount of investment," in our case schooling, "are positively correlated." Subsequently he broadened the assessment issue by personalized estimation.

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<sup>5</sup> I do not cite original study - Tinto, V (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition*, 2nd ed. Chicago: University of Chicago Press – because it was not available for University of Economics students (11/May/2013).

It is well-known that evaluation of student's success could be inaccurate and have not unitary form. Even class rankings or intelligence test could not estimate exactly the value of "natural ability". This should be subjectively, but relatively exactly, judged only by individual on his own, or potentially by his or her parents. Wrong (lower) assessments of individual's potential should induce higher return on investment,<sup>6</sup> but his veiled abilities were not counted and implicitly overvalued return on investment. Reder summarized that individual demands amount of investment in human capital based on his own judgment about his skills.

Thus, if someone decides to study at the university, what are the socio-psychological difficulties they have to face? The beginning of university studies has especially been more or less difficult for majority of students (Andrade, 2006; Tinto & Goodsell-Love, 1993; Tinto, 1997). For illustration, 28,5 % "of students entering four-year collegiate institutions depart these institution at the end of their first year" (Berger & Braxton, 1998: 103-104)<sup>7</sup>. Separation from the family and secondary school friends, interaction with new people, life in college campus or adjustment to new study environment are just a few examples of new things and situation that freshman have to face.

Tinto's studies (1993, 1997) are the dominant sociological perspective. He argues that the way to overcome the hard period of acclimatization is to build new social networks, especially get to know other classmates. This however might represent a significant problem at big universities with high number of students. Tinto & Goodsell-Love (1993) had made a research project about collaborative learning at three institutions,<sup>8</sup> and found that participation in collaborative learning group enables students to develop a small supportive group of peers. Group generally helped them to easily socialize, participate in institutional life, make higher class participation of group members. Moreover, student academic performance and persistence was greater in collaborative learning groups than in more traditional learning system. Second Tinto's study, research (Tinto, 1997) had shown similar results. Comment of one of participating students is very cogent: "...we are more involved with class after class."

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<sup>6</sup> more precise explanation in Economic Perspective below

<sup>7</sup> I do not cite original study - Tinto, V (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition*, 2nd ed. Chicago: University of Chicago Press – because it was not available for University of Economics students (11/May/2013).

<sup>8</sup> University of Washington, Seattle Central Community College and LaGuardia Community College in New York City

Previous paragraph presented that generally every student's critical study point is the freshman year when they have to face obstacles that are sometimes quite psychologically enfeebling. However, group of peers should help to easily bridge hard initial period (Tinto & Goodsell-Love, 1993; Tinto, 1997), other psychological pressures have nearly constant effect for the entire studies. Some of them then give the studies up, some then tend to reenroll, because academic success is simply reached by persistence in overcoming, not only, but also, psychological tensions and adapting to the new academic environment. Therefore, students generally have to be able to solve this kind of consecutive stress on their own, except for the initial period when the group of peers should help. Moreover, self-efficacy is a very important and success-making skill, which should help them to deal with particular tasks and/or situations (Bean & Eaton, 2001).

## Intelligence, “Big Five” Personality Traits and Work Drive

Intelligence quotient (IQ) has repeatedly been used as a predictor of academic achievement. But is it truly the case? Studies reporting on intelligence as a predictor of academic success (Lounsbury et al., 2003; Ridgell & Lounsbury, 2004) present significant correlations between either course grade or GPA and intelligence. These two correlations were not significantly different from each other.

New thought (Yorke & Knight, 2004)<sup>9</sup> is in contrast with the traditional theory, which says that IQ is fixed and resistant to development. Recently a way of thinking have changed from fixed to extremely malleable. This progress is mainly caused by learning from situations that entities have to face during their life (Yorke & Knight, 2004).

In addition to intelligence, some studies (Lounsbury et al., 2003; Ridgell & Lounsbury, 2004) had also focused on other predictors of educational success: Big Five personality traits and work drive. However, work drive been also found beside intelligence as a strong predictor of course grade and GPA, less unequivocal was the issue of “Big five”: openness, conscientiousness, extraversion, agreeableness, and neuroticism. Lounsbury's et al. (2003) results shown that Conscientiousness, Openness,

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<sup>9</sup> I do not cite original study – Dweck, C. S. (1999). *Self theories: their role in motivation, personality, and development* (Philadelphia, PA, Psychology Press) – because it was not available for University of Economics students (11/May/2013).



and Agreeableness relate to course grade and GPA, but surprisingly Ridgell & Lounsbury (2004) found that none of five personality traits significantly cohered with GPA. Authors explain that this contradictory results should be possibly inflicted by disproportion of participants in 2004 (id est, 73 % freshmen and 20 % sophomores).

Base on previous paragraphs, the exact biases, including intelligence, are remaining unclear.

## Organizational Perspective

We mainly analyze the impacts related to students' behavior, the impacts related to educational institutions will be shortly discussed at the end of study. Therefore, we will not focus on the organizational issue more in detail. However, based on the previous sub-chapter (id est, Socio-psychological Perspective) we can shortly recommend students' affairs bodies to strongly focus on social integration. This is consistent with Berger and Braxton (1998).

## Cultural Perspective

Cultural Aspects intuitively do not strongly influence major population. Thus, we will not discuss cultural difficulties and subsequent impacts on students' success in this subchapter, where we focus on aspects influencing natives. Cultural distance will be analyzed in the next subchapter: What Matters to Foreign Students' Success.

Otherwise, we should generally introduce that most studies presented that one of the primary intents of education, mainly third level education, is generally to teach students how to live and work effectively with others who somehow differ from themselves (Gurin et al., 2003; Gurin, 1999; Smith & Schonfeld, 2000; Zhao et al., 2005). More specifically, to prepare young people to be culturally competent individuals with the ability to work effectively with people from different backgrounds (Smith & Schonfeld, 2000; Zhao et al., 2005). These insights are very important, because international students bring indisputably and noticeably (Andrade, 2006; Gurin et al., 2003; Gurin, 1999) bipartite sizeable both economic and non-economic benefits.

## Economic Perspective

Numerous questions started to appear by getting student status for each entity. Students definitely started to ask themselves if a fact of university study simply worth. This is actually quite individualized and based on each person preferences. Basically, students have to compare study expenditures and benefits yielded by study. Both expenditures and benefits could be divided to direct and indirect or tangible and intangible character. Many theoretical and empirical researches noted that the tertiary education bears costs, however might lead to a long term increase of income and other benefits.

In traditional Becker model of schooling, the primary assumption is that the students do not work. Their income is surely currently lower than their potential income if they did not study and work. Thus, the difference between income that should have been potentially earned and income that is really currently earned (if any) is equal to indirect costs. Tuition, fees, books, supplies, transportation and others, are direct costs. Easily, we can express student's current earnings as

$$W = MP - k,$$

where MP is marginal product (equal to actual earnings) and k is direct costs. If we define  $MP_0$ , what is potential marginal product, the equation could be rewritten as

$$W = MP_0 - (MP_0 - MP + k) = MP - C,$$

where C is sum of direct and indirect costs. Based on all shown above, my earnings are the difference between what I should potentially have been received and sum of direct and indirect costs.

Becker's (1975) explanation is quite illustrative, but subjectively very difficult for an individual to estimate. Wrong estimation of education cost could also lead to high first-year departure rates (Berger & Braxton, 1998)<sup>10</sup>. Every single year, we can see significant amount of students who do not obtain sufficient university standards and/or more importantly who are not willing and/or able to cover both direct and indirect university study costs (1). The range of reasons is quite wide. Some of them have been outlined in the previous section above (Socio-psychological, Intelligence, Organizational, Cultural Perspectives).

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<sup>10</sup> I do not cite original study - Tinto, V (1993). Leaving College: Rethinking the Causes and Cures of Student Attrition, 2nd ed. Chicago: University of Chicago Press – because it was not available for University of Economics students (11/May/2013).

Nevertheless, the final reason that we are going to mention has already been implicitly said, but we feel the urge to stress it explicitly but shortly. Wrong subjective personal estimation (mostly underestimation) of future earnings implies lower return on investment rate having a causal effect of frequent students' departures. Or, their present tempting income and/or burdensome (life) situation make them leave college, what is actually same as (1).

## **What Matters to Foreign Students' Success**

Since we now can see what kind of factors generally influence students' success and we have a quite complex scope, let us consider which effects also influence foreign students, which impacts are even stronger and which are specific especially for international, immigrant students.

This question started to be important with an increasing number of international students all over the world. Although USA, UK, Canada or Australia have always been highly preferable choice for international students, other countries, such as China, are becoming more and more interesting as well (Andrade, 2006).

Studies show that foreign students have greater difficulties and more often experience stressful moments during their studies. Generally, they also interact less socially and they are not acquainted with native students. Thus, what is the reason for international students to study at non-domestic university, if their expenditures (i.e., sum of direct and indirect costs or tangible and intangible) are considerably higher than the expenditures of natives? We are now going to discuss the above-mentioned issues in more detail.

### **Language Perspective of Foreign Students**

Language is essential for foreigners' and foreign students' adjustment. Koczan (2013: 16) shows that better "language skills have the expected positive effect - they bring benefits in the labor market as well as facilitate social contacts with natives."

Foreign students usually report a culture shock when they start to study in non-domestic country (Chapdelaine & Alexitch, 2004; Olaniran, 1996; Zhao et al., 2005), and this especially applies to those who do not have sufficient language skills (Koczan, 2013). But we can see that language barrier is experienced even earlier, during

enrollment process, due to the inaccurate translations of grading systems and standards (Foster, 1965). The only internationally known and recognized grading system for international applicants from different academic backgrounds is the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). However, there is a correlation between TOEFL and GPA, TOEFL should not be an important part of admission procedure, because the relation is weak and vary depending on the major (e.g., stronger for English Literature, lower for Engineering). Thus, this criterion should generally be much more flexible (Andrade, 2006; Wait & Gressel, 2009).

On one side, it is better to dampen the role of TOEFL or IELTS, but on the other, language barriers are quite challenging for both the faculty and foreigners. Standard international freshmen have to read the notes repeatedly and have slow writing skills. First-year international students also have difficulties with understanding lectures in terms of vocabulary and speed, especially with tutors who speak too fast, offer too little input, use colloquial English and local humorous incidents. Therefore, language problems, increasing with age (Olaniran, 1996), are definitely partially caused by cultural differences (Andrade, 2006).

Other language issue was presented by Olaniran (1996). He said that overcoming social difficulties experienced by strangers in new cultures requires host country supporter to ask what help is needed and advise where and from whom to seek such help. These situations force foreigners to communicate with the natives of a host culture, what is consequently quite painful, because newcomers often have not developed adequate skills in host culture communications such as language and etiquette. These unsatisfying experiences often lead to even deeper uncertainty and social difficulties. Therefore, language is only one of the main sources of social difficulty.

However, since non-native students have to tackle considerable language barriers, and since their highest priority is their academic achievement, they are often considered as the best students on campus (Dozier, 2001).

Language issues also have affected bilingual students, surprisingly even in mathematics (Clarkson, 2007), whereas in other studies (Wait & Gressel, 2009), a weaker relation is shown. Clarkson (2007) stressed that especially strong correlation between frequency of using non-English (in this case Vietnamese) words and mathematics exam scores was observable for the Mathematics Novel Problem Test.

Despite this fact “Clarkson studies provided benchmark evidence from widely different cultures and languages that bilingual students highly competent in both their languages were mathematically superior to their monolingual peers, and to bilingual peers dominant in one language, when the effects of intelligence, schooling, socio-economic status, age and sex were controlled” (Clarkson, 2007: 193).

To face language difficulties progressively, international students should for instance use technology (e.g., some kind of e-learning (Olaniran, 2009). Electronic learning tools should give foreign students more time to think about ideas they want to share and to choose more appropriate verbal terms.

### Intelligence Perspective of Foreign Students

Verbal parts of university admission exams or national standardized tests (including intelligence tests) have also been frequently discussed. These tests are actually very problematic and should not potentially select the most academically talented individuals due to high density of language component. For example, “the Graduate Record Exam (GRE)” highlights this language problem. While foreign students perform the same score as Americans on quantitative aspects (which are less influenced by language), they perform worse on the verbal aspects, which are loaded with language components,” (Olaniran, 1996: 74-75)<sup>11</sup>.

### Organizational Perspective of Foreign Students

Organizational ambiguity starts rather early with generally non-optimal enrollment requirements. In order to be closer to the optimum point, it is suggested that it is more suitable to consider foreign and non-foreign applicants separately. The main reason is a subjective judgment of foreign students when they apply, because there are difficulties in translation or because of differences in grading systems and standards.

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<sup>11</sup> I do not cite original studies - Kaiser, J. (1986). The validity of the GRE aptitude test for foreign students. *College Student Journal*, 20, 403-410. Kim, Y. Y. (1976). Communication patterns of foreign immigrants in the process of acculturation: A survey among the Korean population in Chicago. Unpublished doctoral dissertation, Northwestern University, Evanston, IL. Kim, Y. Y. (1977). Communication patterns of foreign immigrants in the process of acculturation. *Human Communication Research*, 4, 66-77. – because the study was not published (11/May/2013).

Prior grades do not offer reliable indication of previous academic achievement (Foster, 1965).

Other unreliable estimator is the score from verbal parts of admission exams or national standardized tests (including language tests), which has always implicitly required language components. The effect and relation of verbal abilities with regard to academic success is actually very unclear and should be reconsidered. Other unclear points and potential implications will be discussed later on.

## Cultural Perspective of Foreign Students

This part, cultural point of view, plays one of the key roles in the discussion concerning foreign students. Most foreign students report greater or smaller culture shock when they start studying in a non-domestic country (Chapdelaine & Alexitch, 2004; Olaniran, 1996; Zhao et al., 2005). Their personal and cultural identity conflicts with campus life (Furnham & Alibhai, 1985). This shock characteristically induces stress and is accompanied by feelings of loneliness, powerlessness or self-insufficiency which could also result in lower social participation (Dozier, 2001).

However, those foreign students who are coming from cultural background conformable to host country culture adapt much more easily than students who are coming from totally different background (Olaniran, 1996). In addition to that, Yeganeh (2011) had explored the latest version of cultural distance quantification.<sup>12</sup>

Frequent interaction with domestic students should fundamentally help foreign students to get accustomed and experience smaller cultural shock (Chapdelaine & Alexitch, 2004), so based on that we can see, there is quite a large space for university students' support services and advisors to somehow make this contact between foreign and native students more frequent.

Endeavor to facilitate international student studies by colleges' support services is actually not enough, it requires deeper cooperation between the government and educational system to realize and finance outreach programs and marketing, centralized websites with higher education information, and simplified visa and university application processes. For example, German universities have been provided educational programs in English with transferrable credits, and French universities have

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<sup>12</sup> if the term cultural distance is not clear, please see Study Terms Definitions

increased international enrollments by considerable financial support for Asian and Latin American students (Schneider, 2000).

## Economic Perspective of Foreign Students

If we now can see what kind of obstacles foreign, international students have to deal with, why do they desire to study abroad? Implicitly, their sum of direct and indirect costs is higher than sum of domestic students' cost and moreover their future income is lower than the future income of the natives (Lindley, 2002; "Philippines," 2009; Tienda, 1983). Thus, what are the reasons for foreign investment in human capital?

Schultz (1961) stressed that migration makes economic sense, because it is a specific form of human investment. Usually, moving to another country correlate with higher job opportunities, implying the expectation of higher level of return on investment by migration. Moreover, young people (students) "have fewer financial and professional ties to their home countries when compared to older, more settled individuals, and they would be more likely to take the risk of entering and remaining" in foreign country (Dozier, 2001: 44). Young people have also more years ahead, more years to get their investment back. This is consistent with Becker (1975)'s explanation (see chart 1: 23). This explains "selective migration without requiring an appeal to sociological differences between young and old people," (Schultz, 1961: 4).

In addition, Olaniran (1996: 75) found out that age significantly "influences communication behavior and acquisition of necessary social skills among foreign nationals," specifically "younger age translates to increased participation in the interpersonal and mass communication processes of the host culture. It has been demonstrated that children, unlike older sojourners, do not have personality structures and communication patterns deeply rooted in their original culture. Thus, children are more open to change and are less inhibited in their ability to learn and adapt to the host culture."

The reasons presented above are the main "economic" motives to study in a foreign country.

## Socio-Psychological Perspective of Foreign Students

“In the popular mind migration is often associated with an increase in well-being, as embodied in narratives of the ‘promised land’ and a move ‘in hope of a better future’,” (Koczan, 2013: 2). If economic point of view is now (after reading the sub-chapter Economic Perspective of Foreign Students) clearer, let us briefly stress that despite increased wealth, immigrants, after all, seem less satisfied than natives. The relation between migration and decreasing life satisfaction should be interpreted as correlation, rather than causal effect. The author stressed that less satisfied individuals more frequently tend to migrate (Koczan, 2013).

The given comparison between natives and immigrants implies that social adaptability and psychological impact on foreign students is a questionable issue. Basically, there is no significant difference in socialization between international and native students in the senior year. On the one hand, international freshmen usually attend more frequently active and collective learning than their domestic peers, but on the other hand, they spend considerably less time relaxing and socializing (Andrade, 2006; Zhao et al., 2005).

Another issue is that international students prefer not talking directly to domestic peers or instructors in order to avoid embarrassing, frustrating, disappointing or anxious exchanges created by language barriers and unfamiliarity with cultural idioms (Zhao et al., 2005). Also, in order to avoid negative experience caused by insufficient language skills, they are less likely to communicate during class, seminar or lecture. Positive, but also negative, studying incidents helped foreign students to adapt more quickly (Andrade, 2006), but intuitively, in case of negative experiences, more painfully.

As we have shown above, in the section Socio-Psychological Perspective, friendship network is the major point. Freshmen groups usually make adaptation incredibly easier and quicker for every student (Furnham & Alibhai, 1985; Tinto & Goodsell-Love, 1993; Tinto, 1997). This applies even more to non-native students in the host countries. International students have to frequently face social isolation, family separation and adaptation to a new country. These troubles usually imply lower participation in social college life. At this point, we offer three possible explanations.

First one is that international students try to compensate for the less satisfying social life by extreme focus on their success as students, becoming the most successful



group of students in the university. For foreign students, education is very often the highest priority (Dozier, 2001).

Secondly, if international students do collaborate, they commonly prefer to make friends from the same country or from other countries rather than the host country (Furnham & Alibhai, 1985). The size of conational group is influenced by the number of students with the same nationality studying at the same university. Intuitively, the largest groups of international students were from highly populated countries, such as China, Iran, and India (Chapdelaine & Alexitch, 2004). Hence, a group of friends from the same country should make the hard initial period easier to overcome but often causes less social interaction with native students resulting in a lower adaptability to the host country. Furnham & Alibhai (1985) show significant correlation between the size of co-national group and interaction with domestic students. Based on that connection, international students from smaller co-national groups interact more than students from larger co-national groups. But those students who get over shyness or other obstacles and do interact with native students tend to adapt easily and effectively.

Thirdly, the reason international students socialize less is actually not that they do not adapt or misunderstand domestic students, the reason could potentially simply be that they are coming from the cultural background where spending time with friends is highly valued, and this is especially true for Asian students (Zhao et al., 2005).

To solve or partly solve these socio-psychologically stressful experiences, technology could be once again useful for international students (e.g. some kind of e-learning (Olaniran, 2009), helping foreign students to adjust more easily to new university learning environment. However, technology may also play a part in social isolation if it substitutes face-to-face interaction (Parr & Others, 1992)<sup>13</sup>. That is, international students may use technology instead of talking directly to peers or instructors to avoid embarrassing exchanges created by language barriers and unfamiliarity with cultural idioms,” (Zhao et al., 2005: 223). Zhao’s theory of socially negative consequences of e-learning is consistent with Olaniran (2009), who stresses that technology cannot replace direct lecturer-student contact. Therefore, the implication should be that using technology in order to deal with mentally awkward moments and

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<sup>13</sup> I do not cite original study - Parr, G., and Others.(1992). Concerns and feelings of international students. *Journal of College Student Development*, 33(1)20-25. – because it was not available for University of Economics students (11/May/2013).

language difficulties can complicate social adjustment. It seems that the main goal to dampen all kinds of difficulties and help international students to adapt more easily is social interaction between citizens and natives. This could sort out psychological and/or language and/or social adjustment problems.

Finally, foreign students, who already have experience with international atmosphere and have dealt with this kind of challenging situations during their studies, are subsequently more stress resistive and cope more successfully with onerous moments in their lives (Zhao et al., 2005)

## **Chapter IV - Model (Problem Statement)**

### **Theoretical Perspective**

**What Determines the Success of Vietnamese and Post-Soviet Students in the Czech Republic?**

The phenomenon of increased diversity of students was apparent in other countries, before it even started emerging in the Czech Republic. While numerous studies conducted in developed countries, such as the USA, Great Britain, Australia or Canada, have addressed this, the issues faced by the minority students of Czech universities remain unexplored. A possible explanation for this delay could be fact that under the communist regime, the borders were closed for foreign students. This only changed in 1989, after the fall of communism in the Czech Republic, when the borders eventually opened.

However, the change was rapid and progressive, the last years have been ambiguous. Even though the number of foreigners in the Czech Republic declined in 2009 and 2010 (Czech Statistical Office, 2012a), the number of enrolled foreign students increased (Ministry of Education, Youth and Sports of the Czech Republic, 2010a). An explanation for this could be the fact that the amount of enrolled students is not directly and primarily determined by neither, the number of foreigners living in the Czech Republic, nor by the number of foreign newcomers. Instead, it is influenced by

an increasing number of “long-term immigrants” and second generation of foreigners, who are reaching university level of education.

On the basis of the literature review, a theoretical analysis was performed, the results of which are shown below. This subchapter identifies various perspectives<sup>14</sup> and outlines any potential difficulties faced by foreign students. The theoretical presumptions are predominantly based on personal insights and experience as the author himself was able to spend a lot of time with immigrant students. In a majority of cases, the interviews took place at the University of Economics in Prague. Vietnamese and post-Soviets students were asked to share their experiences as foreigners in the Czech Republic. Another issue addressed was the subjective perception of Vietnamese/post-Soviet minority by the majority of the Czech population. Thus, this theoretical framework is also based on five unrecorded interviews with Vietnamese and post-Soviet students. Our theoretical presumptions will be subsequently empirically analyzed.

## Socio-Psychological Aspects

Since the first chapter showed indications of an increasing population diversity, it is now suitable to show how Czech people perceive these (Vietnamese and post-Soviet) minorities.

It can be argued that a significant portion of the Czech population perceives Vietnamese people as a diligent and modest nation. Nevertheless, it is not always “easy” for an individual with Vietnamese physiognomy to live in the conservative Czech society. Many believe that it is mainly the older generation of Czechs, who are prejudiced and perceive the Vietnamese minority as inferior.

The Czech unfriendly way of thinking could potentially lead to feelings of embarrassment, oppression and frustration in Vietnamese students. This kind of “rejection” could also cause significantly lower social interaction with domestic, Czech students and potentially even result in a lower adjustment to the Czech society. Vietnamese students often tend to seek company of other expats, rather than deeper communication with Czechs. They are also less likely to communicate during classes, seminars or lectures. While many Vietnamese students currently living in the Czech

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<sup>14</sup> Socio-Psychological Aspects, Cultural Perspective, Language Perspective, Economic Perspective

Republic came at an early age, a significant portion of them was actually born in the Czech Republic.<sup>15</sup> Despite this fact or perhaps due to this fact, they often have trouble finding their identity as they have a feeling of not belonging anywhere. A comment of one of the students demonstrates this: "...I feel as a Vietnamese in the Czech Republic, but in Vietnam I feel Czech..."

The Czech view on the Vietnamese community is not that bad, but definitely substandard. 61 % of Czech respondents admitted they would feel discomfort, if they had a Vietnamese as a neighbor (please see Appendix 5) (STEM<sup>16</sup>, 2011).<sup>17</sup> Despite these statistics, many argue that a consistent and long-term growth of sympathy with Vietnamese can be observed.

Moreover, we can see persistent unfamiliarity with post-Soviets, especially with Russian people. 64 % of surveyed people still have a problem with the events of 1968,<sup>18</sup> and furthermore, surprisingly 41 % of Czechs still do feel possible danger from the Russian Federation (STEM, 2008). These feelings implicate the same consequences as in the case of the Vietnamese. Lower interaction with Czechs, lower participation in Czech related events, creating big multinational expat groups.

The reasons of migration of Vietnamese are mostly of economic character. These reasons and motivations to come to the Czech Republic will be further discussed later on. But reasons of post-Soviet people for migrating to the Czech Republic do not seem to have a clear justification. Theoretical comments based on interviews with different post-Soviet students follow.<sup>19</sup> Even though the motives of a majority of post-Soviet students also seem to be of economic character, this research shows that motives of Russians are more frequently social. The Russian interviewees said that people, who migrated to the Czech Republic, are usually mid-high population. The main reasons of their migration are apparently a 'calmer' society, political environment and a more independent way of live.

Although some socio-psychological barriers between Czechs and Vietnamese or post-Soviets do exist, considerable number of minority students are socially adjusted.

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<sup>15</sup> We are going to show that later on, on our data collection.

<sup>16</sup> STEM – Czech Center of Empirical Surveys

<sup>17</sup> Please see table X in appendix

<sup>18</sup> Warsaw Pact invasion of Czechoslovakia

<sup>19</sup> Russian, Ukrainian, Kazakh

## Cultural Perspective

The cultural issue is intuitively diametrically different for our two analyzed groups (Vietnamese, post-Soviets). The Soviet culture, being based in the same Slavic origin, is very similar to the Czech culture. Therefore, we assume that foreign, post-Soviet students do not experience a cultural shock or other cultural difficulties that would influence their studies. Olaniran (1996) stressed that people coming from a cultural background comparable to the host country's culture, adapt much more easily than students who are coming from a totally different background. Olaniran's study confirms our theoretical speculation of insignificant culture negative impacts of post-Soviet nations. An exception to this would be some national personal characteristic, such as diligence or others that should cause some impact, but the issue of personal characteristics is in this case too speculative and therefore won't be discussed in more detail.

On the other hand, the Vietnamese, generally Asian, culture is very different from the Czech culture. We reviewed Yeganeh's (2011) cultural distance index, which is used to measure and compare cultural standards (exempli gratia, friendship, marriage, educational systems, language, and others) differences in two countries. Cultural distance index between the Czech Republic and Vietnam is relatively high, which could cause a cultural shock to later coming Vietnamese. However, our theoretical assumption was that a majority of the university students with Vietnamese origin are mostly from the second generation of Vietnamese immigrants and therefore didn't experience a strong cultural shock. The variance in culture and institutional rules may act as obstacles to high academic achievement. An example of such case is the professors' use of culturally specific terms during lectures and tutorials. Misunderstanding of such situations (sometimes within a humorous context) could also result in feelings of embarrassment. Therefore, the influence of cultural effects on the Vietnamese minority must not be overlooked. This study attempts to quantify any potential cultural effects in the empirical model. The assumption is that cultural effects influence post-Soviets less than Vietnamese. A verification of possible falsification of this assumption will be also included in our empirical model.

## Language Perspective

Do language barriers have an impact on foreign students' success? The answer to this question is debatable. However, Russian alphabet is a form of the Cyrillic script, we suppose similarity of two Slavonic languages (Russian<sup>20</sup> and Czech). Hence, we theoretically assume that the potential negative effect will not be very apparent. Vietnamese language variance is indisputable. Although we made a theoretical assumption in the previous subchapter that Vietnamese university students are mostly second generation of immigrants, they could still face language related obstacles. Clarkson (2007) shows that this could even be the case for bilingual students.

Although interviewees said they did not feel any considerable language barriers during their university studies, they did feel significant obstacles in their enrollment process. In particular, the National Comparative Exams of General Academic Prerequisites were identified as especially challenging. While often achieving extraordinary results from analytical and quantitative sections, the scores for the verbal section were disproportionately low. Understandably, the verbal part is most affected by the knowledge of the Czech language. The students specially complained about the use of outdated expressions (Czech synonyms, antonyms and idioms) in these tests. As a result of these language barriers, their final scores were not as high as they could have been, which prevented them from being admitted to the institutions they desired.

This study yielded interesting findings about reading and writing skills of foreigners in their mother tongue. Vietnamese students reported that, in their mother tongue, they are able to read slowly and their writing skills are at an acceptable level (although without diacritics). However, surprisingly, although they often speak the language fluently, they do not use it in interactions with other Vietnamese students. In contrast, Post-Soviet students ordinarily speak Russian with their co-nationals. Their frequent use of Russian has an impact on their specific 'Russian' accent when they speak Czech. This unique accent could potentially cause these students to experience discrimination, either from their peers, or even their tutors. This issue was emphasized by Olaniran (1996: 75)<sup>21</sup> who "provides examples of African students from English-

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<sup>20</sup> we count that different versions (Ukrainian, Kazakh, Armenian, Belarusian) of Russian have not significant variance

<sup>21</sup> I do not cite original study - Arubayi, E. A. (1981). Perceptions of problems identified by Nigerian students in American higher institutions: A comparative analysis. College Student

speaking countries who, despite their background in English, have problems communicating with American hosts because of intonation patterns.” Despite this, the fact is that the language adjustment of post-Soviet students is relatively easy due to the similarity with Czech. Post-Soviet interviewees also reported that they read Russian fluently and rarely reported trouble with writing.

As a result, we can see contradictory influences by each minority. While the similarity of Russian and Czech makes language adjustment easier, the frequent use of Russian with peers leaves fewer opportunities to practice Czech. For the Vietnamese, this principle is reversed. Even though they speak Czech more frequently, its variance with Vietnamese is significant.

## Economic Perspective

As mentioned above, in the Socio-Psychological Aspects, both, Vietnamese and post-Soviet (except Russian) migrants have primarily economic motives for moving to the Czech Republic. The reason of both groups is the same, improvement of their well being. A majority of them look for an opportunity to improve the quality of their own lives but especially to ensure a better future for their children.

Often, due to legal restrictions, they cannot enter the Czech Republic lawfully, however, the vision of a better life and social pressure from their families force them to enter country Czech Republic even illegally. In most cases, a new Vietnamese emigrant needs to gather capital with the help of his family members living in Vietnam and abroad; sell his house and other possessions, and run into debt. Most newcomers arrive with enormous debt, because the price of getting smuggled into the Czech Republic is between \$3000 and \$7000 (Nožina, 2009). In the case of post-Soviet emigrants, the scenario is very similar, although it needs to be pointed out that the information has not been quantified yet. Illegal migration is not really an issue for foreign students who have been in the Czech Republic from the early age. This predominantly relates to dominant minority students, because smuggling could potentially be associated with their parents.

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Journal, 20, 116-120 – because it was not available for University of Economics students (11/May/2013).

If Vietnamese and post-Soviets are settled in the Czech Republic, their economic activities differ. That consequently has a different impact on their children who are currently classified as foreign students. While members of the Vietnamese community mostly work on their own or in close proximity with other co-nationals, post-Soviet immigrants tend to try to integrate into the Czech labor market. Post-Soviets often work for Czech companies or other institutions with Czech staff. This could potentially lead to certain bias.

The advantage of Vietnamese immigrants being self-employed is the fact that they could *exempli gratia* teach their children self-efficacy, which is something Bean & Eaton (2001) identified as a strong determinant of academic success. On the other hand, the nature of Vietnamese employment involves neither frequent nor deep interaction with Czechs, which could implicate various negative effects. Implicitly, the flexibility of post-Soviet immigrants to adapt to the Czech labor market has a strong positive influence on the overall adjustment of their children. This fact could also have a theoretical causal effect on their educational achievement.

## Theoretical Conclusion

On the basis of the theoretical background, personal insights and results of interviews, the following observations were made. The older generation of Czechs is still prejudiced against both, the Vietnamese and the post-Soviet community. The Vietnamese do not actively seek verbal interactions with tutors and they prefer the company of their countrymen rather than Czechs. While the Post-Soviet cultural difference is tolerable, the cultural shock experienced by the Vietnamese is much more noteworthy. Neither of the analyzed minorities felt considerable language limitations during studies, but they did experience some during their enrollment process. Other language related issues are arguable. Vietnamese immigrants are mostly self-employed, running their own businesses. Post-Soviets do not show any theoretically significant employment differential in comparison to Czech population.

## Study Terms Definitions

*Abler* person was used in the Becker's (1975) study as an individual with higher abilities. Although, a specific area of abilities was not explicitly specified, we assume



that he intended to primarily cover understanding, reasoning, retaining, planning, or problem solving.

“*Assessment* is a systematic process of inquiry into what and how well students learn over the progression of their studies and is driven by intellectual curiosity about efficacy of educational practices,” or “an inquiry process that include elements of systematic student data collection, educational practices and experiences as context, evaluation for instructional purposes, and decision making for improvement,” (Chiang, 2008: 20).

The *Big Five personality traits* is a term used mostly in psychology. Five personality’s facets are used to describe the personality of a human. The Big Five factors are openness, conscientiousness, extraversion, agreeableness, and neuroticism.

The term *conationals* refer to the group of people who came from the same country (Chapdelaine & Alexitch, 2004).

*Cultural distance* expresses the differences in cultural norms of one country with another (exempli gratia, friendship, marriage, educational systems, language, and others). Yeganeh (2011) has explored the latest version of quantification of *cultural distance*.

*Natural ability* is an ability that is inherited and genetically supported (Schultz, 1961). In popular mind *natural ability* is used interchangeably with talent.

A *Negative experience* of foreign students refers to any embarrassing, awkward, or stressful moments caused primarily by insufficient language skills or misunderstandings of local colloquial language during or even outside of classes.

## **Delimitations**

As the chapter ‘National Perspective’ shows, Vietnamese and post-Soviet nations are the most highly represented minorities in the Czech Republic. The high concentration of these minorities at Czech universities was the main reason why they were chosen for this study. *Ipsa facto*, the results should be illustrative, representative and statistically significant. Since the potential differing impacts on each minority had to be taken into account, the study analyzed Vietnamese and post-Soviet students separately. Slovak students were not included due to their strong similarity in the most areas (e.g., language, culture, institutional background, physiognomy, and others) to the Czech people. In addition, differences in development of Slovaks and Czechs should be

negligible due to their mutual habitation of Czechoslovakia till 1993. Post-Soviets were analyzed as a group together base on similar principle as omission of Slovaks. Post-Soviet nations are characterized by significant similarities in term of tongue, culture or institutions. However, some difference inside post-Soviet group should be, such as personal or mental, we assumed that this nuances will not distort our empirical findings.

The study focuses on students at the University of Economics in Prague, who are studying for a foreign baccalaureate degree. The University of Economics in Prague is of the preferred choices amongst minority students (Ministry of Education, Youth and Sports of the Czech Republic, 2010b). When compared to other, “general universities”<sup>22</sup>, which provide a wider range of educational areas, the University of Economics tends to focus mainly on one area only - economics. However, this specialization has proven to be very desirable, hence the proportionally high number of students at the University of Economics, *eo ipso* the dataset and consequently the results should also be representative of this fact.<sup>23</sup> The sample of students was taken from five faculties at the University’s Faculty of Finance and Accounting, Faculty of International Relations, Faculty of Business Administration, Faculty of Informatics and Statistics, and Faculty of Economics and Public Administration.

The reason for delimitation of baccalaureate students rather than graduate students is that the linguistic, institutional, cultural and other effects are more distinct and might change enrollment conditions and requirements *ex tunc*.

The reason for concentrating on one specific university is to avoid and minimize any potential variance that may arise in the academic performance of different universities. Some variance in academic performance within the five faculties can be observed. However, in order to ensure a representative dataset, they all needed to be included in the sample. This issue has been addressed in the econometric model to decrease its negative effect as much as possible. The institution is public and providing three-year undergraduate programs.

Student success is determined by academic achievement, which is measured by individual percentile based on their cumulative grade point average (GPA), the number

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<sup>22</sup> in the case of Czech Republic for example Charles University

<sup>23</sup> Charles University in Prague is the biggest university in Czech Republic with total number of 6 835 enrolled foreign students in 2010, but despite the reasons shown above, the University of Economics had, in 2010, 3022 newly enrolled foreign students (Ministry of Education, Youth and Sports of the Czech Republic, 2010b)

of earned credit-hours and the number of lost credit-hours (Andrade, 2006; Foster, 1965; Nelson et al., 2004; Wait & Gressel, 2009).

Our results can be generalized up to a limit due to a small number of survey respondents. The two groups (Vietnamese, Post-Soviets) of immigrant students formed an illustrative and representative sample of the three-year baccalaureate program for the purpose of this study. However, the limitation of this sample is the fact that it included students from five university faculties. This study is focused mainly on one specific educational area – economics. *Ipsa facto*, the results should not contain complex perspectives from foreign students and should differ in some unknown ways.

## **Hypotheses**

The study attempts to address the effects of comparative advantages such as language, culture and the institution of Czechs with immigrants. Therefore, on the basis of the literature review and theoretical conclusions we formulate the main hypotheses as follows:

(1) The null hypothesis of this research is that increased university study cost for foreign students negatively correlates with academic achievement in comparison to the control group of Czech students. The assumption of increased university study cost is mainly based on issues related to language, culture, and institutional barriers. These barriers limit foreign students and also decrease their motivation to invest in human capital through university education, and consequently lower their academic achievement. The alternative hypothesis is: increased university study fees select more highly motivated foreign individuals and consequently, foreign students achieve better academic results than the control group of Czech students.

(2) The next hypothesis is that, if foreigners, who come to the Czech Republic before the age of 8, obtain comparable academic results to their Czech equivalents. Consequently if institutional, cultural and linguistic barriers persist, despite coming to the Czech Republic at an early age coming.

## Chapter V - Data Collection

### Participants

The subjects for this research were chosen based on the chapter ‘National Perspective’, which shows the population structure of foreigners in the Czech Republic. This investigation focuses individually on groups of students of the University of Economics in Prague who are either Vietnamese, or come from post-Soviet countries.

The participants include 171 undergraduate students from 5 different faculties of the University of Economics in Prague. The dataset consists of 58% females and 42% males. Participating students were, on average, currently in their 4th semester, 28% were freshmen and 32% were sophomores.<sup>24</sup> The nationality composition predominantly comprised Czech students (56 %),<sup>25</sup> Vietnamese and post-Soviet students totaling 17%<sup>26</sup> and 27%<sup>27</sup>, respectively. As we limited our study to undergraduate students, the average age of students in all three groups was similar (between 21 and 22 years old). The researcher also interviewed 5 volunteer students, of which 3 were from post-Soviet countries (Russian, Ukrainian, Kazakh) and 2 from the Vietnam.

### Procedure

To collect the data we used the following instruments: (a) online, time-unlimited questionnaire (please see Appendix 1), (b) a time-limited intelligence test (please see Appendix 2), (c) positive students’ academic measurement, (d) interview questions. Students were electronically contacted if they were willing to complete two (questionnaire and intelligence test) consecutive online 'questionnaires'. However, we primarily used the social network for Czech students, the same method was not effective for the case of foreign students, due to their lack of social concentration. Thus, in order to contact them we used the mailboxes at the university. Firstly, we sent an impersonal, unified e-request for completing the questionnaires through the university’s

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<sup>24</sup> potential inaccuracy should be inflicted by rounding

<sup>25</sup> 57 % of females, 43 % of males

<sup>26</sup> 52 % of females; 48 % of males

<sup>27</sup> 66 % of females; 34 % of males

system integrators. Although, the ‘post-Soviet’ response was relatively high (9 %), the response rate of Vietnamese participants was almost zero (less than 1 %). This is consistent with Zhao's et al.'s (2005) opinions. They suggested that Asians value their leisure highly. Therefore, we explained the low response rate of Vietnamese by this cultural character. In order to get sufficient participating Vietnamese students, we wrote a personal e-mail request for those students. This e-mail included personal name, address, and a more detailed request. Surprisingly, 27% of requests were accepted.

### Online Time-Unlimited Questionnaire

The questionnaire was accessible online. The researcher developed a questionnaire to elicit a wide range of respondents’ information: (a) personal information, (b) parental background, (c) precollege educational achievement, (d) information about their income, (e) motivational patterns, (f) sport activity, (g) work experiences, (h) health, (i) relationships, (j) cultural adjustment, (k) predicted intelligence test score.

This questionnaire contained both multiple choice and open-ended questions.

### Time-Limited Intelligence Test

The intelligence test was activated immediately after finishing the previous questionnaire. The test we employed in this paper had been created specifically for the purpose of this study by Czech Mensa. In order to minimize any language-related issues, and therefore provide relevant data and internationally comparable results, we focused mainly on quantitative and individuals’ analytical skills, which are strongly correlated with economic studies. However, the test did not contain a mechanical time limitation; two right answers had been deducted from final score if the participant went over the provided time limit of 18 minutes. Respondents were explicitly notified about this penalty.

### Academic Measurement

After the completion of the questionnaire and intelligence test, we matched academic measurements to each participant. Specifically, individual cumulative GPA,

cumulative grade point average (GPA), current semester, each respondent's faculty, the number of earned credit hours and the number of lost credit hours.

## Interview Questions

The author decided to include an interview finding tool in order to get relevant insights of foreign students, that provide a deeper understanding of factors related to students' academic success.

The researcher knew from his personal experience that these feelings and attitudes are sometimes very hard to express in the written form. Therefore, we conceptualized a semi-structured interview as an unrecorded informal 'speech event'. The set of descriptive question contain:

- I. Personal and parental background.
- II. The attitude Czech nationals have towards immigrants from Vietnam and Post-soviet countries. The subjects of this study were asked to provide their subjective views on this matter based on their personal experience.
- III. Foreigner nationals' perception of the Czech population.
- IV. What kind of conationals usually migrate to the Czech Republic?
- V. The interviewees were also asked to talk about the main obstacles their nationality caused in their studies.

## Chapter VI - The Analysis of Data

### Research Design

The author tries to empirically analyze and quantify the correlation between academic achievement and students' nationality based on our formed data collection and theoretical findings, *id est* formulated into hypotheses.

We define the dependent variable as academic achievement. The majority of the reviewed studies use a cumulative GPA as their measurement of academic achievement. Although the cumulative GPA is a quantifiable indicator, it is highly dependent on the institution, even within different faculties of the same institution. This divergence is implicitly associated with the variance in academic performance. In order to specify student success (academic achievement) and prevent said variance in academic

performance between faculties in the model, the researcher modified the cumulative GPA and developed individual percentiles for each student for each faculty separately. Thus, inaccuracy caused by different faculty difficulty should be suppressed.

As a result, we define the relationship between academic achievement (percentile) and nationality as follows:

$$\textit{percentile} = f(\textit{nationality})$$

Based on our findings from the existing literature and theoretical framework, various factors influencing student's success were identified. Hence, to purify the data (and consequently the results), and to see the relevant effects, we define 3 sets of control variables. The researcher extended the basic model on the basis of collected data to include following variables:

1. *Students' characteristics* - age, gender, semester, number of spoken languages, employment, precollege institution, precollege leaving exam, relationship, household, earnings, lecture attendance, marks importance, self-satisfaction, sport, learning practice, IQ, self-examination, health
2. *Parental characteristics* – nationality, presence in the CR, number of spoken languages, employment, education, marks importance, relationship
3. *Foreign students' variables* – age of migration, cultural index, national structure of friends

Thus, we shall redefine our empirical model as:

$$\textit{percentile} = f(\textit{nationality}, \textit{age}, \textit{gender}, \textit{semester}, \textit{number of spoken languages}, \textit{employment}, \textit{precollege institution}, \textit{precollege leaving exam}, \textit{relationship}, \textit{household}, \textit{earnings}, \textit{lecture attendance}, \textit{marks importance}, \textit{self-satisfaction}, \textit{sport}, \textit{learning practice}, \textit{IQ}, \textit{self-examination}, \textit{health}, \textit{parental nationality}, \textit{parental presence in the CR}, \textit{parental number of spoken languages}, \textit{parental employment}, \textit{parental education}, \textit{parental marks importance}, \textit{parental relationship}, \textit{age of migration}, \textit{cultural index}, \textit{national structure of friends})$$

## **Measures**

We will introduce variables in more detail in this subchapter and shortly comment on the assumed influence related to students' or foreign students' academic achievement.

### **Percentile**

We quantify academic achievement through variable PERCENTILE. The author developed an individual percentile for each student. We arrange students on each faculty separately by cumulative GPA. Thus, we got their rank in the faculty scale and percentage of all faculty students (not only participated students) that have lower GPA. A percentile is usually used as a comparison score. While percentage gives a number, which is only related to their performance, a percentile is a number between 1 (for the poorest) and 100 (for the best one) that relates the student's performance to those of other students who have been taken into account.

### **Gender**

Binary variable SEX, value 0 for women; 1 for men. Women tend to have children between the age of 20 and 30. Women, who invest in human capital by studying at a university, should be have higher motivation and as a result reach better educational results.

### **Age**

The variable AGE is used to express respondents' age. Younger people have higher motivation to invest in human capital through university education, simply because they have more years ahead. Therefore, more years to get a "return" on their investment.

### **Nationality**

We used three particular binary variables to demonstrate the variable NATION: CR (Czech), VN (Vietnamese), SSSR (post-Soviets). Many of the outlined factors are related to foreign nationality. Therefore, we consider whether citizenship correlates with a lower study success rate, in any way.



### **Nationality of parents**

The variable PARENT NATION was used similarly to the variable NATION. The nationality of parents might also strongly influence students' educational achievement. Parental nationality provides background and attitudes, which were applied to each entity. We assume, that if one parent is Czech, their children face no significant difficulties to adjust and therefore no negative impact on their studies is apparent..

### **Semester**

Variable S (semester) quantifies the influence of the length of study to the study average. First semesters tend to be tough for students (adapting to the new learning environment, and so on). Therefore, they might reach lower academic achievement at the beginning of their studies, and improve progressively during their later studies.

### **Number of spoken languages/ number of spoken languages by parents**

LANGUAGES indicates the number of spoken languages. A higher number of spoken languages could cause higher memory abilities or learning abilities. Therefore, we should see positive correlation between the number of spoken languages and educational achievement

### **Employment**

The variable HARD WORK measures the influence of students' work activity on their studies. We created a binary variable, where the value 0 is for students, who do not work or work less than 14 hours per week; value 1 is for students work more than 15 hours. We assume that students, who have a part time job are forced to divide their time between studying and employment, which could potentially lower their GPA.

### **Parental employment**

We asked participants what kind of work their parents do. We used 5 categories: (1) academic, pedagogical, (2) craft, manual work, (3) administrative, clerical, (4) artistic, (5) commercial business. The area of employment of their parents should

express their personality and therefore reflect the influence they have on their children. We denoted this variable by PARENT EMPLOY.

### **Precollege institution**

The variable PRECOLLEGE is used to express the types of precollege institutions students attended. Highly selective precollege institutions should prepare potential university students differently. Thus, we assume a correlation between educational achievement and the type of institution.

### **Precollege leaving exam**

We asked about the average mark from their precollege leaving exam. We suppose that people with better marks from this exam should also excel at university. This variable is called PRE-GRAD.

### **Parental education**

The variable expressing parental education is PARENT EDUC. This should also influence students' success patterns. Moreover, parents with tertiary education could potentially transmit better genetic material.

### **Relationship**

At first, the assumption was that a fresh relationship (less than 6 months, binary variable NEW PARTNER) should negatively influence students' GPA. However, to determine whether this is actually true, more time for analysis would be needed. Secondly, we assumed that foreigners, who already have some Czech partners, should be more adjusted and causally achieve higher educational scores. Thus we employ a binary variable CZECH PARTNER, that expresses the presence of a Czech partner in the entire life.

### **Parental relationship**

Children from complete parental relationship, whose father and mother live together, seem to be happier and therefore more could be more study concentrated. At the same time however, their sense of self-efficacy might not be as strong and might lower their GPA. This variable was denoted as PARENT RELATION.

**Household (variable HOUSEHOLD)**

The place of living is very important for each student, even for each individual. The possible answers to our question about where they lived were: on my own, with parents, on campus, other. We assume that students, who live with parents are financially and socially more supported than students that live alone. However, they could also have a weaker sense of self-efficacy, which is a very important success-achieving skill.

**Earnings**

This was divided into two sub-questions. Who is the main provider of their living expenses (variable INCOME WHO)? (answers: self-provider, combination of self-providing and parents, solely parents) How much is the average income of each member at your current place of living (variables INCOME HOW MUCH)? We developed a range of incomes, that was offered (please see Appendix 1, question 24)

**Lecture attendance**

We suppose that students who actively attend lectures and seminars are highly motivated and thus should obtain better marks. We asked if they attend lectures voluntarily. This is binary variable LECTURES. Value 0 for more likely no, value 1 for more likely yes.

**Marks importance**

Students who emphasize the importance of marks should be academically more successful. Therefore, we assume a positive correlation between GPA and subjective perception of marks importance. The questionnaire contained a question: “Are marks important to you?” We again employ a binary variable. Definitely yes or more likely yes for 1. 0 for I do not know, more likely no and definitely no. This variable was expressed as MARKS IMPORTANCE.

**Parental marks importance (PARENTAL MARKS IMPORTANCE)**

We asked similarly if they subjectively feel that marks are important for their parents. If parents emphasize the importance of marks they should provoke some

kind of increased pressure, expectation. This should potentially implicate higher effort of their children and lead to better study results.

### **Self-satisfaction**

We employed 8 self-satisfaction orientated questions (please see Appendix 1, questions 48-55). 7 questions of a 4 points scale (0 point for “totally unsatisfied”, 4 for “totally satisfied”). 1 question was about their marks satisfaction, which was valued by a 5 points scale, because we are concentrated on educational effects. This variable was expressed as SELF-SATISFACTION.

### **Sport**

SPORT is also an important form of investment in human capital. We methodologically divide respondents to sportsmen and non-sportsmen. Respondents, who do sport more than 4 hours per week we include into the group of sportsmen and matched with a binary value 1. The group of non-sportsmen was treated inversely.

### **Learning practice**

We studied whether self-learning or studying in a group has any influence on their study average (percentile). We can see two opposite effects. On the one side, students who study on their own should have a stronger sense of self-efficacy, however, a group of peers often helps in a hard time period, especially in the first year. Therefore, the effect is unclear. This is defined through the variable LEARNING PRACTICE.

### **IQ**

We measured quantitative, analytical and logical intelligence (please see Appendix 2). We used an intelligence test and a subsequent scale developed by the Czech Mensa. The test obtains 20 items and it was timed (18 minutes). Each item has usually 6 answer choices with scoring as 1=correct, 0=incorrect.

1 – 3 correct answers – below-average intelligence (<90)

4 – 12 correct answers – average intelligence (91 – 109)

13 – 15 correct answers – above-average intelligence (110 – 119)

16 – 17 correct answers – highly above-average intelligence (120 – 129)

18 – 20 correct answers – excellent intelligence (>130)

### **Self-examination**

This was determined by the difference between real IQ score and expected IQ score, since the last questionnaire question was: What score do you expect from the consecutive intelligence test? We expect that individuals who tend to underrate themselves should be better students. We created three binary variables to express these situations: UNDERRATE, HIT, OVERRATE

### **Health (HEALTH)**

We employed a subjective question about the health of our subjects, specifically if they feel that their health limits their studies in any way. If they did not feel any problems, we matched these students with the value 0. If they do feel some limiting problems, we matched them with value 1.

### **Age of migration (AGE CR)**

The age of actual migration is a strong indicator of adjustment to the Czech environment, since the barriers (cultural, language, institutional) are increasing with age.

### **Parental presence in the Czech Republic**

It is intuitive that family and parental interaction is an important and supportive factor when it comes to students' educational achievement. Therefore, we expect to observe students whose parents do not live in the Czech Republic to struggle more. We suppose that if the participant has at least one parent in the Czech Republic (binary value 1), his educational success should be higher. Variable is PARENTS IN CR.

### **Cultural index (CULTURAL INDEX)**

The author developed his own "cultural index" measuring adjustment to the Czech culture. The questions used were strongly inspired by the test conditioning acquisition of Czech citizenship. We used 8 questions with scoring as 1=correct, 0=incorrect (please see Appendix 1, questions 40-48). Therefore, the sum of 8 means total adjustment. We included questions from the political or historical

area. Moreover, we used questions testing their knowledge of Czech grammar (i.d., y, i, ý, í) and questions related to typical Czech fairy tales.

### **National structure of friends**

We wanted to know the national structure of peers that interviewees usually interact with outside of school. Based on our theoretical findings and our assumptions, we employ a binary variable, where value 1 means that CONATIONALS made up more than 50 % of all people our subjects spend their time with.

Although, a reciprocal interaction between some of our mentioned variables would be very illustrative and interesting to observe, our dataset limitation did not allow us to do that. Due to a relatively small data sample these kind of interactions could possibly cause insignificance of new (interacted) variables. This assumption of potential insignificance was also empirically verified.

## **Model Estimation**

Our study model is based on measures (variables) from the previous chapter. It was estimated by the ordinary least squares method. Subsequently we conducted a residuals normality test, multicollinearity test and tested for heteroskedasticity. No intolerable multicollinearity was detected. We also were not able to reject the null hypothesis in terms of both residuals normality and heteroscedasticity test (see Appendix 3). As we recognised different potential effects on each minority, we made empirical findings for both (1) Vietnamese and (2) post-Soviet students separately.

*percentile =*

$$\begin{aligned} & \beta_0 + \beta_1VN + \beta_2age + \beta_3sex + \beta_4language + \beta_5hard\_work + \\ & \beta_6parentemploy + \beta_7precollege + \beta_8pre-grad + \beta_9parent\_educ + \\ & \beta_{10}new\_partner + \beta_{11}czech\_partner + \beta_{12}parent\_relation + \beta_{13}household + \\ & \beta_{14}income\_who + \beta_{15}income\ how\ much + \beta_{16}lectures + \beta_{17}marks\_importance \\ & + \beta_{18}parental\_marks\_importance + \beta_{19}self\_satisfaction + \beta_{20}sport + \\ & \beta_{21}learning\_practice + \beta_{22}IQ + \beta_{23}underrate + \beta_{24}hit + \beta_{25}health + \end{aligned}$$

$$\beta_{26}age\_CR + \beta_{27}parents\ in\ CR + \beta_{28}cultural\ index + \beta_{29}conationals$$

(1)

*percentile* =

$$\begin{aligned} & \beta_0 + \beta_1SSR + \beta_2age + \beta_3sex + \beta_4language + \beta_5hard\_work + \\ & \beta_6parentemploy + \beta_7precollege + \beta_8pre-grad + \beta_9parent\_educ + \\ & \beta_{10}new\_partner + \beta_{11}czech\_partner + \beta_{12}parent\_relation + \beta_{13}household + \\ & \beta_{14}income\_who + \beta_{15}income\ how\ much + \beta_{16}lectures + \beta_{17}marks\_importance \\ & + \beta_{18}parental\_marks\_importance + \beta_{19}self\_satisfaction + \beta_{20}sport + \\ & \beta_{21}learning\_practice + \beta_{22}IQ + \beta_{23}underrate + \beta_{24}hit + \beta_{25}health + \\ & \beta_{26}age\_CR + \beta_{27}parents\ in\ CR + \beta_{28}cultural\ index + \beta_{29}conationals \end{aligned}$$

(2)

The final version of empirical results is shown after eliminating insignificant variables. The insignificance of a considerable number of variables was possibly caused by the small data sample.

**Table 1 - Model VN: OLS, using observations 1-125**

**Dependent variable: percentile**

	Koeficient	Směr. chyba	<i>t</i> -podíl	p-hodnota
const	−12.5307	25.5249	−0.4909	0.6244
VN	−23.7940	6.00001	−3.9657	0.0001
S	3.20942	1.25865	2.5499	0.0121
cultural_index	5.87442	2.99420	1.9619	0.0522
co_nationals	−11.8342	7.66123	−1.5447	0.1252
marks_importance	23.1943	4.92199	4.7124	0.0000
hard_work	−6.84564	4.57940	−1.4949	0.1377
income_who	12.9842	6.54656	1.9834	0.0497
IQ	3.41966	2.73237	1.2515	0.2133
health	−9.12955	7.49859	−1.2175	0.2259
Střední hodnota závisle proměnné	55.95823	Sm. odchylka závisle proměnné	27.62761	
Součet čtverců reziduí	61874.09	Sm. chyba regrese	23.19559	
$R^2$	0.346267	Adjustovaný $R^2$	0.295105	
$F(9, 115)$	6.768088	P-hodnota( $F$ )	9.44e−08	
Logaritmus věrohodnosti	−565.1513	Akaikovo kritérium	1150.303	
Schwarzovo kritérium	1178.586	Hannan–Quinn	1161.792	

Source: own elaboration - Gretl



**Table 2 - Model SSR: OLS, using observations 1-142****Dependent variable: percentile**

	Koeficient	Směr. chyba	t-podíl	p-hodnota
const	-17.2598	20.6830	-0.8345	0.4055
SSSR	-8.65908	5.07963	-1.7047	0.0906
S	2.74670	1.23216	2.2292	0.0275
cultural_index	4.24347	2.34070	1.8129	0.0721
co_nationals	8.11868	5.75431	1.4109	0.1606
marks_importance	22.3127	5.08183	4.3907	0.0000
hard_work	-0.512234	4.83795	-0.1059	0.9158
income_who	11.3194	6.85058	1.6523	0.1008
IQ	3.30317	2.84027	1.1630	0.2469
health	-9.18371	6.53966	-1.4043	0.1626
Střední hodnota závisle proměnné	56.10843	Sm. odchylka závisle proměnné		27.43441
Součet čtverců reziduí	78265.65	Sm. chyba regrese		24.34998
$R^2$	0.262502	Adjustovaný $R^2$		0.212218
$F(9, 132)$	5.220396	P-hodnota( $F$ )		4.55e-06
Logaritmus věrohodnosti	-649.6439	Akaikovo kritérium		1319.288
Schwarzovo kritérium	1348.846	Hannan-Quinn		1331.299

Source: own elaboration - Gretl

## Chapter VII - Results

Estimated model (please see Table 1, Table 2) verificate our null hypothesis. We can see strong and significant ( $p = 0,0001$ ) negative correlation between Vietnamese nationality and percentile. One the one side, the total P-value ( $F$ ) is extremely low, on the other side our coefficient of determenation is “just” 0,35, respectively 0,26. However, a various of invisible factors should influence foreign students’ success, thus 35 %, respectively 26 % of variability is sufficient in this case. The model quantify that average Vietnamese students is lower by 23,8 percentile points than average Czech student. Thus, we empirically proved our theoretical conclusion and existed researches findings that considerable barriers limiting immigrant students do exist. Same effects were found out for the case of Russian students. Although p-value is not as high as in the case of Vietnamese students, statistical significance is still high ( $p = 0,09$ ). Also, average post-Soviet student was academically poorer than average Czech student by 8,7 percentile points.

However, other variables that result significantly are also interesting. We will subsequently interpret the results from the model with Vietnamese, without Russian

students. University of Economics in Prague students improve individual educational ranking on average by 3,2 percentiles each study semester. Each point of cultural index increased academic achievement by 5,9 percentile points. Extremely significant ( $p = 0,0000$ ) is variable MARKS\_IMPORTANCE. If student do emphasize his/her marks, they are considerably higher at educational rankings, specifically by 23,2 percentile. However, this relation has more correlation character than causal effect. Intuitively, students who emphasize marks are high motivated and thus they reach better academic results in comparison to students who do not emphasizes marks and they have neutral attitude. “Hard working” (more than 15 hours per week) lower students’ percentile by 6,8. This should basically cause by non-optimal time disproportion between work and university study. The result of variable INCOME\_WHO is surprising. Firstly, it is logical that students who are not financially tied to their own salary and should fully concentrating on study perform better academically (by 13 percentiles points). But secondly, we expect multicollinearity between variables HARD\_WORK and INCOME\_WHO. This expectation was falsificated by correlation matrix created *ex post* for results control purpose. Variables IQ and HEALTH were not highly significant, however from our findings, certain influences of these variables could be observed

The average Russian student is educationally worse than Czech student by 8,7 percentile points. Other findings for Russian are quite similar with “Vietnamese findings” except 2 variables. HARD\_WORK and CO\_NATIONALS, which was not discussed yet.

HARD\_WORK became insignificant in the model for post-Soviet students. However, more interesting are findings of a variable CO\_NATIONALS. Having time out of school primarily with people from the same country (more than 50 % of total number of frequently out of school interacted people) considerably lower academic achievement (decrease by 11,8 percentile points) in the “Vietnamese model”. On the other side, in the “post-Soviet model” we should see that the same variable CO\_NATIONAL increases percentile by 8,1. Possible explanation should be also consistent with our theoretical findings. If Vietnamese students do interact with their conationals, that mean that they are less interacting with natives. Therefore their adjustment, particularly social and cultural, should be more problematic and as a result lower their academic success. Explanation for post-Soviet students should be also intuitive. Due to language, cultural and other similarities they have been already adjusted. Therefore, frequent social interaction with their conational peers should not

inflict lower adjustment. Positive way of this remaining unclear, however we should offer that interaction with other post-Soviet students should increase their national characteristic, such as pugnacity and self-confidence. This interpretation is not totally clear, if the “conational” effect are solely for Vietnamese and post-Soviet students. In order to solve this ambiguity, should be the best to make variables interaction. Unfortunately, we cannot use this method because of our small sample. Therefore new (interacted) variable will be insignificant. However, in order to confirm this interpretation with CO\_NATIONAL variable, we analyzed oppositely, Czechs as independent variable and Vietnamese and post-Soviets as control group. Therefore, we should quantify factors of Czech students in comparison to foreign (before inversely). This control model verificate our interpretation, because in the “Czech model” (please see Appendix 4) variable CO\_NATIONAL was totally insignificant and have negligible effect.

## **Discussion**

This study was primarily limited by small data sample that possibly cause frequent insignificance of variables. Therefore we should not include other control variables that should make empirical findings more precise.

We also should not include precollege variables, which should potentially have significant effects. The inaccuracy of precollege variables are caused by the different educational backgrounds and systems provided by each country of origin of participants. This means that non-uniform precollege academic intensity and high school graduation exams are dependent on each institution. Therefore, we recommend future researches to make this kind of data collection once again, since the unified form of precollege leaving exam will be settled.

## **Chapter VIII - Conclusion**

As we see an evolution of population structure in the CR, we decided to focus on Vietnamese and post-Soviet students’ success determinants.

The review of literature provide wide range of perspectives (socio-psychological, cultural, economic intelligence, organizational), thus we have a complex

knowledge of possible study limited issues related to natives and more in detail to foreigners.

Both empirical and theoretical findings are consistent with covered literature. We should see that foreign students' barriers significantly influence their academic achievement, specifically Vietnamese students are on average academically lower than Czech students by 23,8 percentile points. Post-Soviet students are also academically poorer, specifically by 8,7 percentile, since some limitations are still visible (*exempli gratia* language intonation).

Base on our study results, we should shortly recommend colleges' authoritative bodies to strongly focus on foreign students related policies, in order to adjust them to university, moreover to Czech environment. Concretely, we suggest freshman orientation seminars, which should help easily to overcome hard initial university study period not only foreign students. Other suggestion base on our insights and literature, if tutors should be more sensitive for this issue a more tolerably use colloquial language. We also recommend dampen the role of verbal parts in the enrollment process, since we showed that is not objectivity measurement, especially in the case of foreign students.

Therefore, we truly believe that foreign student will adjust more easily and be more objectively judged and as s consequence students' diversity should be higher and bring considerable benefits.

# Appendices

## Appendix 1: Questionnaire

### Dotazník - BP (Do Viet Anh)

*Poučení:*

*Výzkumný projekt prováděný v rámci*

*Bakalářské práce studentem Národohospodářské fakulty VŠE zabývající se:*

*úspěšností*

*studentů na VŠE s ohledem na jejich individuální charakteristiky.*

*Základní*

*fakta projektu:*

- *Vaše účast bude spočívat ve vyplnění on-line dotazníku, ve kterém budou vystupovat otázky mapující Vaše kulturní, sociální s společenské prostředí, a IQ testu, speciálně navrženého pro tento účel předsedou Dětské Mensy ČR.*

- *Doba trvání experimentu je maximálně 30 minut, střední doba trvání experimentu je 20 minut.*

- *Odměnou za účast budete informováni o orientační výši svého IQ dle metodiky a testů MENSA ČR. Variabilní složkou Vaší odměny bude automatická účast v loterii o 1000 Kč v případě, že celý test řádně vyplníte.*

*Veškerá*

*data týkající se jednotlivých*

*osob budou použita pouze pro vědecké účely, budou zpracovávána anonymně a nebudou za žádných okolností poskytnuta třetím osobám. Zapojení osob do výzkumného programu je naprosto dobrovolné, osoba může účast v celém projektu odmítnout.*

*Za dodržení uvedených skutečností odpovídá Viet*

*Anh Do (student NF). V případě jakýchkoliv dotazů nás neváhejte kontaktovat na xdova00@vse.cz či na telefonním čísle 724 202 468.*

*Informovaný souhlas*

*Vyplněním celého testu*

*dobrovolně souhlasím s účastí ve výše popsané studii, zároveň potvrzuji, že je mi více než 18 let.*

*Souhlasím se*

*zpracováním dat pro výzkumné účely a následným anonymizovaným zveřejněním zjištěných výsledků. Dále dávám souhlas s tím, aby výzkumnému teamu byly poskytnuty informace týkající se mých akademický výkonů na VŠE.*

**1. xname**

**2. Pohlaví**

☐ Muž

☐ Žena

**3. Věk**

**4. Národnost**

☐ arménská

☐ ázerbajdžánská

☐ běloruská

☐ česká

☐ estonská

☐ gruzínská

☐ kazašská

☐ kyrgyzská

☐ litevská

☐ lotyšská

☐ moldavská

☐ ruská

☐ slovenská

☐ tádžická

☐ turkmenská

☐ ukrajinská

☐ uzbecká

☐ vietnamská

☐ Jiná - Jaká?

**5. Věk příchodu do ČR (napiš 0, pokud jsi se v ČR narodil/a)**

6. Kolik jazyků ovládáš?

7. Váha (v kg)

8. Výška (v cm)

9. Národnost tvého otce

- ☐ arménská
- ☐ ázerbajdžánská
- ☐ běloruská
- ☐ česká
- ☐ estonská
- ☐ gruzínská
- ☐ kazašská
- ☐ kyrgyzská
- ☐ litevská
- ☐ lotyšská
- ☐ moldavská
- ☐ ruská
- ☐ slovenská
- ☐ tádžická
- ☐ turkmenská
- ☐ ukrajinská
- ☐ uzbecká
- ☐ vietnamská
- ☐ Jiná - Jaká?

10. Jakého vzdělání dosáhl tvůj otec?

- ☐ základní
- ☐ středoškolské
- ☐ vysokoškolské

**11. Národnost tvé matky**

- ☐ arménská
- ☐ ázerbajdžánská
- ☐ běloruská
- ☐ česká
- ☐ estonská
- ☐ gruzínská
- ☐ kazašská
- ☐ kyrgyzská
- ☐ litevská
- ☐ lotyšská
- ☐ moldavská
- ☐ ruská
- ☐ slovenská
- ☐ tádžická
- ☐ turkmenská
- ☐ ukrajinská
- ☐ uzbecká
- ☐ vietnamská
- ☐ Jiná - Jaká?

**12. Jakého vzdělání dosáhla tvoje matka?**

- ☐ základní
- ☐ středoškolské
- ☐ vysokoškolské

**13. Kolik jazyků ovládá tvůj otec?**

**14. Kolik jazyků ovládá tvoje matka?**



**15. Jaké povolání především vykonává tvůj otec? Přiřaď nejbližší kategorii.**

- ☐ řemeslné a manuální
- ☐ administrativní, úřednické
- ☐ obchodní (taktéž např. prodavač)
- ☐ umělecké
- ☐ akademické, pedagogické

**16. Jaké povolání především vykonává tvoje matka? Přiřaď nejbližší kategorii.**

- ☐ řemeslné a manuální
- ☐ administrativní, úřednické
- ☐ obchodní (taktéž např. prodavačka)
- ☐ umělecké
- ☐ akademické, pedagogické

**17. Žijí tvoji rodiče, pokud jsou naživu, v ČR?**

- ☐ Ano, oba.
- ☐ Pouze matka.
- ☐ Pouze otec.
- ☐ Ne, ani jeden z nich.
- ☐ Nejsou naživu

**18. Žijí tvoji rodiče, pokud jsou naživu, spolu?**

- ☐ Nejsou naživu.
- ☐ Ano.
- ☐ Částečně.
- ☐ Ne.

**19. Jakou střední školu jsi převážně navštěvoval/-a?**

- ☐ gymnázium
- ☐ obchodní akademie
- ☐ Jiná

**20. Jaký jsi měl/-a průměr z maturity?**

21. Žiješ

- ☐ na privátu
- ☐ s rodiči
- ☐ na koleji
- ☐ jinde

22. Pokud na koleji, jaká?

- ☐ Jarov
- ☐ Jižní Město
- ☐ jiná - Jaká?

23. Jaké jsou primární, majoritní finanční zdroje, které tě živí?

- ☐ vlastní (samoživitel)
- ☐ rodiče, popř. jiný zákonný zástupce
- ☐ vlastní + rodiče

24. Jaký je příjem/počet osob (příjem na osobu) domácnosti, ve které žiješ?

- ☐ méně než 10 000 Kč
- ☐ 10 001–15 000 Kč
- ☐ 15 001–25 000 Kč
- ☐ 25 001–35 000 Kč
- ☐ 35 001 a více Kč

25. Kolikrát užiješ alkohol průměrně za týden?

26. Kolikrát užiješ alkohol průměrně za týden během zkouškového?

27. Chodíš na přednášky?

- ☐ spíše ano
- ☐ občas
- ☐ spíše ne

28. Když přijdeš na přednášku, kde běžně sedíš?

- ☐ vpředu
- ☐ uprostřed
- ☐ vzadu

29. Chodíš během studia do brigády či práce, napiš jaké? Pokud nechodíš, napiš 0.

30. Pokud ano, uveď kolik hodin týdně tomu věnuješ, pokud ne, napiš 0.

31. Děláš nějaký sport či časově náročný koníček, napiš jaký. Pokud neděláš, napiš 0.

32. Pokud ano, uveď kolik hodin týdně tomu věnuješ, pokud ne, napiš 0.

33. Máš nějaké zdravotní problémy, které by tě nějakým způsobem limitovaly ve studiu?

- ☐ spíše ano
- ☐ trochu
- ☐ spíše ne

34. Jsi kuřák/-čka? Pokud ano, uveď kolik cigaret vykouříš průměrně za den.

- ☐ nekuřák
- ☐ 1-4
- ☐ 5-10
- ☐ 11 a více

35. Máš v současné době partnerský vztah? Pokud ano, uveď kolik měsíců, pokud ne uveď 0.

**36. Jaká je národnost tvého partnera/partnerky?**

- ☐ nemám partnera/partnerku
- ☐ česká
- ☐ tvá národnost
- ☐ nečeská

**37. Měl/-a jsi někdy v životě partnerský vztah s Čechem/Češkou? Pokud ano, uveď, jak dlouho nejdelší (v měsících), pokud ne, uveď 0**

**38. Pokud jsi uvedl/-a, že ano, uveď kolik jich bylo?**

**39. Pokud jsi uvedl/-a, že ano, odradilo tě to od dalšího vztahu s Čechem/Češkou?**

- ☐ Spíše ano
- ☐ Nevím
- ☐ Spíše ne

**40. V jakém roce vznikla Česká republika?**

**41. Kde je a v jakém architektonickém slohu je postavena katedrála sv. Víta?**

- ☐ Kutná Hora, renesance
- ☐ Kutná Hora, gotika
- ☐ Praha, renesance
- ☐ Praha, gotika
- ☐ Jiný

**42. Kolik členů má horní komora Parlamentu České republiky?**

43. Jaká jsou první tři slova české hymny?

- ☐ Kde je domov
- ☐ Ty můj domove
- ☐ Kde domov můj
- ☐ Čechy jsou domov

44. Jaká je správná kombinace písmen „i“, „í“, „y“ nebo „ý“ ve větě: „Zav...l.. šakal.. zav...le v...l.. na tančíc v...l..“

- ☐ i,í,i,i,i,i,i,i
- ☐ i,í,i,i,y,i,i,y
- ☐ y,í,y,y,i,i,i,y
- ☐ i,í,i,i,y,i,i,i

45. Co je tradiční české jídlo?

- ☐ Boršč
- ☐ Halušky
- ☐ Svičková
- ☐ Nudle

46. Kdo je Krakonoš?

- ☐ český král
- ☐ bájný duch hor
- ☐ slavný vynálezce
- ☐ český spisovatel

47. Kdo jsou Křemílek a Vochomůrka?

- ☐ vynálezci v oblasti kinematografie
- ☐ slavní matematici
- ☐ současní čeští komici
- ☐ animované postavy

48. Myslím si, že vypadám dobře.

- ☐ Nikdy
- ☐ Občas
- ☐ Často
- ☐ Skoro vždy

**49. Je se mnou zábava/sranda.**

- ☐ Nikdy
- ☐ Občas
- ☐ Často
- ☐ Skoro vždy

**50. Jsem milý/á.**

- ☐ Nikdy
- ☐ Občas
- ☐ Často
- ☐ Skoro vždy

**51. Lidé mě mají rádi.**

- ☐ Nikdy
- ☐ Občas
- ☐ Často
- ☐ Skoro vždy

**52. Spoustu věcí umím udělat dobře.**

- ☐ Nikdy
- ☐ Občas
- ☐ Často
- ☐ Skoro vždy

**53. Rád/-a zkouším a dělám nové věci.**

- ☐ Nikdy
- ☐ Občas
- ☐ Často
- ☐ Skoro vždy

**54. Mám se rád/-a.**

- ☐ Nikdy
- ☐ Občas
- ☐ Často
- ☐ Skoro vždy

**55. Se svými studijními výsledky jsem spokojen/-a.**

- ☐ Nikdy
- ☐ Vyjíměčně
- ☐ Občas
- ☐ Často
- ☐ Téměř vždy

**56. Studijní výsledky jsou pro mě**

- ☐ zcela nedůležité.
- ☐ spíše nedůležité.
- ☐ nevím.
- ☐ spíše důležité.
- ☐ rozhodně důležité.

**57. Studijní výsledky jsou pro mé rodiče**

- ☐ zcela nedůležité.
- ☐ spíše nedůležité.
- ☐ nevím.
- ☐ spíše důležité.
- ☐ rozhodně důležité.

**58. Učíš se většinou sám nebo ve skupině? Pokud ve skupině, jaké národnosti je většina těchto lidí?**

- ☐ učím se většinou sám
- ☐ Češi
- ☐ Tvá národnost
- ☐ Nečeši

**59. Účastníš se Rektorského dne?**

- ☐ ano
- ☐ vyjíměčně
- ☐ ne

60. Ze všech osob, se kterými se (pravidelně) stýkáš mimo školu, tvoří lidé tvé národnosti přibližně?

- ☐ <10%
- ☐ 10–25%
- ☐ 25–50%
- ☐ 50–75%
- ☐ >75%

61. Uveď kolik přibližně hodin týdně trávíš s lidmi tvé národnosti?

62. Ze všech osob, se kterými se (pravidelně) stýkáš mimo školu, tvoří Češi přibližně?

- ☐ <10%
- ☐ 10–25%
- ☐ 25–50%
- ☐ 50–75%
- ☐ >75%

63. Uveď kolik přibližně hodin týdně trávíš s Čechy?

64. Jaký výsledek následujícího IQ testu očekáváš?

- ☐ <90: podprůměrný intelekt
- ☐ 91-109: průměrný intelekt
- ☐ 110-119: mírně nadprůměrný intelekt
- ☐ 120-129: výrazně nadprůměrný intelekt
- ☐ >130: vynikající intelekt

*Na test máš maximálně 30 minut, při překročení tohoto limitu ti budou od výsledného čísla odečteny 2 správné odpovědi.  
O výsledku svého testu intelektu budeš informován na školní mail (pokud jsi překročil limit 30minut, budou ti od výsledného čísla odečteny 2 správné odpovědi).*



## Appendix 2: Intelligence Test

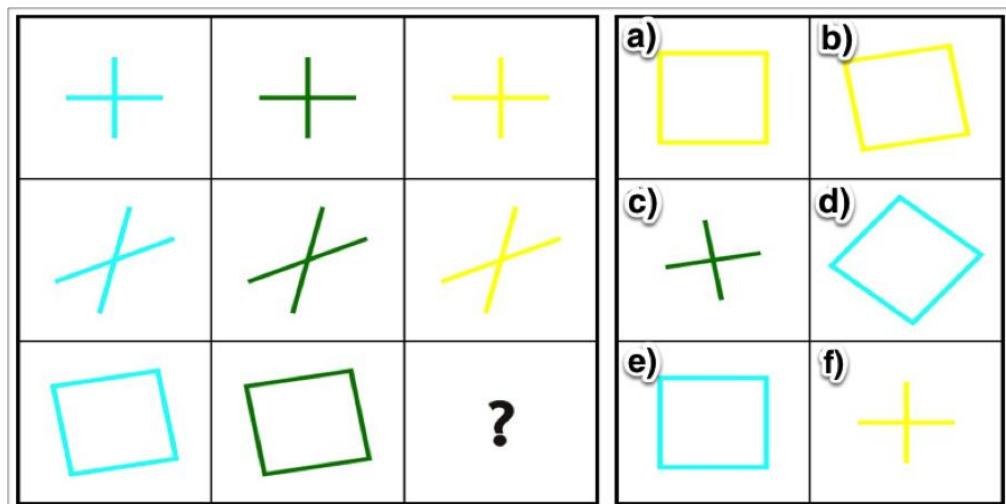
Na test máš maximálně 18 minut, při překročení tohoto limitu ti budou od výsledného čísla odečteny 2 správné odpovědi.

1. xname

2. Určete, co patří na místo otazníku: 23 – 35 – ? – 56 – 65 – 73 – 80

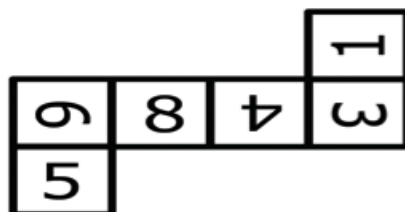
- ☐ 45
- ☐ 51
- ☐ 46
- ☐ 39
- ☐ 42
- ☐ 53

3. Která z možností patří na místo otazníku?



- g a)
- g b)
- g c)
- g d)
- g e)
- g f)

4. Která kostka se nedá poskládat ze zadaného pláště?



**A**



**B**



**C**



**D**



**E**



**F**

- 9 A  
9 B  
9 C  
9 D  
9 E  
9 F

5. Co patří místo otazníku?

648	624	996
B	?	C
CBD	FBD	CCB

A	B	C	D	E	F
A	B	C	D	E	F

- ☐ A
- ☐ B
- ☐ C
- ☐ D
- ☐ E
- ☐ F

6. Co patří místo otazníku?

iout	uiot	ouit
jfdv	djfv	fdjv
csek	?	seck

A	B	C	D	E	F
cici	sekc	kesc	scek	cesk	ecsk

- ☐ A
- ☐ B
- ☐ C
- ☐ D
- ☐ E
- ☐ F

7. Co patří místo otazníku?

oipi	eajl	nvai	liib
ijlp	?	ftiu	kuul
op	ee	nu	ll

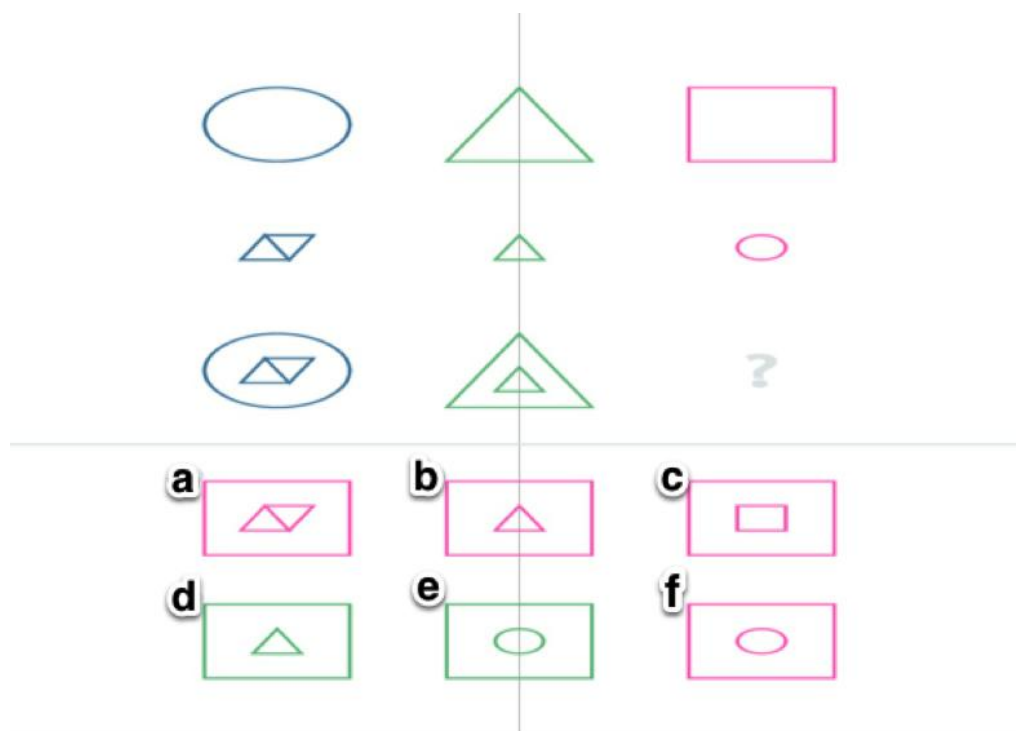
A	B	C	D	E	F
koli	utra	utre	guni	enti	entr

- ☐ A
- ☐ B
- ☐ C
- ☐ D
- ☐ E
- ☐ F

8. Určete, co patří místo otazníku: 14 – 23 – 41 - ? – 149 – 293

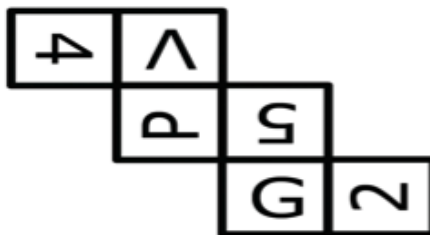
- ☐ 81
- ☐ 51
- ☐ 77
- ☐ 89
- ☐ 42
- ☐ 72

9. Která z možností patří na místo otazníku?



- g<sub>a</sub>
- g<sub>b</sub>
- g<sub>c</sub>
- g<sub>d</sub>
- g<sub>e</sub>
- g<sub>f</sub>

10. Která kostka se nedá poskládat ze zadaného pláště?



**A**



**B**



**C**



**D**



**E**



**F**

- 9 A
- 9 B
- 9 C
- 9 D
- 9 E
- 9 F

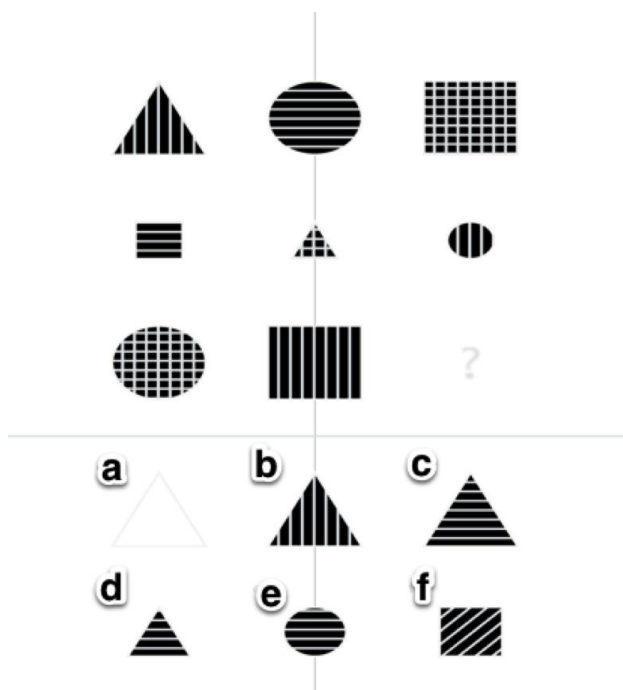
13. Která z možností patří na místo otazníku?

oip	ej	nva	lii
ijl	?	ftu	kul
ji	ra	tv	ui

A	B	C	D	E	F
kol	hre	ute	gun	rti	ntr

- 9 A
- 9 B
- 9 C
- 9 D
- 9 E
- 9 F

14. Která z možností patří na místo otazníku?



15. Poznáte, která z nabízených krychlí, logicky zaplní místo s otazníkem?



- g<sub>a</sub>  
g<sub>b</sub>  
g<sub>c</sub>  
g<sub>d</sub>

16. Která z možností patří na místo otazníku?

HMWX

MHWX

MXHW

XMHW

XWMH

????

WXMH  
A

WXHM  
B

XWMH  
C

XHWM  
D

XHWM  
E

XMWH  
F



17. Která z možností patří na místo otazníku?

K	KH	KHM
T	?	THM
S	SH	SHM

A	B	C	D	E	F
H	SK	URL	TH	TM	SRE

- 9 A
- 9 B
- 9 C
- 9 D
- 9 E
- 9 F

18. Která z možností patří na místo otazníku?

			<b>a</b>	<b>b</b>
			<b>c</b>	<b>d</b>
		<b>?</b>	<b>e</b>	<b>f</b>

- 9 a
- 9 b
- 9 c
- 9 d
- 9 e
- 9 f

19. Která z možností patří na místo otazníku?

set	pat	t
zap	zao	za
sev	seu	?

A	B	C	D	E	F
zat	se	sek	ex	hla	xxx

- ☐ A
- ☐ B
- ☐ C
- ☐ D
- ☐ E
- ☐ F

20. Která z možností patří na místo otazníku?

mlo	mno	mno
kuo	kvo	kwo
lov	lpv	?

A	B	C	D	E	F
ruv	lrp	lqv	mkw	lor	jokl

- ☐ A
- ☐ B
- ☐ C
- ☐ D
- ☐ E
- ☐ F

21. Která z možností patří na místo otazníku?

dac	bca	bbb
acb	dda	acc
aba	bcd	?

A	B	C	D	E	F
cac	ccc	cdb	aac	aca	caa

- ☐ A
- ☐ B
- ☐ C
- ☐ D
- ☐ E
- ☐ F

### Appendix 3: White Heteroscedasticity Test

Whiteův test heteroskedasticity  
 OLS, za použití pozorování 1-125  
 Závisle proměnná: uhat<sup>2</sup>

	koeficient	směr. chyba	t-podíl	p-hodnota	
const	10771.0	9123.13	1.181	0.2414	
VN	-4292.84	2390.90	-1.795	0.0766	*
S	-260.793	613.296	-0.4252	0.6719	
cultural_index	-1589.21	1946.23	-0.8166	0.4167	
co_nationals	-3356.81	3481.81	-0.9641	0.3381	
marks_importance	-1502.30	2746.65	-0.5470	0.5860	
hard_work	2606.65	2233.67	1.167	0.2469	
income_who	-3102.71	4208.24	-0.7373	0.4632	
IQ	-314.989	1388.22	-0.2269	0.8211	
health	-2065.63	4622.77	-0.4468	0.6563	
X2_X3	94.6892	147.800	0.6407	0.5237	
X2_X4	113.717	263.750	0.4312	0.6676	
X2_X5	222.419	568.895	0.3910	0.6969	
X2_X6	42.5863	684.584	0.06221	0.9506	
X2_X7	-228.095	463.542	-0.4921	0.6241	
X2_X8	2179.15	937.170	2.325	0.0227	**
X2_X9	594.669	310.337	1.916	0.0591	*
X2_X10	1916.19	1891.88	1.013	0.3143	
sq_S	14.9551	20.8698	0.7166	0.4758	
X3_X4	-1.10431	59.0789	-0.01869	0.9851	
X3_X5	59.4142	305.307	0.1946	0.8462	
X3_X6	79.7554	114.212	0.6983	0.4871	
X3_X7	-137.396	94.6982	-1.451	0.1509	
X3_X8	-142.148	129.368	-1.099	0.2753	
X3_X9	91.3006	64.0257	1.426	0.1580	
X3_X10	254.456	239.604	1.062	0.2916	
sq_cultural_index	46.2908	129.305	0.3580	0.7213	
X4_X5	231.060	370.079	0.6244	0.5343	
X4_X6	255.760	251.105	1.019	0.3117	
X4_X7	-34.2635	260.239	-0.1317	0.8956	
X4_X8	519.935	540.664	0.9617	0.3393	
X4_X9	-3.78919	141.911	-0.02670	0.9788	
X4_X10	-12.0315	418.625	-0.02874	0.9771	
X5_X6	682.336	815.861	0.8363	0.4056	
X5_X7	-800.673	661.728	-1.210	0.2300	
X5_X8	562.846	1440.55	0.3907	0.6971	
X5_X9	377.720	392.964	0.9612	0.3395	
X5_X10	2842.08	2508.23	1.133	0.2607	
X6_X7	-408.033	316.216	-1.290	0.2008	
X6_X8	-873.450	513.501	-1.701	0.0930	*
X6_X9	-163.752	202.470	-0.8088	0.4212	
X6_X10	112.625	810.603	0.1389	0.8899	
X7_X8	-18.7301	456.174	-0.04106	0.9674	
X7_X9	-443.841	221.308	-2.006	0.0485	**
X7_X10	8.68293	608.986	0.01426	0.9887	
X8_X9	-379.626	317.658	-1.195	0.2358	
X8_X10	-97.0227	936.435	-0.1036	0.9178	
sq_IQ	31.0182	105.687	0.2935	0.7699	
X9_X10	-1026.46	638.530	-1.608	0.1121	

Neadjustovaný koeficient determinace = 0.367179

Testovací statistika:  $TR^2 = 45.897363$ ,  
 s p-hodnotou =  $P(\text{Chi-kvadrát}(48) > 45.897363) = 0.559403$

Source: own elaboration - Gretl

## Appendix 4:

### Model CR: OLS, using observations 1-171

#### Dependent variable: percentile

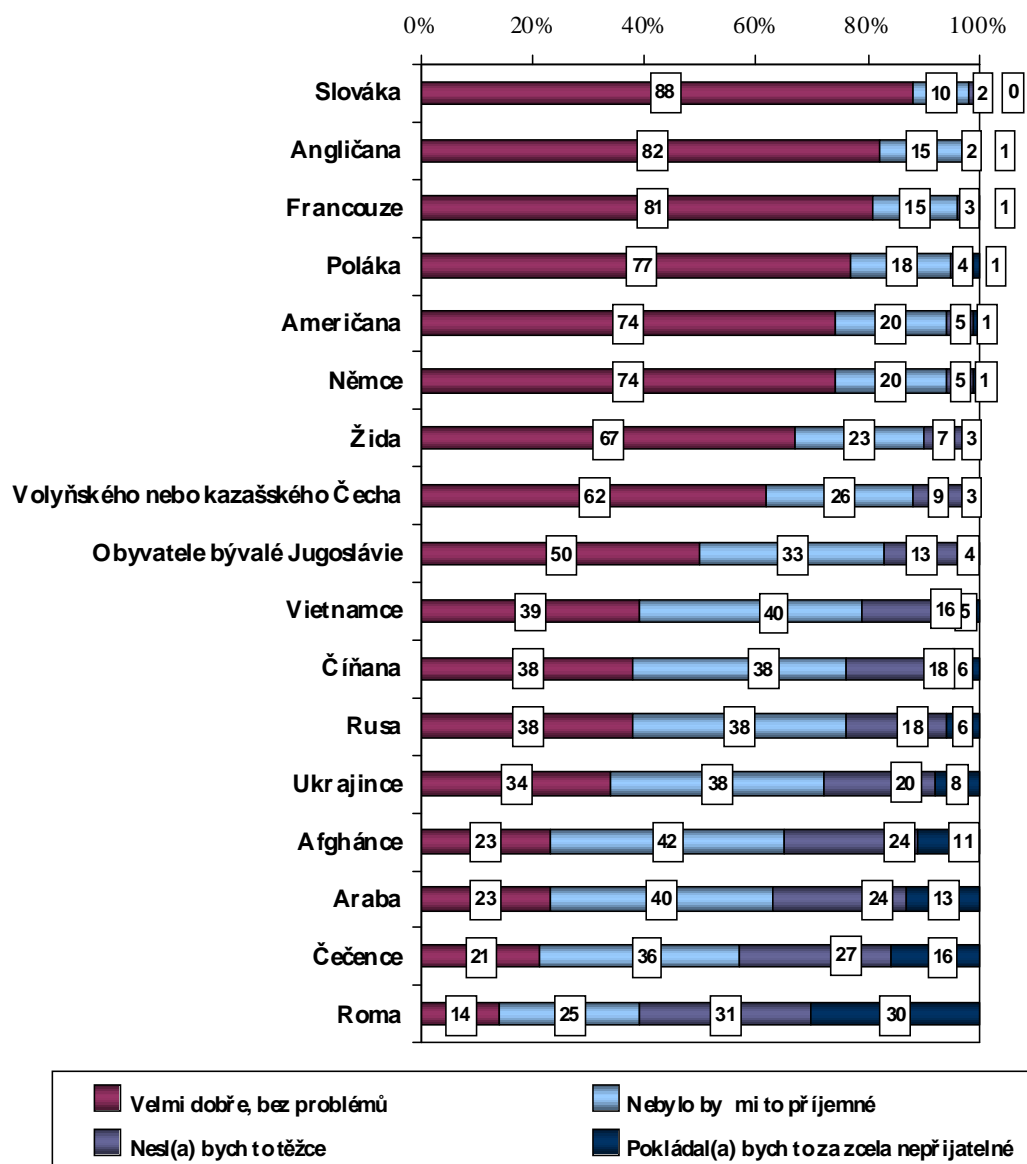
	Koeficient	Směr. chyba	<i>t</i> -podíl	p-hodnota
const	−11.6433	18.6053	−0.6258	0.5323
CR	16.1581	5.00317	3.2296	0.0015
S	2.78649	1.15886	2.4045	0.0173
cultural_index	3.31221	2.27328	1.4570	0.1471
co_nationals	−1.57329	5.69906	−0.2761	0.7829
marks_importance	20.0275	4.70509	4.2566	0.0000
hard_work	−5.94498	4.51384	−1.3171	0.1897
income_who	9.92703	6.71810	1.4777	0.1415
IQ	2.16943	2.66664	0.8135	0.4171
health	−6.59995	6.32710	−1.0431	0.2985
Střední hodnota závisle proměnné	53.10820	Sm. odchylka závisle proměnné		28.18252
Součet čtverců reziduí	102064.1	Sm. chyba regrese		25.17814
$R^2$	0.244100	Adjustovaný $R^2$		0.201845
$F(9, 161)$	5.776791	P-hodnota( $F$ )		6.01e−07
Logaritmus věrohodnosti	−789.1282	Akaikovo kritérium		1598.256
Schwarzovo kritérium	1629.673	Hannan–Quinn		1611.004

Source: own elaboration - Gretl

## Appendix 5:

### "Jak byste nesl(a), kdybyste měl(a) za souseda:"

(podíly odpovědí v %)



Pramen: STEM, Trendy 4/2011, 1286 respondentů starších 18 let

## References

- Andrade, M. S. (2006). International students in English-speaking universities: Adjustment factors. *Journal of Research in International Education*, 5(2), 131–154. doi:10.1177/1475240906065589
- Bean, J., & Eaton, S. B. (2001). The Psychology Underlying Successful Retention Practices. *Journal of College Student Retention*, 3(1), 73–89.
- Becker, G. S. (1975). Investment in Human Capital: Effects on Earnings. In *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* (Vol. 1983, pp. 13 – 44). Chicago: University of Chicago Press. Retrieved from <http://www.nber.org/chapters/c3733>
- Berger, J. B., & Braxton, J. M. (1998). REVISING TINTO'S INTERACTIONALIST THEORY OF STUDENT DEPARTURE THROUGH THEORY ELABORATION: Examining the Role of Organizational Attributes in the Persistence Process. *Research in Higher Education*, 39(2), 103–119. doi:<http://dx.doi.org.ezproxy.vse.cz/10.1023/A:1018760513769>
- Clarkson, P. C. (2007). Australian Vietnamese Students Learning Mathematics: High Ability Bilinguals and Their Use of Their Languages. *Educational Studies in Mathematics*, 64(2), 191–215. doi:10.2307/40284628
- Czech Statistical Office. (2011a). R01 Foreigners by type of residence; 1985-2011 (31.12.). Retrieved from [http://www.czso.cz/csu/cizinci.nsf/engtabulky/ciz\\_pocet\\_cizincu-001](http://www.czso.cz/csu/cizinci.nsf/engtabulky/ciz_pocet_cizincu-001)
- Czech Statistical Office. (2011b). R02 Foreigners by citizenship 1994-2011 (31.12.). Retrieved from [http://www.czso.cz/csu/cizinci.nsf/engtabulky/ciz\\_pocet\\_cizincu-001](http://www.czso.cz/csu/cizinci.nsf/engtabulky/ciz_pocet_cizincu-001)
- Czech Statistical Office. (2012a, June 4). Cizinci: Počet cizinců - Popis aktuálního vývoje. Retrieved from [http://www.czso.cz/csu/cizinci.nsf/o/ciz\\_pocet\\_cizincu-popis\\_aktualniho\\_vyvoje](http://www.czso.cz/csu/cizinci.nsf/o/ciz_pocet_cizincu-popis_aktualniho_vyvoje)

Czech Statistical Office. (2012b, November 31). Demographic Yearbook of Czech Republic 2010. Czech Statistical Office. Retrieved from [http://www.czso.cz/csu/2011edicniplan.nsf/engpubl/4019-11-eng\\_r\\_2011](http://www.czso.cz/csu/2011edicniplan.nsf/engpubl/4019-11-eng_r_2011)

Czech Statistical Office. (2012c, December 31). Tab. 12.08 Vysoké školy v České republice. Retrieved from [http://www.czso.cz/csu/redakce.nsf/i/cr\\_od\\_roku\\_1989#12](http://www.czso.cz/csu/redakce.nsf/i/cr_od_roku_1989#12)

Dozier, S. B. (2001). Undocumented and documented international students: A comparative study of their academic performance. *Community College Review*, 29(2), 43–53.

Foster, P. B. (1965). Management Perspective: Predicting Academic Performance of Foreign and Non-Foreign Students in a Graduate Business School. *Academy of Management Journal*, 8(4), 319–323. doi:10.2307/255347

Furnham, A., & Alibhai, N. (1985). The Friendship Networks of Foreign Students: A Replication and Extension of the Functional Model. *International Journal of Psychology*, 20(3-4), 709–722. doi:10.1080/00207598508247565

Gurin, P. (1999). The Compelling Need for Diversity in Education, 5(1), 363–425.

Gurin, P., Nagda, B. (Ratnesh) A., & Lopez, G. E. (2003). The Benefits of Diversity in Education for Democratic Citizenship. Retrieved from <http://www-personal.umich.edu/~pgurin/benefits.html>

Chapdelaine, R. F., & Alexitch, L. R. (2004). Social Skills Difficulty: Model of Culture Shock for International Graduate Students. *Journal of College Student Development*, 45(2), 167–184.

Chiang, S.-T. (2008). *The assessment experiences of four Taiwanese students in an American graduate business school* (Ph.D.). Fordham University, United States -- New York. Retrieved from <http://search.proquest.com.ezproxy.vse.cz/docview/304645237/abstract/13CEF87CB84311DA4E8/2?accountid=17203>

Koczan, Z. (2013). Does integration increase life satisfaction?, University of Cambridge, Cambridge, UK

Lindley, J. (2002). Race or religion? The impact of religion on the employment and earnings of Britain's ethnic communities. *Journal of Ethnic & Migration Studies*, 28(3), 427–442.

Lounsbury, J. W., Sundstrom, E., Loveland, J. M., & Gibson, L. W. (2003). Intelligence, "Big Five" personality traits, and work drive as predictors of course grade. In *Personality and Individual Differences* (pp. 1231–1239). Knoxville. Retrieved from <http://www.gwern.net/docs/2003-lounsbury.pdf>

Ministry of Education, Youth and Sports of the Czech Republic. (2010a, December 31). VŠ - poprvé zapsaní na VŠ (pouze cizinci) podle formy studia a typu studijního programu - podle zřizovatele, vysoké školy a fakulty. MŠMT - odbor analyticko-koncepční. Retrieved from [http://dsia.uiv.cz/vystupy/vu\\_vs\\_f3.html](http://dsia.uiv.cz/vystupy/vu_vs_f3.html)

Ministry of Education, Youth and Sports of the Czech Republic. (2010b, December 31). VŠ – studenti (pouze cizinci) podle formy a typu studijního programu – podle vysoké školy/fakulty. MŠMT - odbor analyticko-koncepční. Retrieved from [http://dsia.uiv.cz/vystupy/vu\\_vs\\_f2.html](http://dsia.uiv.cz/vystupy/vu_vs_f2.html)

Ministry of Education, Youth and Sports of the Czech Republic. (2013, December 31). VŠ – studenti ve všech formách a typech studia podle zřizovatele – podle státního občanství. MŠMT - odbor analyticko-koncepční. Retrieved from [http://dsia.uiv.cz/vystupy/vu\\_vs\\_f2.html](http://dsia.uiv.cz/vystupy/vu_vs_f2.html)

Nelson, C. V., Nelson, J. S., & Malone, B. G. (2004). Predicting Success of International Graduate Students in an American University. *College and University*, 80(1), 19–27.

Nguyen, H. T. (2007). Educating Vietnamese American Students. *Multicultural Education*, 15(1), 23–26.

Nožina, M. (2009). Crime networks in Vietnamese diasporas. The Czech Republic case. *Crime, Law and Social Change*, 53(3), 229–258. doi:10.1007/s10611-009-9226-9



Olaniran, B. A. (1996). Social skills acquisition: A closer look at foreign students on college campuses and factors influencing their level of social difficulty in social situations. *Communication Studies*, 47(1-2), 72–88.

Olaniran, B. A. (2009). Culture, learning styles, and Web 2.0. *Interactive Learning Environments*, 17(4), 261–271.

Pennington, H. (2004). *Fast Track to College: Increasing Postsecondary Success for All Students*. Boston: Jobs for the Future. Retrieved from <http://www.jff.org/sites/default/files/FastTrack.pdf>

Philippines: Lowest paid minority in Finland. (2009, April 27). *Asia News Monitor*. Bangkok, Thailand. Retrieved from <http://search.proquest.com.ezproxy.vse.cz/docview/1018155614>

Reder, M. W. (1967). Gary Becker's Human Capital: A Review Article. *The Journal of Human Resources*, 2(1), 97–104. doi:10.2307/144593

Ridgell, S. D., & Lounsbury, J. W. (2004). Predicting Academic Success: General Intelligence, “big Five” Personality Traits, and Work Drive. *College Student Journal*, 38(4), 607–618.

Sanford, R. (2009). *Predictors of international graduate student success in U.S. universities: Analysis of noncognitive student variables and institutional characteristics* (Ed.D.). University of La Verne, United States -- California. Retrieved from <http://search.proquest.com.ezproxy.vse.cz/docview/305082378/abstract/13CEF87CB84311DA4E8/9?accountid=17203>

Schneider, M. (2000). “Others” open doors. *How other nations attract international students: Implications for US educational exchange*. Syracuse University. Retrieved from <http://nccastaff.bournemouth.ac.uk/hncharif/MathsCGs/Desktop/PGCertificate/Assignment%20-%202002/execsummary.pdf>

Schultz, T. W. (1961). Investment in Human Capital. *The American Economic Review*, 51(1), 1–17. doi:10.2307/1818907

Smith, D. G., & Schonfeld, N. B. (2000). THE BENEFITS OF DIVERSITY. *About Campus*, 5(5), 16.

STEM. (2008, August 20). Češi Rusům rok '68 neodpustili. Retrieved from [http://hn.ihned.cz/c4-10084240-26553010-500000\\_d-cesi-rusum-rok-68-neodpustili](http://hn.ihned.cz/c4-10084240-26553010-500000_d-cesi-rusum-rok-68-neodpustili)

STEM. (2011, May 5). Naši občané se čím dál více otevírají soužití s Vietnamci a Číňany. Retrieved from <https://docs.google.com/viewer?a=v&pid=gmail&attid=0.1&thid=13eb85c8963622d3&mt=application/pdf&url=https://mail.google.com/mail/?ui%3D2%26ik%3D099edfd399%26view%3Datt%26th%3D13eb85c8963622d3%26attid%3D0.1%26disp%3Dsafe%26zw&sig=AHIEtbRII4iZNzQJ-w0uD1zh4Qo8YJgbLQ>

Tienda, M. (1983). Nationality and Income Attainment among Native and Immigrant Hispanic Men in the United States. *The Sociological Quarterly*, 24(2), 253–272. doi:10.2307/4106232

Tinto, V. (1997). Classrooms as Communities: Exploring the Educational Character of Student Persistence. *The Journal of Higher Education*, 68(6), 599–623. doi:10.2307/2959965

Tinto, V., & Goodsell-Love, A. (1993). Building community. *Liberal Education*, 79(4), 16.

Wait, I. W., & Gressel, J. W. (2009). Relationship Between TOEFL Score and Academic Success for International Engineering Students. *Journal of Engineering Education*, 98(4), 389–398.

Welch, B., Vo-Tran, H., Pittayachawan, S., & Reynolds, S. (2012). Crossing Borders: Evaluating a Work Integrated Learning Project Involving Australian and Vietnamese Students. *Australian Academic and Research Libraries*, 43(2), 120–134.

Yeganeh, H. (2011). A generic conceptualization of the cultural distance index. *Journal of Strategy and Management*, 4(4), 325–346. doi:<http://dx.doi.org.ezproxy.vse.cz/10.1108/17554251111180990>

Yorke, M., & Knight, P. (2004). Self-theories: some implications for teaching and learning in higher education. *Studies in Higher Education*, 29(1), 25–37.

Zhao, C.-M., Kuh, G. D., & Carini, R. M. (2005). A Comparison of International Student and American Student Engagement in Effective Educational Practices. *Journal of Higher Education*, 76(2), 209–231.