

THESES OF THE DOCTORAL (PhD) DISSERTATION

THE IMPACT OF ENGLISH LANGUAGE, SOCIAL TOLERANCE, AND QUALITY EDUCATION ON ECONOMIC GROWTH AND INTERCULTURAL AWARENESS

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1. INTRODUCTION, RESEARCH OBJECTIVES, AND HYPOTHESES

In fact, economic growth triggered the interest of economists a long time ago. Literature has spent the last few decades attempting to explain why there are disparities in wealth levels among various economies. For example, there are multiple issues that require detailed explanations, as in the case of the fast economic growth of East Asian economies in comparison to others, such as Sub-Saharan Africa (Renelt, 1991). As a result, economists developed many different theories in order to explain these differences. Based on the literature, the most well-known theories, which help to estimate and define economic growth, are divided into two important categories: neoclassical as well as endogenous growth theories. This type of theories focused on physical and human capital as main determinants of the economic growth (Lucas Jr, 1988; Romer, 1986; Solow, 1956). For instance, the economic growth theory developed by Solow (1956) is considered one of the well-known neoclassical (i.e., exogenous) economic growth theories. According to this theory, Solow (1956) argues that economic growth can be determined through physical capital as well as the advancement of technology on the short and long run respectively. After that, human capital was added as an important complementary factor besides physical capital in the economic growth models (look at the study of Mankiw et al. (1992) and Islam (1995)). Furthermore, the advocates of endogenous economic growth theory, such as Romer (1986), Lucas (1988), Grossman and Helpman (1991), etc., included another important productivity variables such as learning by doing as well as research and development as necessary predictors of the economic growth. Hereby, each of physical, human capital as well as technology advancement are considered important determinants of the economic growth in most of the economies. Other economists, such as Easterly and Wetzel (1989) and Fischer (1992), argue that variables influencing the efficiency of savings and investment play an equally essential role in determining economic growth.

In the last years, due to economic globalization phenomenon, the topic of economic growth was widely discussed by most of the literature. In fact, economic globalization indicates the engagement of several economies in the world's economic growth (Chang & Lee, 2010). Furthermore, its influence was observed in many different aspects including the ease of physical capital flow among different economies, trading, immigration and the diffusion of

knowledge and technology (Titalessy, 2018). Despite the fact that globalization is still a trendy issue, most studies that addressed it focused on the economic aspect and neglected the rest, such as society, politics, and culture (Saich, 2000). Based on the study of Grin (2003), there are many trendy issues related to language, ethnicity, and culture which represent critical challenges in the current time. For example, after the collapse of the Berlin wall in 1989, the economies of Eastern Europe and the commonwealth of independent states (CIS) have experienced geographical and political changes. These changes reaffirmed the existence of different identities, which are also related to specific languages. In addition, the twenty-first century is experiencing tremendous and diverse migratory flows. This trend leads to diversity in terms of languages, ethnicities, and cultures in the host economies. On the other hand, the creation of political and economic regions such as the European Union (i.e., EU) contributes to the presence of linguistic diversity and possible conflict between various languages spoken by diverse groups of users. Finally, the rise in the proportion of international commerce in global production and a drop in transportation costs and telecommunications. These two advances could reduce the cost of having frequent interaction with a diverse group of individuals speaking a diverse set of languages (Grin, 2003). Therefore, literature on economic globalization and economic growth must thus take into account both socio-cultural factors.

In order to address these problems, the research tries to study the economic effect of social tolerance toward cultural diversity, economy's people language skills (English language proficiency) as a solution to linguistic diversity, and quality education on the economic growth. The novelty behind this research is the inclusion of language proficiency factor besides each of social tolerance and quality education into the economic model since the majority of the literature has addressed social tolerance and quality education and their effect on the economic growth separately and without giving attention to the linguistic factor. In order to justify the connection between language and each of social tolerance and quality education, let's consider the following studies. Firstly, according to Florida (2003), tolerance is defined as the level of openness, inclusion and diversity to all ethnicities, races, etc. Based on that, Florida (2002) argues that tolerant environments help to attract each of creative people (i.e., creative human capital) as well as technology. On the other hand, speaking a common language helps people adapt to different cultures (Ayrat et al., 2017).

Hereby, it can be considered another form of tolerance toward cultural and linguistic diversity. As a result, since diversity implies cultural as well as linguistic differences within the economic region, the research argues that policies which enhance social tolerance and quality of educating widely spoken languages (such as English language) could help to overcome these challenges within the economy. Secondly, the literature demonstrates that English is seen as a proxy for human capital in the labor market. (Chiswick & Miller, 1995). Therefore, enhancing the quality of second language education is necessary for the economic growth. For example, based on the study of Suárez (2005), seeking greater congruence between language education policy and economic strategy enables the economy to attract foreign capital and enhance its exports (as in the case of Singapore and Ireland) (Suárez, 2005). Consequently, since these three variables help to attract skills and knowledge (i.e., Human capital), the research considers them as critical elements of total factor productivity. Following the approach of Mankiw et al (1992), it is possible to include these factors into the economic growth equation (i.e., augmented Solow model) and estimate their effect on the economic growth.

In addition, using the same data of the cross-sectional analysis in this study, the research investigates the economic performance of Hungary in terms of the previously mentioned variables (i.e., English language proficiency, social tolerance, and quality education) at the same time period. In fact, Hungary was chosen as a case study of this research due to the following reasons. Firstly, according to the report of the European Commission (2012), it was found that about 65% of the Hungarian population is not able to communicate in any other language. Furthermore, only 21% of Hungarians rated their English proficiency as very good. Secondly, Hungarian government launched a scholarship program called Stipendium Hungaricum in 2013. The main goal of this initiative is to internationalize and promote Hungarian higher education (Stipendium Hungaricum., 2020). However, this resulted into many different challenges. For example, due to the increasing number of foreign students within education system, Hungarian entities have faced several linguistic and cultural problems such as the lack of the integrative approach which aims to enhance the intercultural communication between Hungarians and foreigners within the university environment (Kovacs & Kasza, 2018). In addition, based on the study of Lannert and Derényi (2021), it was found that institutional culture and an insufficient understanding of

leadership are impediments to higher education's internationalization. Furthermore, when foreign and local students are taught together, staff members have found that Hungarians are less motivated and more constrained than their foreign counterparts (Lannert & Derényi, 2021). Finally, linguistic anxiety could be one of the reasons behind the lack of intercultural communication between the two parties (Z. Hajdú, personal communication, 2018). Based on that, the research tries to address these problems through exploring and explaining the direction of the above mentioned three indicators (English proficiency, social tolerance, and quality education) and their impact on the Hungary's economy over specific time period and by analyzing the Hungarian literature in this regard.

As for research objectives, the main goal is to investigate the economic impact of English language proficiency on the economic growth. Furthermore, the research aims to illustrate the impact of English language proficiency and social tolerance together on the economic growth. Also, it seeks to investigate the effect of English language proficiency and quality education together on the economic growth, especially in the non-English speaking economies. As a case study, the research focuses on determining the reasons behind the lack of intercultural communication between Hungarians and foreigners, especially in the education system. Based on that, Using the same data as well as Hungarian literature, the research analyzes the economic performance of Hungary in terms of its social tolerance, English language proficiency and quality education (as a first perspective). The second perspective the research aims to highlight is about international students' reaction toward the economy and its policies during their stay in Hungary. Therefore, the research hypotheses can be summarized as the following:

Hypothesis 1: *English language proficiency is positively related to the economic growth in non-English speaking economies.*

Hypothesis 2: *Social tolerance and English language proficiency have a positive effect on the economic growth in non-English speaking economies.*

Hypothesis 3: *Quality education and English language proficiency have a positive effect on the economic growth in non-English speaking economies.*

Hypothesis 4: *Foreign students do not have the same level of intercultural competence in the university environment.*

Therefore, the sub-hypotheses are:

H4.a: *Students per continent do not have the same levels of intercultural knowledge, skills, attitude, and awareness.*

H4.b: *Students, for each educational level, are not equal in terms of their intercultural knowledge, skills, attitude, and awareness.*

H4.c: *Students do not share the same intercultural knowledge, attitude, skills, awareness regardless of their different periods spent in Hungary.*

H4.d: *Males and Females are not equal in terms of their intercultural knowledge, attitude, skills, and awareness.*

H4.e: *The two groups (based on their intention to learn the Hungarian language) are not the same in terms of their intercultural knowledge, attitude, skills, and awareness.*

H4.f: *The two groups (whether they faced linguistic difficulty to deal with locals or not) are not the same in terms of their intercultural knowledge, attitude, skills, and awareness.*

Hypothesis 5: *Intercultural knowledge of foreign students has a positive effect on their intercultural awareness.*

Hypothesis 6: *Intercultural attitude of foreign students has a positive effect on their intercultural awareness.*

Hypothesis 7: *Intercultural skills of foreign students have a positive effect on their intercultural awareness.*

Hypothesis 8: *Intercultural awareness of foreign students has a positive effect on their intercultural knowledge, skills and attitude.*

2. RESEARCH METHOD

2.1. Panel Data Analysis

The method which was used to investigate the effect of English, quality education and social tolerance on economic growth is called the Two-step system GMM. The data type is time-series cross-sectional, where T= 9 years and N=99 non-English speaking economies (after removing missing data). The analysis was conducted using STATA 16. Based on that, the development of the model followed several steps. According to Solow, the main predictors of economic growth can be shown through the following equation:

$$Y_t = AK_t^\alpha L_t^{1-\alpha} \quad \text{where, } (0 < \alpha < 1), \quad (1)$$

Based on the scientific work of Mankiw et al. (1992), the equation of Solow can be augmented by the inclusion of Human capital (H) as observed in equation (2):

$$Y_t = AK_t^\alpha L_t^{1-\alpha-\beta} H_t^\beta \quad \text{where, } (0 < \alpha + \beta < 1), \quad (2)$$

Hereby, to assess the impact of human capital on output, output per labor must be calculated (i.e., Y/L).

$$\ln\left(\frac{Y}{L}\right)_t = \ln A(0) + \frac{\alpha}{1-\alpha} \ln(S_k)_t - \frac{\alpha}{1-\alpha} \ln(n + g + \delta)_t + \frac{\beta}{1-\alpha} \ln(h)_t \quad (3)$$

where, $\ln A(0) = a + \varepsilon$

$$\ln\left(\frac{Y}{L}\right)_t = a + \frac{\alpha}{1-\alpha} \ln(S_k)_t - \frac{\alpha}{1-\alpha} \ln(n + g + \delta)_t + \frac{\beta}{1-\alpha} \ln(h)_t + \varepsilon_t \quad (4)$$

As shown in equations (3) and (4), (S_k) represents physical capital investment per labour, (n) the growth rate of employment, and (h) human capital per labour. Regarding the advancement of knowledge (g) as well as the rate of depreciation (δ), their values are considered to be constant across the economies in the panel data. As for $A(0)$, it represents each of technology, natural resources, institutions, and so on. This also varies from one economy to another. Finally, $A(0)$ can be computed as the sum of the constant value (a) plus the economy's shocks (ε).

Two-Step System GMM Estimation

It was preferable to use a two-system GMM (Arellano & Bover, 1995). This method is useful since it aids in the elimination of weak instruments through the usage of two systems of equations (differenced equations as well as an equation in levels). Following this method, the economic growth formula can be written as shown in equations (5) and (6):

$$Y_{it} = \beta_1 Y_{it-1} + \beta_2 x_{it} + \beta_3 x_{it-1} + u_{it} \quad (5)$$

$$\text{where, } u_{it} = v_i + e_{it}$$

$$\Delta Y_{it} = \beta_1 \Delta Y_{it-1} + \beta_2 \Delta x_{it} + \beta_3 \Delta x_{it-1} + \Delta u_{it} \quad (6)$$

$$\text{where, } \Delta u_{it} = \Delta v_i + \Delta e_{it}$$

These two equations consist of the following. Firstly, the two elements, number of included economies and time, are indicated by (i) and (t) respectively. Secondly, the first difference factor is denoted by the sign (Δ). On the other hand, (Y) is a dependent variable which is represented by real GDP (Y_{it}) and its value lagged by one year (Y_{it-1}). Based on the literature, real GDP is often employed as a measure of economic progress. As for other variables, (x_{it}) and (x_{it-1}) indicate explanatory variables and their lagged values, respectively. Regarding the error (u_{it}), it can be computed by adding unobserved economy fixed effects (v_i) to idiosyncratic disturbance (e_{it}).

The Hansen and Arellano–Bond Test (AR2)

To ensure that the model is valid and fits the data well, the validity of each instrument and the autocorrelation/serial correlation of the error term must be examined and checked. Hereby, the Hansen test can be used to verify instrument validity. To check this, the p-value should be between 0.1 and 0.25 (Roodman, 2009). On the other hand, the Arellano–Bond test (AR2) can be used to assess autocorrelation. The p-value in this test ought to be more than 0.05.

Data and Model Specification

Given that the research examines the economic impact of language on economic growth from two perspectives, two distinct economic growth equations were formed:

Language and Quality education (7)

$$\ln(\text{GDP per capita})_{it} = \beta_0 + \beta_1 \ln(\text{GDP per capita})_{it-1} + \beta_2 \ln(S_k)_{it} + \beta_3 \ln(n+g+\delta)_{it} + \beta_4 \ln(h)_{it} + \beta_5 \ln(\text{Secondary quality education})_{it} + \beta_6 \ln(\text{Primary quality education})_{it} + \beta_7 \ln(\text{TOEFL score})_{it} + \beta_8 \ln(\text{general government consumption})_{it} + \mu_t + u_{it}$$

Language and Social tolerance toward diversity (8)

$$\ln(\text{GDP per capita})_{it} = \beta_0 + \beta_1 \ln(\text{GDP per capita})_{it-1} + \beta_2 \ln(S_k)_{it} + \beta_3 \ln(n+g+\delta)_{it} + \beta_4 \ln(h)_{it} + \beta_5 \ln(\text{TOEFL score})_{it} + \beta_6 \ln(\text{Social tolerance})_{it} + \beta_7 \ln(\text{Openness})_{it} + \mu_t + u_{it}$$

As observed in the two equations above, (ln), or logarithm, was taken for both sides of the two formulas. Furthermore, the sets of economy dummies and time effects are indicated by the sign (μ_t), while the error terms are represented by (u_{it}), where $E(u_{it}) = 0$ for (i) and (t). The variables used in the two equations as well as their sources are summarized in table 1. Also, the table provides a brief definition regarding every indicator.

It is essential to highlight here that GDP per capita was computed by dividing output-side real GDP by the number of individuals engaged in the labor market. As for $(\text{GDP per capita})_{it-1}$, it is defined as the lagged value of the endogenous variable. In these equations, lagged dependent variables were used as an explanatory one to increase the consistency of evaluation. Additionally, $(g + \delta)$ is typically set to 0.05.

Table 1. Variables and their sources

Source	Variables	Definition
Penn world table (PWT 9.1)	Economic Growth - GDP per capita	<i>Output-side real GDP at chained PPP (in million USD in 2011).</i>
	Employment growth – (n)	<i>Computed through the number of individuals engaged in the labor market within a particular time.</i>
	Physical Investment - (S_k)	<i>Share of gross capital formation at current PPP_s</i>
	Human Capital - (h)	<i>Measured by the Human Capital Index, based on years of schooling and returns to education.</i>
TOEFL iBT Tests (2020)	English language proficiency – TOEFL score	<i>Computed by TOEFL score means per economy. The scores represent the language abilities of test-takers from every country.</i>
Legatum Prosperity Index (2019a, 2019b)	Secondary Quality Education	<i>Estimated using education quality by primary and secondary attainment indicators.</i>
	Primary Quality Education	
	Social Tolerance	<i>Illustrated by social tolerance: how well society respects and benefits from a diversity of peoples' religious beliefs, ethnicities, origins, and sexualities</i>
World Bank (2020b, 2020a)	General Government Consumption	<i>All current expenditures of the government such as purchases of goods and services and employee compensation.</i>
	Openness	<i>Measured by the sum of exports and imports of goods and services measured as a share of gross domestic product.</i>

Note: as for the Penn World Table (PWT 9.1), it is usually referenced by Feenstra et al. (2015).

2.2. Survey Analysis

Sociodemographic data of the University of Debrecen

This study focuses on the internationalization process of the Hungarian higher education system. To investigate the effectiveness of this process, the study selected the university of Debrecen's foreign students as part of this study. As shown in table 2, there are two types of data. The first one shows the University of Debrecen's population statistics, based on the data of HCSO (2020) in the time period between 2019 to 2020. The second one represents the survey's respondents' statistics or the sample size for the same institution. Based on the table, the sample size is representative, in terms of gender and continent, and suitable for conducting the analysis.

Table 2. Sociodemographic data for the time period 2019-2020

Item	Category	Population size	In percent	Sample size	In percent
Gender	<i>Male</i>	3409	55.6%	221	57.4%
	<i>Female</i>	2717	44.4%	163	42.3%
Education	<i>Secondary school</i>	N/A	N/A	38	9.9%
	<i>Bachelor</i>	2755	72.0%	145	37.7%
	<i>Master</i>	782	20.4%	146	37.9%
	<i>PHD</i>	279	7.3%	49	12.7%
Continent	<i>Asia</i>	3077	50.2%	213	55.3%
	<i>Europe</i>	1519	24.8%	60	15.6%
	<i>Africa</i>	1279	20.9%	79	20.5%
	<i>America</i>	246	4.0%	32	8.3%

Source: Author's own compilation.

Participants

The international students at the University of Debrecen were the target population for this study. The participants in this research were selected at random. To guarantee representativeness, the sample size was 384 international students.

Instruments

The instrument used in this study was a survey in which three types of questions were included. As for the first part of the survey, the questions aimed to provide sociodemographic information regarding the respondents, such as their nationality, mother tongue, linguistic skills, gender, education, time spent in the host country. Additionally, it was essential to determine language difficulties that international students may encounter while in Hungary. The second part of the survey included Fantini's model (2007). The model (AIC) consists of four dimensions (i.e., knowledge, attitude, skills, and awareness). The total number of items is 53, where intercultural knowledge includes items from 1 to 11, intercultural attitude (12-24), intercultural skills (25-35), and intercultural awareness (36-53). Regarding the scale, it is a 6-point Likert-type, from 0= not at all to 5= extremely high. As for the survey's third part, the final item was an open-ended question.

Procedures

Because of the COVID-19 epidemic and the scheduled lockdown on November 14th, 2020, the Hungarian education system was converted to online instruction. In this context, the survey among international students was not immediately circulated. However, the survey distribution was performed through the university's online platforms, teachers' support, as well as social media. The process of circulation began between December 2020 and mid-April 2021.

Data analysis

To perform factor analysis, it was necessary to use the EFA method. The first step of this method was to ensure that sampling is adequate, using Kaiser-Meyer Olkin (KMO) with a cut-off value of 0.60 as well as Bartlett's Test of Sphericity with a p-value less than 0.05 (Pallant, 2020). To decide which rotation method is suitable for this data, the study used principal component analysis (PCA) with oblique rotation, where the values of component correlation matrix output shall be higher than ± 0.32 (Tabachnick et al., 2007). After that,

the CFA approach with maximum likelihood (ML) was adopted. In this method, the following was checked using SPSS Amos 24. Firstly, model fit was examined using different indices, where RMSEA should be less than 0.06, CFA > 0.95, CMIN/DF should be between 1 and 3, SRMR \leq 0.08 (Hu & Bentler, 1999). Secondly, the reliability of dimensions can be checked through *Cronbach's alpha*, where α of 0.7 is considered good (Tavakol & Dennick, 2011). Reaching this cut-off value means that survey's questions are adequate in estimating the constructs in the model. Thirdly, construct validity can be verified using *convergent validity* (which is estimated by composite reliability (CR) as well as average variance extracted (AVE)) (Hair et al., 2011), and *discriminant validity* (verified through AVE and maximum shared squared variance (MSV)) (Maerlender et al., 2013).

Finally, the results of the goodness of fit indices, validity, and reliability assist in determining if SEM is appropriate to be used. SEM can be resulted by restructuring the CFA model and according to the hypotheses of the study. Therefore, SEM can be used to investigate the previously mentioned hypotheses (as well as their direct and indirect effects at significance levels of * $p < 0.050$, ** $p < 0.010$, and *** $p < 0.001$).

3. SCIENTIFIC FINDINGS

3.1. Results of the two-step system GMM – Models 1 and 2

Language and Quality Education – Model 1

Based on the results presented in table 3, Hansen and AR2 values prove that the two-step system GMM estimation method is valid and appropriate for this data. For example, the Hansen test shows good instrument validity, where the p-value equals 0.139. On the other hand, AR2 is used to check the autocorrelation/serial correlation of the error term. In this case, the p-value of AR2 is higher than 0.05. This means that the two-step system GMM is useful and suitable to estimate equation No. 7.

Table 3. Two-step System GMM Results - Dependent variable: $\ln(\text{GDP per capita})_{it}$

Models	Model (1)		Model (2)	
Variables	Coef.	Corrected Std. Err.	Coef.	Corrected Std. Err.
$\ln(\text{GDP per capita})_{it-1}$	0.731****	(0.102)	0.698 ****	(0.140)
$\ln(n+g+\delta)_{it}$	-0.0997	(0.534)	-0.223	(0.432)
$\ln(S_k)_{it}$	0.119*	(0.0618)	0.129 *	(0.071)
$\ln(h)_{it}$	0.517**	(0.248)	0.845 **	(0.421)
$\ln(\text{Secondary qualityeducation})_{it}$	0.0672	(0.0704)		
$\ln(\text{Primary qualityeducation})_{it}$	0.0503*	(0.0293)		
$\ln(\text{TOEFL score})_{it}$	0.0621	(0.188)	0.123	(0.184)
$\ln(\text{General governmentconsumption})_{it}$	0.0619	(0.0617)		
$\ln(\text{Social tolerance})_{it}$			0.018	(0.025)
$\ln(\text{Openness})_{it}$			0.003	(0.027)
<i>Year Dummies</i>	Yes		Yes	

Models	Model (1)	Model (2)
<i>No. of observations</i>	693	693
<i>F statistic</i>	57036.28****	58,876.35****
<i>Groups/Instruments</i>	99/22	99/21
<i>AR (1)</i>	0.001	0.003
<i>AR (2)</i>	0.056	0.052
<i>Hansen Statistics</i>	0.139	0.320

*Notes: ****, ***, **, * are statistical significance at 0.1%, 1%, 5% and 10% levels respectively; t statistics (in parentheses) are based on white heteroscedasticity-consistent std. errors; p-values reported for AR (1), (2) and Hansen statistic. Source: Author's own calculations*

The model's findings are estimated using system GMM, as shown in table 3. According to the findings, Quality education within primary and secondary schools, as well as proficiency in the English language (as assessed by TOEFL score per economy), have a positive effect on economic growth. Based on the quality education findings, a percentage change in secondary quality education is linked with a 0.0672 percent rise in short-run economic growth. This finding, nevertheless, is insignificant. On the other hand, at the ten percent significance level, the effect of primary quality education is significant. In other words, a percentage change in primary quality education contributing to a 0.0503 percent rise in economic growth. Based on this, quality education plays a crucial role in enhancing the economic performance of these countries. Furthermore, human capital (h) has a substantial beneficial effect on economic growth (at a 5 percent significance level). As demonstrated in table 3, each one-unit increase in human capital enhances economic growth by 0.517 percent. Furthermore, physical investment has also a positive significant impact on economic performance, where each one-unit increase in investment boosts the economic growth by 0.119 percent. In terms of the effect of language on the economy, having a single common or widely used language has a beneficial effect on a country's economic growth. As for English language skills, estimated by TOEFL score means, it was found out that it does not have a statistically significant effect on economic performance. However, there is

a positive connection between both. Therefore, based on the findings, enhancing English proficiency by one unit could promote the economy's growth by 0.0621 percent.

Language and Social tolerance toward cultural diversity – Model 2

As observed in Table 3, each of the Hansen tests and AR2 match the criteria, where the Hansen test's p-value is in the range between 0.1 and 0.25, and AR2's p-value is more than 0.05. As a result, system GMM is valid to estimate the model. Also, the statistics show that social tolerance has a beneficial effect on the economy (with a positive value, where a 0.018 percent rise in economic growth is linked with a percentage increase in social tolerance in the short term). However, this effect is insignificant. The findings reported in Table 3 indicate a positive association between English proficiency and economic performance. However, this value is not significant. In other words, one unit rise in the economy's English proficiency boosts its economic growth by 0.123 percent.

3.2. Case Study: Hungary

Hungary's English proficiency status

There are many problems that should be considered when it comes to the quality of English language education in Hungary. Hungarian students, for example, cannot select which language to study. This occurs because students have the option of learning either German or English. Simultaneously, their selections are affected by the availability of language instructors as well as the number of students in the class. For instance, 65 percent of students who choose German are originally interested in English rather than German (Szabó, 2008). In addition, there is a misalignment between policy and practice in the classroom. For example, a teacher's practice in class may involve using his or her mother tongue rather than the necessary policy, which mandates instructors to speak the intended foreign language, as shown in figure 1. As for intercultural communication issues, according to Hajdú (personal communication, 2018), Hungarian students usually hesitate to talk English because of their language anxiety since they prefer to speak English correctly; otherwise, they may be hesitant to communicate. However, this problem can be solved by enhancing communication skills among students in the class. For instance, Hajdú argued that decreasing the number of students in the classroom from 20 to 10 or 6 could promote and enhance communication skills among Hungarian students. Furthermore, reasonable salaries

should be offered in order to recruit native speakers to improve English language education in Hungarian schools (Z. Hajdú, personal communication, 2018).

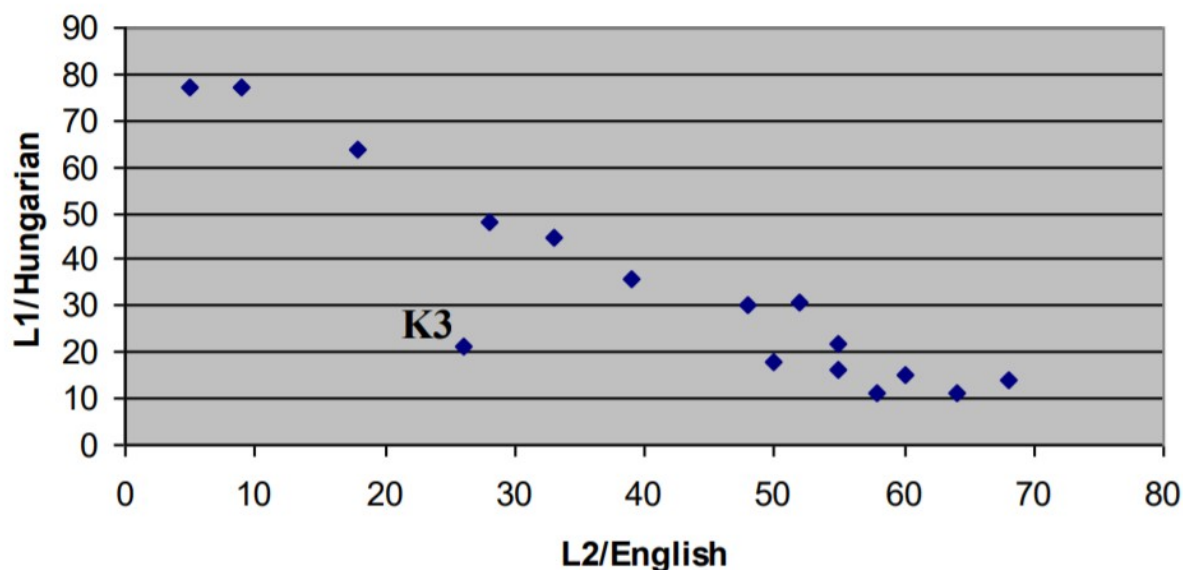


Figure 1. The use of English to Hungarian in the classroom.

Source: Nagy (2009).

The university environment and foreign students' intercultural competence

Dimensions' descriptive statistics

Table 4 lists Fantini's four dimensions (knowledge, attitude, skills, and awareness, KAS+A), with scales ranging from 0 to 5.

Table 4. KAS+A's descriptive statistics

Dimensions	N	Minimum	Maximum	Mean	Std. Deviation
	Statistics	Statistics	Statistics	Statistics	Statistics
<i>Knowledge</i>	384	0.00	5	2.8686	1.02120
<i>Attitude</i>	384	0.00	5	3.1653	1.13538
<i>Skills</i>	384	0.00	5	3.1179	1.12672
<i>Awareness</i>	384	0.00	5	3.2241	1.08073

Source: Author's own calculations.

Exploratory Factor Analysis (EFA)

As for Kaiser-Meyer-Olkin (KMO), its value is higher than 0.60 (i.e., 0.968). On the other hand, the p-value of Bartlett's test is significant. Hereby, the data is appropriate for the analysis. Also, EFA was performed, where the extraction method was a maximum likelihood, and the rotation type was direct oblimin. This results in four factors with eigenvalues that are higher than 1. Furthermore, these factors explain about 48.866%, 8.103%, 4.969%, and 3.659 of the variances, where they explain 65.598% of the cumulative variance (which is acceptable). Additionally, factors extraction and rotation were conducted with an absolute value of 0.5. Based on the rotation and extraction, each of T5, S1, S2, and S3 were removed. As for the rest of the items, each item loads on its factor strongly (with a value above 0.5). Finally, Cronbach's alpha for each factor is higher than the cut-off value (i.e., 0.8) (Lance et al., 2006). Therefore, internal consistency is good for all factors.

Confirmatory factor analysis (CFA)

In this stage, to improve the goodness of fit indices of the model, a modification indices approach was used. About 9 modifications were made to improve the model's goodness of fit. The indices of the goodness of fit are illustrated in table 5.

Table 5. The goodness of fit indices – First order confirmatory factor Analysis

Indices	Statistics	Interpretation
<i>Chi-square/p-value</i>	2567.394/ P-value= 0.000	
<i>DF</i>	1112.000	
<i>CMIN/DF</i>	2.309	Excellent
<i>RMSEA</i>	0.058	Excellent
<i>CFI</i>	0.916	Acceptable
<i>SRMR</i>	0.042	Excellent

Note: where RMSEA should be less than 0.06, CFI > 0.95, CMIN/DF should be between 1 and 3, SRMR ≤ 0.08 (Hu & Bentler, 1999). Source: Author's own calculations.

As a result, the first-order CFA has good indices of the goodness of fit. It means that the data is well-fitting to the model. Also, first-order CFA and its modifications can be depicted as shown in figure 2. Additionally, the constructs validity of this model should be checked. This can be performed using convergent and discriminant validity, as reported in table 6.

Table 6. Model validity statistics – First order CFA

Factors	CR	AVE	MSV	MaxR(H)	Attitude	Knowledge	Awareness	Skills
Attitude	0.960	0.670	0.575	0.966	0.818			
Knowledge	0.934	0.563	0.498	0.936	0.705***	0.750		
Awareness	0.968	0.631	0.526	0.971	0.666***	0.584***	0.794	
Skills	0.936	0.649	0.575	0.940	0.759***	0.631***	0.725***	0.806

Note: there is no validity concerns. Significance of correlations: * $P < 0.05$, ** $P < 0.010$, *** $P < 0.001$. (Hu & Bentler, 1999).

Source: Author's own calculations.

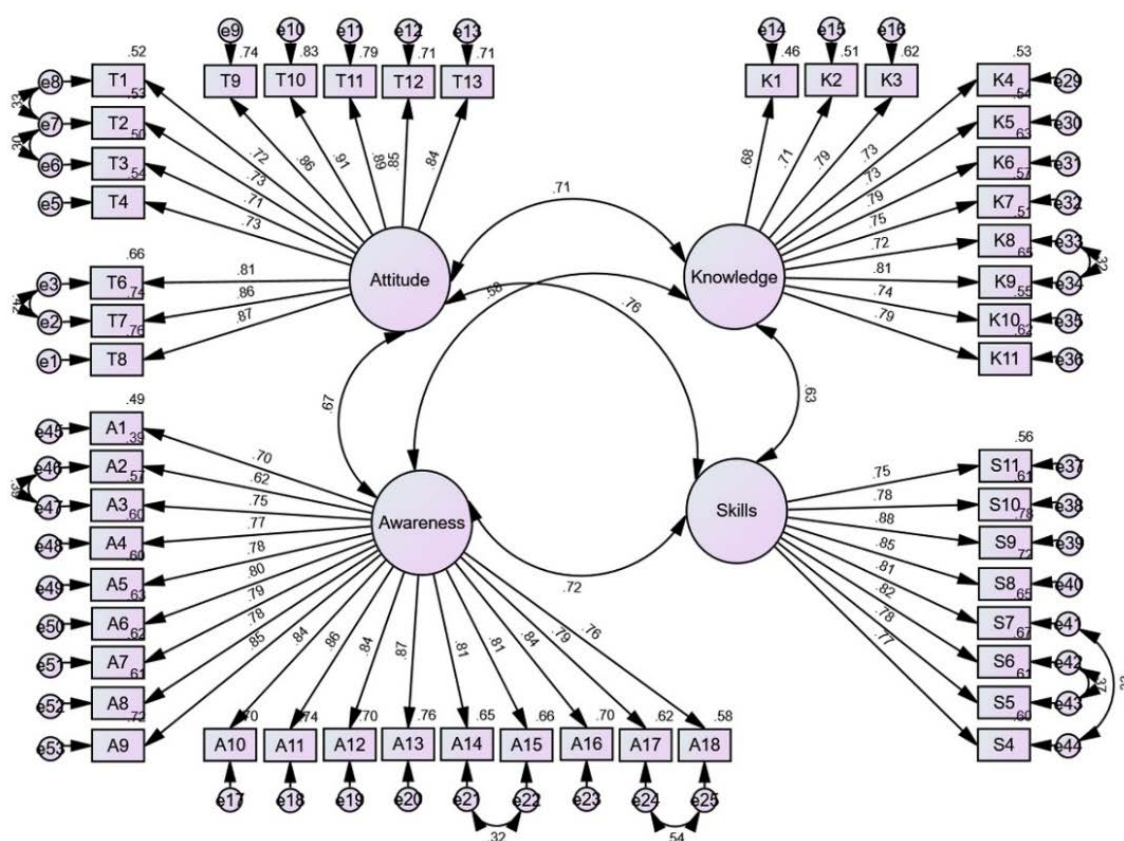


Figure 2. First-order CFA model and its standardized estimates.

Source: Author's own calculations.

Table 6 highlights the statistics for each convergent and discriminant validity. As for convergent validity, the AVE value of each factor is higher than the cut-off value of 0.5. Therefore, this indicates a good convergent validity, where each item converges to the estimation of its construct. On the other hand, CR values are greater than 0.7. Hereby, the scale has good reliability. In addition, the model has acceptable discriminant validity, where MSV values are lower than AVE. As a result, the model has good construct validity. In other words, the results prove that the model has adequate validity in measuring the intercultural competence of international students at the University of Debrecen.

Structural Equation Model- KAS+A

After ensuring that first-order CFA is valid and reliable, the next step is to build SEM. SEM is usually depicted by restructuring the factors of first-order CFA. Model's re-structuring should be conducted according to the theory. Based on Fantini (2000), the growth of knowledge, attitude, and skills of people have a beneficial effect on their awareness. Furthermore, increased awareness aids in the improvement of these variables. As a result, awareness is regarded an endogenous variable in this instance, while knowledge, attitude, and skills are exogenous factors (look at figure 3).

Direct Effects

The direct effects of these variables are reported in table 7. Based on the findings, students' skills positively influence their awareness. This effect is highly significant (at a significance level of 0.001). The next significant effect on the awareness of students is held by their attitude with a beta value of 0.204. Also, the effect of attitude is positive and significant, at a significance level of 0.05. The third variable, knowledge, also has a positive effect on the awareness of the University of Debrecen's foreign students, at a significance level of 0.05. When comparing the significance levels of these factors, knowledge has the least significant impact on awareness. On the other hand, the skills variable has the highest significant effect on awareness.

Table 7. Standardized direct effects – SEM

Exogenous variables	Endogenous variable	Std Beta
<i>Attitude</i>	<i>Awareness</i>	0.204**
<i>Knowledge</i>	<i>Awareness</i>	0.133*
<i>Skills</i>	<i>Awareness</i>	0.487***

Note: where * $p < 0.050$, ** $p < 0.010$, and *** $p < 0.001$ Source: Author's own calculations.

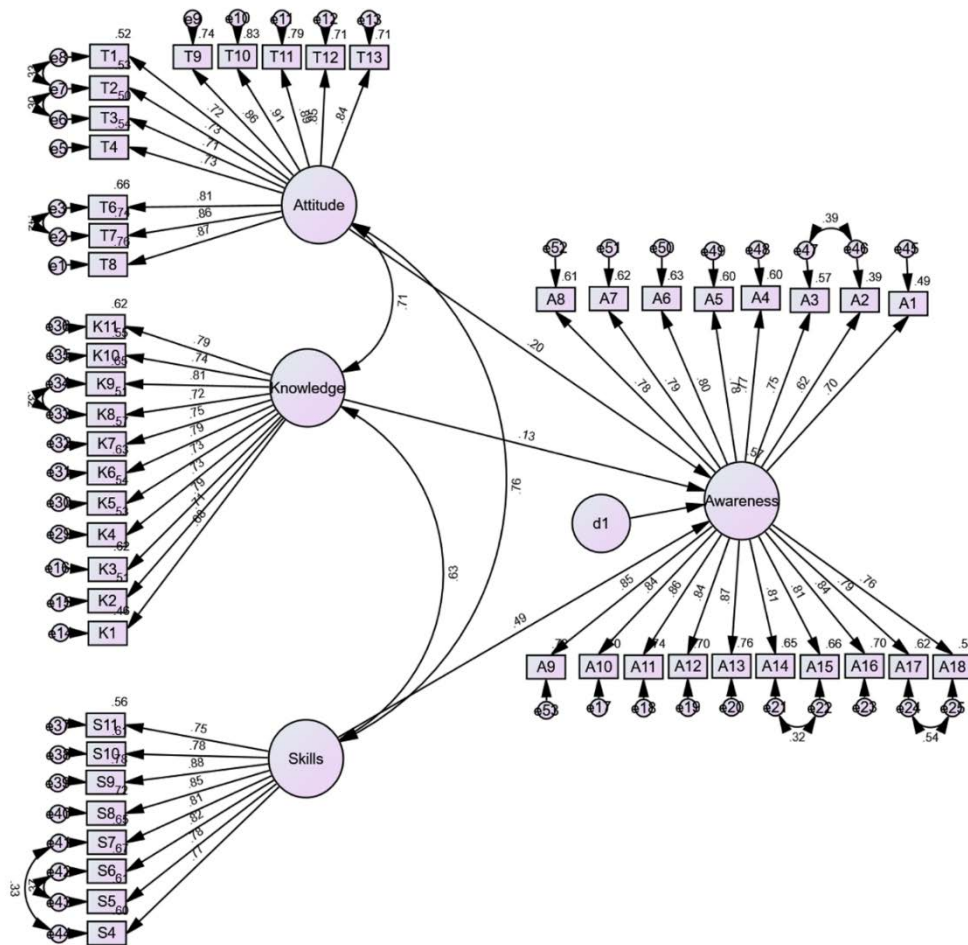


Figure 3. SEM – Fantini's theory.

Source: Author's own calculation.

Indirect Effects

Based on the theory, awareness plays an essential role in enhancing the development of the rest of the variables in the model. The indirect effect of awareness can be found by estimating the average of the effects of the observed variables of awareness (as shown in table 8). Based on beta values, awareness has an indirect and significant effect on knowledge

by 0.105, where every one-unit change in awareness enhances student's knowledge by 0.105. Furthermore, intercultural awareness of foreign students has very high significant impact on their skills (where p-value is less than 0.001 significance level). On the other hand, awareness has positive but insignificant influence on their attitude. Therefore, based on tables 7 and 8, the results are consistent with the theory of Fantini.

Table 8. Indirect effects - SEM

Endogenous variable	Exogenous variables	β
<i>Awareness</i>	<i>Knowledge</i>	0.105*
<i>Awareness</i>	<i>Attitude</i>	0.151
<i>Awareness</i>	<i>Skills</i>	0.385***

Source: Author's own calculation.

In other words, the knowledge, skills, and attitude of foreign students enhance their awareness. Also, their awareness promotes the development of their knowledge, attitude, and skills.

Open-ended questions and students' feedback

At the end of the survey, the last question was formulated to offer space for the respondents in order to express their concerns and opinions about their intercultural experience as well as university programs and events. According to the statistics, about 29.41% of the respondents illustrate that the Hungarian language is difficult to learn. Therefore, according to their perspective, the language barrier hinders the process of communication and adaptation. Also, the participants justify the lack of interaction due to the existence of cultural barriers (17.65%) and the absence of the interactive approach within-host culture (17.65% too). On the other hand, the rest of the respondents, with equal proportions of 5.88%, highlight several issues such as the necessity of empathy factor, linguistic and cultural obstacles, lack of contact, and racism. Finally, awareness can be enhanced and developed by previous experiences as well as interaction, which are missing based on the opinion of the respondents.

4. CONCLUSION AND RECOMMENDATIONS

The research mainly discussed the internationalization process of the Hungarian higher education industry from different perspectives. As generally known, each of the Stipendium Hungaricum, Erasmus+, and Campus Mundi programs plays an important role in increasing the number of foreign students in Hungary and enhancing the internationalization of Hungarian higher education. However, the major barrier to this initiative succeeding is that the Hungarian higher education institutions have not made effective use of the interactive approach. As mentioned earlier, the college has an impact on the development of cognitive skills and performance of its students, where there are three interrelated components, including students' output, inputs, and the college environment. As for the college environment and students' output, Hungarian universities should take into account the development of their students' intercultural knowledge, skills, attitude, and awareness. However, by looking at student attitudes during their stay in the host culture, there are different issues that should be handled, such as linguistic barriers, cultural barriers, and the lack of integration between foreign and local students. On the other hand, as for domestic students, Hungarian literature argues that this could happen due to language anxiety and the introverted personality of local students, which may hinder intercultural communication between the two groups. Based on these observations, the research has built a scientific investigation based on four interrelated elements: *language proficiency, quality education, especially on the education of the English language, social tolerance toward cultural differences, and intercultural competence.*

Since intercultural competence is mainly used at the microeconomic level, the research was divided into two interrelated parts. The first part addresses the topic of languages, education, and tolerance on the macroeconomic level. On the other hand, the second part deals with this on the microeconomic level. Therefore, the research began with a global evaluation and analysis (e.g., 99 non-English-speaking economies) and progressed to particular viewpoints (e.g., Hungary's economy and the University of Debrecen's foreign students experience).

On the macroeconomic level, globalization, and internationalization trends, in general, present a number of problems that must be controlled and addressed by economies and their institutions. Currently, trends in internationalization have many forms, including migration and diversity, the reaffirmation of various entities and associated languages, and the creation

of new economic regions such as the EU. As a result, the world's landscapes have been dramatically altered. As a result, solid and adaptable policies and regulations are required to adapt to and deal with these problems effectively and efficiently.

As a result, policies aimed at achieving a high level of educational quality should be prioritized. This is supported by the importance of education in achieving the other previously stated sustainable development goals. Achieving a high English proficiency score increases openness and social tolerance toward other cultures. Consequently, to meet the challenges posed by internationalization and globalization, economies should implement policies and rules aimed at improving quality education, language proficiency, and societal tolerance for diversity. Therefore, the research aimed to prove the economic value of these three elements through the augmentation of Solow's economic growth theory (Nobel Prize winner, 1987). Following the approach of Mankiw et al. (1992), the research added each of human capital, English language proficiency, secondary and primary quality education, and social tolerance to the economic growth equation. Using time-series-cross-section analysis, it was found out that these variables have a positive effect, with different significance levels, on the economic growth of these economies in the period between 2009 to 2017.

As for quality education and the economy's English proficiency, both are related to human capital. For instance, English proficiency is considered an essential human capital asset in the labour market. Furthermore, it is important for knowledge spread and technological progress. This justifies why research considers it as the main determinant of the economic growth equation. On the other hand, quality education helps to enhance human capital and labor skills in the economy. In other words, it aids in increasing productivity, along with education quantity. For example, regarding Eastern Europe, quality education has improved over the past decade and has seen an increase in the number of years of secondary education per worker and the number of children who take part in school learning. As for human capital, the quantitative element of education, as measured by years of schooling and returns to education, has a greater impact on the economy than the qualitative aspect. However, education has two components: quantitative and qualitative. These two elements should be taken into account in the development of the economic strategy.

Regarding social tolerance and English proficiency, they are also associated with human capital and its role in enhancing productivity. In other words, as proved by literature,

productivity is boosted by knowledge, which is brought by skilled migrants, as well as other categories. This also justifies the inclusion of social tolerance in Solow's equation. Therefore, having a high level of social tolerance toward differences could achieve a high degree of harmony within society. Furthermore, this promotes economic performance, as proved in the results. On the other hand, to decrease the cost of transaction among different economies as well as individuals, the economy should enhance the proficiency of common language through raising the quality of education, since speaking a foreign language is also considered another form of toleration toward cultural differences. Consequently, achieving this could increase the level of creativity and innovation in the economy, since heterogeneous societies result in different ideas and consumption preferences which should be satisfied by competing firms. Therefore, new products and services will be invented in order to match the heterogeneous needs of society.

At the microeconomic level, Hungary was the main case study of this research, among other economies listed in the panel data. According to the literature, Hungary's English language education has faced gradual development. However, different challenges existed. Based on that, the research argues that these trends and changes could negatively influence the level of integration of foreign students into the host economy. In other words, the lack of interactive approach held by Hungarian universities, except the University of Szeged, may negatively affect the cognitive skills of foreign students, including their intercultural knowledge of the host economy, their skills, their attitude toward the host culture, and their awareness development and experience during their stay in Hungary. This also has a negative influence on the intercultural competence of Hungarian students. Therefore, Hungarian universities should consider these aspects in a serious way, since globalization results in the establishment of multinational firms where workplaces become more culturally diverse than before. Hereby, to satisfy the needs of the labor market, it is necessary to raise the intercultural competence level of students in the Hungarian higher education system. In return, this procedure also enhances the level of creativity within the university (Bultseva & Lebedeva, 2021) and minimizes the level of anxiety among students (Cao & Meng, 2020).

As mentioned earlier, the University of Debrecen's foreign students were the target population of this study. As generally known, this university is considered the largest educational institution on the level of Hungary. In addition, it has the biggest quota of

foreign students compared to other universities. According to the results, the Fantini model, which is considered a western model, was validated in estimating the intercultural competence of foreign students at the University of Debrecen in Central Europe. This means that the model is a multi-dimensional instrument including four dimensions. Furthermore, the findings proved the validity of the theory in which each of knowledge, skills, and attitude play an important role in enhancing the development of students' awareness and vice versa. According to the significance level for each variable, it was found out that the intercultural knowledge of foreign students has the least impact on their awareness, followed by their attitude. This can be justified due to the lack of training courses which aim to enhance their knowledge about the culture of the host country, as well as the introverted attitude shown by the local people. However, their skills have the highest effect on their awareness. Additionally, the feedback provided by foreign students matches the findings of the Hungarian literature, where the majority of foreign students emphasize the necessity of integration among two groups, joint courses, events, and language acquisition. Therefore, to enhance the effectiveness of the internationalization of the Hungarian universities, intercultural competence, as student output, should be taken into account. This can be achieved by adopting an effective, integrative, and interactive approach. This could have a beneficial effect on the microeconomic and macroeconomic levels.

Recommendations

On the macroeconomic level, firstly, decision-makers should develop language education policies that are compatible with the country's economic strategy aimed at increasing openness and international commerce. In addition, governments should invest in enhancing the quality of education, since it is necessary for the achievement of other development goals. In addition, enhancing the EPI of the economy can be achieved by formulating rules and procedures which focus on the bilingual education system and internationalization of higher education in a way that does not harm the existence of the mother language. Secondly, governments should enhance the social tolerance of their societies through developing policies that protect the rights of minorities, and foreigners in the economy. Furthermore, decision-makers should create specific educational policies which aim at increasing the proficiency of the English language, as another form of tolerance toward the integration of different cultures in the economy. Additionally, government policies should

promote cultural recognition and see it as a fundamental human right. Furthermore, establishing cultural justice may lead to economic, social, and political fairness. As a result, cultural recognition and economic-political equality should be addressed in tandem. Furthermore, anti-discrimination laws should be included in education and other government initiatives, particularly in developing countries.

On the microeconomic level, firstly, in order to enhance Hungary's EPI, it is essential and important to build international schools and kindergartens. This type of investment could internationalize the economy of the country and make it more competitive since Hungary's location represents a linking point between the west and east. Secondly, to solve Hungarians' language anxiety problem, decision-makers should develop a new policy which aims to decrease the number of students in the class to 10. This can empower the speaking and listening skills of the students and minimize their language anxiety. Hereby, it can change the introverted personality of Hungarians and increase their intercultural competence level. Additionally, attracting English native speakers through affording high salaries also helps to raise Hungary's EPI. Thirdly, introducing bilingual education systems to Hungary's economy also enhances EPI as well as quality education. In addition, it meets the economic strategy of the country by raising the level of openness and foreign direct investment. Fourthly, on the other hand, the University of Debrecen should afford several training programs and activities which aim to promote the level of intercultural competence of foreign students as well as domestic students. These programs could enhance their knowledge about the culture of the country, its language, and traditions, improve their attitude as well as skills, which are necessary for the development of their intercultural awareness. Fifthly, the university's decision-makers should formulate effective policies and rules which adopt an interactive approach, including joint courses, events, and programs that aims to decrease the level of anxiety among foreign and domestic students and raise their intercultural competencies, which is necessary for the labor market.

5. MAIN CONCLUSIONS AND NOVEL FINDINGS OF THE DISSERTATION

The main conclusions and novel findings are summarized as the following:

1. According to the literature, there isn't enough proof to support the claim that the English language has economic value. Therefore, the study used different ways to prove the soundness of this hypothesis. For instance, the research successfully augmented Solow's equation model by including English language proficiency, quality education, and government consumption. Based on the results, **each of English language proficiency and quality education plays important role in enhancing economic growth in the non-English speaking economies.**
2. In addition, the study successfully augmented the model of Solow by including social tolerance and English language proficiency. This variable reflects the toleration of people to different cultural categories, including religions, gender, LGBTs, nationalities, migrants, minorities, etc. Literature usually concentrates on cultural diversity's effect on the economy. However, this research argues that social tolerance should be considered the main economic predictor instead of cultural diversity since tolerance is useful in managing diversity and avoiding its related costs. In addition, the research has proved that social tolerance can be regarded as the main predictor of economic growth since it helps to attract skilled people and knowledge. Hereby, it can be an important component of the total factor productivity. **As a result, the existence of English language proficiency and social tolerance within the economy plays important role in increasing the economic growth (literature gap).**
3. On the microeconomic level, Hungarian literature on the assessment of foreign student's intercultural competence in Hungarian higher education is still insufficient. Hereby, **this study contributes to this literature gap using western intercultural competence tools in the central European context since this model is validated in new environment.**
4. Furthermore, **using SEM, the findings indicate that each of foreign students' intercultural knowledge and attitude has least significant impact on their intercultural awareness about Hungarian language and culture.** Therefore,

intercultural knowledge and attitude of foreign students should be enhanced through arranging joint events, standard classes for foreign and domestic students, and training programs.

5. On the other hand, the research proved the theory of Fantini (2001) in which the **enhanced intercultural awareness of foreign students help to increase the development of their intercultural knowledge, skills and attitude toward Hungarian culture.**
6. Based on the findings, the research provides useful information which can help to guide decision-makers and managers to formulate policies and rules in order to reach effective economic performance. For instance, on the macroeconomic level, findings and information could get the attention of interested decision-makers regarding the importance of languages, social tolerance, and quality education, especially for developing economies. **On the microeconomic level, survey feedback could help university managers and decision-makers to develop effective roles and programs which ensure the interactive approach within the university's campus.** Also, these ideas can be generalized to be used in other institutions in order to enhance the effectiveness of higher education internationalization.

Table 9. Hypotheses and their interpretation

Items	Hypothesis statement	Interpretation
H₁	<i>English language proficiency is positively related to the economic growth in non-English speaking economies.</i>	Accepted (insignificant effect)
H₂	<i>Social tolerance and English language proficiency have a positive effect on the economic growth in non-English speaking economies</i>	Accepted
H₃	<i>Quality education and English language proficiency have a positive effect on the economic growth in non-English speaking economies</i>	Accepted

Items	Hypothesis statement	Interpretation
H₄	H4.a: <i>Students per continent do not have the same levels of intercultural knowledge, skills, attitude, and awareness.</i>	Partially Accepted
	H4.b: <i>Students, for each educational level, are not equal in terms of their intercultural knowledge, skills, attitude, and awareness.</i>	Rejected
	H4.c: <i>Students do not share the same intercultural knowledge, attitude, skills, awareness regardless of their different periods spent in Hungary.</i>	Rejected
	H4.d: <i>Males and Females are not equal in terms of their intercultural knowledge, attitude, skills, and awareness.</i>	Rejected
	H4.e: <i>the two groups (based on their intention to learn the Hungarian language) are not the same in terms of their intercultural knowledge, attitude, skills, and awareness.</i>	Partially Rejected
	H4.f: <i>the two groups (whether they faced linguistic difficulty to deal with locals or not) are not the same in terms of their intercultural knowledge, attitude, skills, and awareness.</i>	Rejected
H₅	<i>intercultural knowledge of foreign students has a positive effect on their intercultural awareness</i>	Accepted
H₆	<i>intercultural attitude of foreign students has a positive effect on their intercultural awareness</i>	Accepted
H₇	<i>intercultural skills of foreign students have a positive effect on their intercultural awareness</i>	Accepted

H₈	<i>intercultural awareness of foreign students has a positive effect on their intercultural knowledge, skills and attitude</i>	Accepted
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Source: Author's own compilation.

6. SUMMARY

The main issue the research aims to handle and investigate is related to the effectiveness of the internationalization status of the Hungarian higher education system. This was discussed and investigated by examining different related aspects. For instance, the intercultural competence of foreign students is partly neglected by Hungarian higher education institutions. Based on the Hungarian literature, it was found out that Hungarian universities' internationalization process does not consider the interactive approach which aims to mix foreign with domestic students. Some authors justified this issue due to the language anxiety of domestic students. Others argue that the introverted personality of domestic students is the reason behind the lack of integration between the two groups. On the other hand, some academics recommend that it is necessary to arrange joint classes, events, and workshops that aim to mix two groups and enhance their intercultural competence. Achieving this objective has economic returns on universities since it enhances the level of students' creativity and reduces their anxiety. Also, it has economic returns on the labor market, since multinational companies' managers are usually looking for individuals with specific features such as a high level of tolerance toward cultural differences, and the ability to adapt to multicultural teams. Based on that, the research has built its scientific debate based on four different factors, including English language, social tolerance, and quality education (*on the macroeconomic level*) as well as intercultural competence (*on the microeconomic level*). Therefore, the research was structured like the following. *The first chapter* includes an introduction as well as related topics and objectives. *As for the second chapter*, the research discussed the literature review in a gradual way starting from a general overview of the sustainable development goals and their importance to the presentation of each factor and its connection with the English language proficiency of the economy. For example, the research addressed the economic importance of quality education, followed by cultural diversity's economic benefits and costs, economic and social value of language in general and English language in particular. The second part of the research presents previous scientific works on the connection between toleration and intercultural competence, IC's effect on the higher education industry, foreign students' experience in higher education in general, and Hungarian higher education in particular. Finally, the study ended the discussion by presenting several models which can be used in the higher education industry,

their definition, and dimensions, as well as a detailed discussion about Fantini's model, which was successfully validated to examine the IC of foreign students at the University of Debrecen. *The third chapter* describes the materials and methods which were used to prove the soundness of the study's hypotheses proposed in this research. The order of this section was structured according to the topics presented in the literature review chapter as well as hypotheses and objectives. Hereby, the first part of the research described in detail the development and augmentation of Solow's equation. Based on this, two specified equations were developed and used to examine the relationship between English, quality education, social tolerance, and economic growth. The method used in this study was the GMM estimate technique. The type of the data was time-series cross-section data. The second part of the research used descriptive statistics, EFA, and CFA to determine the survey's effective items and their factors and to validate the model for estimation. Also, the study used SEM to highlight the relationship between foreign students' awareness and each of their knowledge, skills, and attitude toward the host culture. In addition, the study used different questions to highlight the intercultural experience of foreign students during their stay in Hungary. *The fourth chapter* described and discussed the results according to their order explained in the material and methods chapter. This chapter included different figures, diagrams, statistics, and tables along with supportive evidence proved by previous scientific works. *The fifth chapter* concluded the results and discussion by highlighting how the current knowledge was advanced. Besides this, it provides a scientific justification behind this research and its importance at the macro and microeconomic levels. Furthermore, recommendations and policy implications were discussed and detailed. Finally, this chapter also identifies research limitations and gives various ideas for future studies. *The sixth chapter* ends the research by providing the most important main research conclusions along with novel findings and ideas which were proved during the statistical analysis.

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List of publications related to the dissertation

Articles, studies (5)

1. **Alhendi, O.:** Cultural Diversity, Intercultural Competence, Tolerance, and the Economy: A Review. *International Journal of Engineering and Management Sciences*. 6 (2), 98-109, 2021. EISSN: 2498-700X.
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2. **Alhendi, O.,** Dávid, L., Fodor, G., Gogo, F. C. A., Balogh, P.: The impact of language and quality education on regional and economic development: a study of 99 countries. *Regional Statistics*. 11 (1), 1-16, 2021. ISSN: 2063-9538.
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3. **Alhendi, O.,** Tóth, J., Lengyel, P., Balogh, P.: Tolerance, Cultural Diversity and Economic Growth: Evidence from Dynamic Panel Data Analysis. *Economies*. 9 (1), 1-17, 2021. EISSN: 2227-7099.
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4. **Alhendi, O.:** Language policy and economics: Does English language accelerate the wheel of development in the economies or not?: A review. *Annals of the University of Oradea: Economic Science*. 28 (2), 366-379, 2019. ISSN: 1222-569X.
5. **Alhendi, O.:** The impact of the quality of education in English on Hungary's economy. *Cross-Cultural Management Journal*. 21 (1), 35-43, 2019. EISSN: 2286-0452.





List of other publications

Articles, studies (1)

6. **Alhendi, O.:** Personality traits and their validity in predicting job performance at recruitment: a review.

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