Understanding the Effects of the Foreign Language Certificate Requirement for Entry into Hungarian Universities

The purpose of this essay is to review the impact of a recent proposal by the Hungarian government, that would require all students applying to Hungarian universities to earn a certificate evidencing minimum intermediate proficiency in a foreign language, to be eligible to apply.

Introduction

Hungary is a Central European country, located in the Pannonian Basin (Haas, 2012). The Hungarian language, unlike its neighbours who all belong to various branches of the Indo-European language tree, originates from the Uralic Region and is a member of the Finno-Ugric language tree (Honti, 1979). An estimated 14-15 million people speak Hungarian world-wide (Fenyvesi, 2005). As a predominantly mono-lingual country, the vast majority of Hungarians speak Hungarian as their first language (98%) (Medgyes, & Nikolov, 2014). There are numerous features of the Hungarian language that distinguish it from prominent Indo-European languages (English, German, French, Polish, Swedish, etc.) for instance the presence of vowel harmony which is common in many Asian languages, such as Korean, Mongolian and Samoyedic (Fenyvesi, 2005).

Historically, Hungarian Governments have placed importance on investments in the public advancement of foreign languages. In the 19th century, the Austro-Hungarian empire (1867-1918) placed the German language as the major foreign language to learn as it became to official language of the empire. Later during the communist era (1949 -1989), as part of the Soviet Union the Russian language became prominent and was mandatory to study in Hungarian primary and secondary schools (Medgyes & Miklósy, 2000). The collapse of the centrally planned Socialist Regime in Eastern Europe (1989-91) led to an array of socio-economic developments, such as the end of the Soviet occupation in Hungary and the commencement of the privatisation of previously state-owned operations. The fall of the Iron Curtain in Germany allowed the opening of borders with Western Europe and an influx of foreign, 'western' media became increasingly popular in the region (Csizér & Lukács, 2010). The increased tourism to and from Hungary and the expansion in economic relationships outside of the Eastern Block led to the growing demand for English and German language skills by employers, which was further accelerated by the country joining the European Union in 2004 (Dörnyei, et al., 2006). Today, Hungarian students are required to study minimum one foreign language as a part of their primary school and secondary education, with numerous students studying second or third foreign languages (Medgyes & Nikolov, 2014).

Foreign Language Certificate Requirement for Universities

Recently, the Hungarian government has proposed a new, nationwide requirement for students applying to universities, whereby all secondary students must obtain a certificate evidencing intermediate proficiency in a foreign language (any language other than Hungarian), to be eligible to apply to Hungarian universities. The proposal excludes foreign students applying to Hungarian universities. There are a few ways for students to obtain such a Foreign Language Certificate, however, by far the most common method is to complete an 'Advanced Level' Foreign Language exam as a part of the Secondary Education Leaving Exams (SELE), which I will use as the basis of my analysis and will discuss in detail further on in the paper.

While the Government has not specified the motivation behind the new requirement, one reason could be to further incentivise young students (and their parents) to invest in their foreign language skills at younger ages. After all, it is a well-documented phenomenon that younger children learn languages more easily than older ones (Bleakley & Chin, 2004). Improving the Hungarian population's foreign language skills could lead to numerous longer-

term benefits, such as the increase of foreign direct investments and large foreign multinationals expanding in the country. An estimated 20% of the Hungarian private sector workers are employed foreign multinationals (Dobrai, et al. 2011). The presence of such international companies in Hungary are a significant contributor to the modernisation of the country, as they provide important foundations for learning and cross-border knowledge transfer (Dobrai, et al. 2012).

Data collated by Eurostat on European self-reported foreign language skills shows that as of 2016, 42% of Hungarians have reported to know one or more foreign languages, which is well behind the EU average of 64% (Eurostat, 2016). In 2017 the European Commission found that Hungary had the lowest proportion of population who reported to speak a second language within the EU (Balogh, 2017). The unique grammatical structure of the Hungarian language is often referenced as the root cause of the populations' lag in foreign language skills compared to the rest of Europe. However, the 2016 Eurostat data suggests that 92% of Finn's speak at least one foreign language other than Finnish, another Finno-Ugric language. Therefore, grammar may be one element of the overall issue, but should not be seen as a key determinant of the problem. According to a 2015 OECD report on European Education Policies, Hungary's investment in educational institutions and expenditures per student is one of the lowest among OECD countries (OECD, 2015).

The new requirement would establish, that all students entering tertiary education would be able to proficiently speak at least one foreign language, by excluding all students who couldn't pass the language test. This essay will find that this requirement would disproportionately disadvantage students from rural communities and more impoverished Hungarian Districts.

Research Question

This paper analyses the foreign language proficiency levels of Hungarian final year secondary students based on Secondary Education Leaving Exam (SELE) results, to discover inequalities in foreign language skills between the various Districts of Hungary. The goal is to observe a potential pattern in the distribution of foreign language skills, and therefore determine whether the new governmental proposal would disproportionally negatively impact students from certain Hungarian Districts. For example, students from Eastern-Hungarian districts may have poorer foreign language skills and therefore be disadvantaged when applying to universities compared to those on the Western side, regardless of the degrees they are applying to.

Methodology

1. Secondary school data

To understand the potential effect of the new regulation proposal, a foreign language proficiency level indicator is required. To calculate such indicator, the publicly available SELE scores were used. In Hungary, every final year secondary student is required to take 5 exams in multiple subjects to finish their secondary level studies. These subjects are the following:
   1. Hungarian Language and Grammar
   2. History
   3. Mathematics
   4. One chosen Foreign Language
   5. Additional optional subject selectable from a large variety

All these exams above have two difficulty variations: intermediate and advanced level option. The result of these exams will be directly used as entry scores to universities. Therefore, every final year secondary student who wishes to continue their studies at a university level is required to take a foreign language SELE. This test justifies a good measurement of the level of foreign language proficiency among young people finishing secondary school.

Information regarding secondary schools' location, number of pupils, final exam results etc. are available on the website of the Hungarian Education Ministry (oktatas.hu). To collect the information for my analysis, a web scraper was written, and addresses were geocoded by Google's geocoding API. The dataset was then cleaned to remove inconsistencies due to duplications, typos and unrealistic outliers. The final dataset includes every 59,155 foreign language exams taken on the spring of 2020 across 1,100 educational institutions.

2. Foreign Language Proficiency Score (FLPS) calculation

To create a unified language proficiency score, the intermediate and advanced level tests scores need to be converted to the same scale. The conversion method used was based on the official higher education entry score system's calculations. Every advanced level SELE above 45% is awarded with 50 additional points. *For example: where a high school's advanced English language average reached 30% no transformation will occur, but if the average is 65% an additional 50 point will be added to the score, which gives 115.* Note that the maximum points available for the intermediate exam is 100 and for the advanced exam is 150 (UCAS, 2017). Given that we obtained the Hungarian SELE information, the formula for creating a specific Foreign Language Proficiency Score of a spatial unit will be the following:

$$ F \; = \; \frac{\sum_i(\sum_j n_{mij} * \mu_{mij} + \sum_j n_{aij} * \mu_{waij})}{\sum_i \sum_j n_{mij} + n_{aij}} \qquad \mu_{wa} = \begin{cases} \mu_a \; + \; 50, & \mu_a \geq 45 \\ \mu_a, & \mu_a < 45 \end{cases} $$

n_{mij}: *Number of students took the intermediate language SELE*
n_{aij}: *Number of students took the advance language SELE*
μ_{mij}: *Average score of intermediate language SELE*
μ_{waij}: *Average weighted (w) score of advance language SELE*
μ_a: *Average score of advance language SELE*
j: Number of schools in spatial area (i)
i: Number of spatial areas (districts)

Important to note that according to the current Hungarian SELE regulations, obtaining a foreign language SELE with 60 or higher points would automatically be awarded with the Language Certificate. Following our FLSP formula that would a mean the score of 110 is the equivalent of that performance.

3. Study area: Hungary LAU 1

In the analysis, the lowest level of territorial and organisational units of the public administration is used defined by the Hungarian government. There are 168 districts. The shape file was provided by GDAM. 10 districts don't currently have an operating high school and as such these spatial units will be not used in the calculation as FLPS cannot be assigned to them.
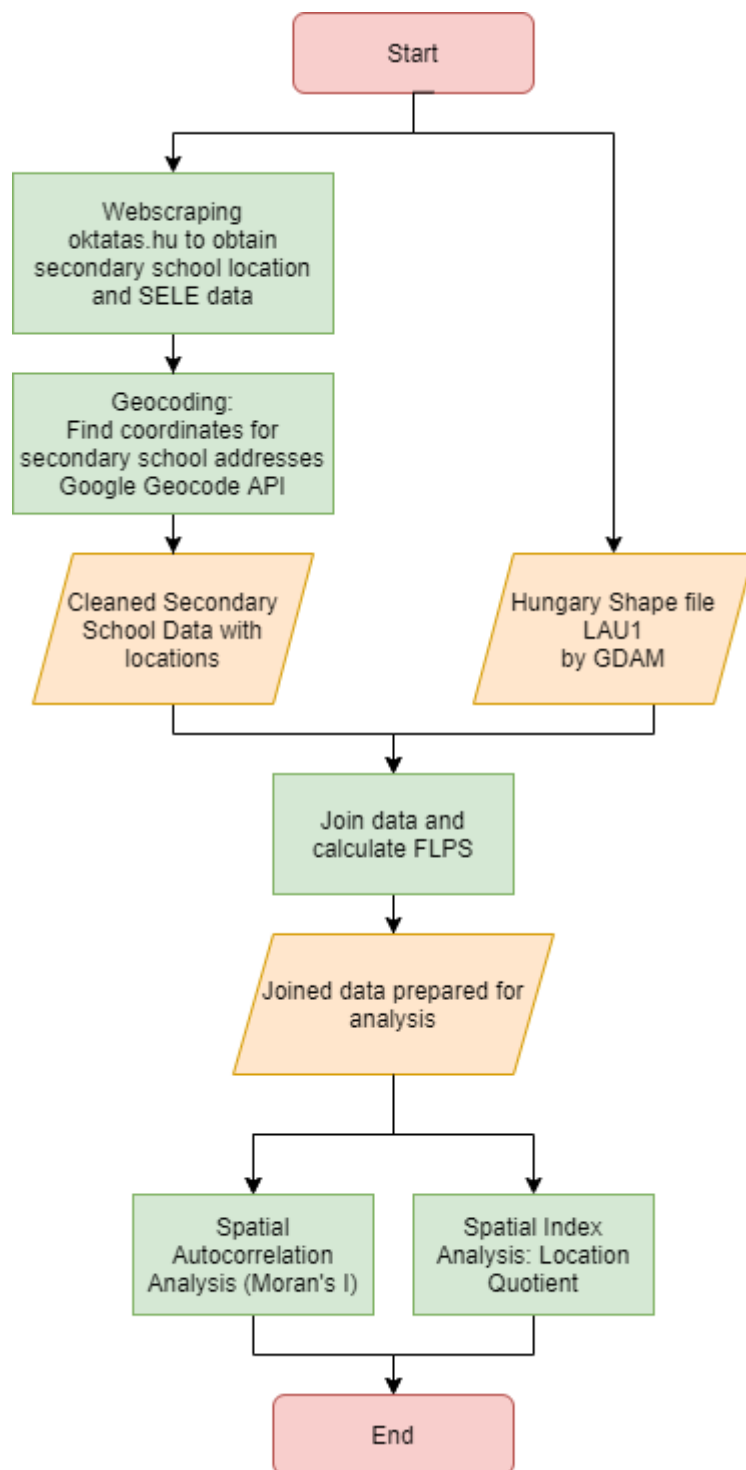
4. Flowchart

Figure 1: Data Analysis process flowchart

Results, Descriptive Statistics and Further Analysis

Following the appropriate data transformations and mergers, we can observe how the FLPS distribute across the country. The range of the scores is 0 to 150, with 150 points meaning every student studying in the areas achieved 100% advance level foreign language SELE. As Figure 2 shows, there weren't any districts averaging above 110 points, which signals the difficulty of the exam, although it is also important to note that not every student taking the exam wants to continue their education at the university level. We can observe the clear pattern of the higher average areas are occurring in the Western, North-Western region of the country. Furthermore, we can find relatively highly scored district "islands" around the larger cities' locations.
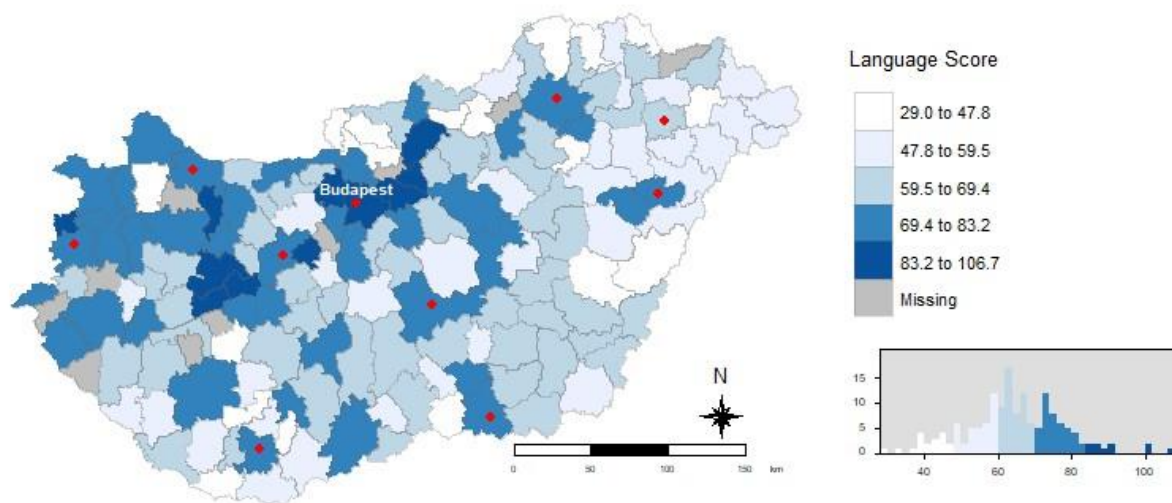

Figure 2: Foreign Language Score based on Secondary School Leaving Exam results in Hungary. Red dots indicate the 10 most populated cities in Hungary

Moran's I Global

By observing the map above, some level of clustering of high and low language scores can be noticed. To test whether spatial autocorrelation occurs, a Global Moran's I test was conducted. The Moran's I Index is 0.2 and the small p-value indicates that closer, neighbouring spatial features tend to have similar language proficiency scores. There are high-level and low-level subregion clusters in the country.

GLOBAL MORAN'S I	
Moran I statistic	0.206
p-value	5.569e-06
Moran I statistic standard deviate	4.394
Expectation	-0.006
Variance	0.002

Table 1: Result of the Global Moran's I Test of the Language Score attribute

Location Quotient

The following analysis is performed to measure and highlight the relative concentration of the FLPS of an area compared to the national average (73.7 points). This way we gain a better understanding where the underdeveloped areas are based on students' foreign language skills. This analysis also reveals where the secondary school language education would need to be improved to reach the average national level. Even though the average is only 73.7, which is far from the level of capability of gain a Foreign Language Certificate, there is a substantial divide in levels of language proficiency across the country. Certain areas perform only half of the average and some above 50-65% of the national average.
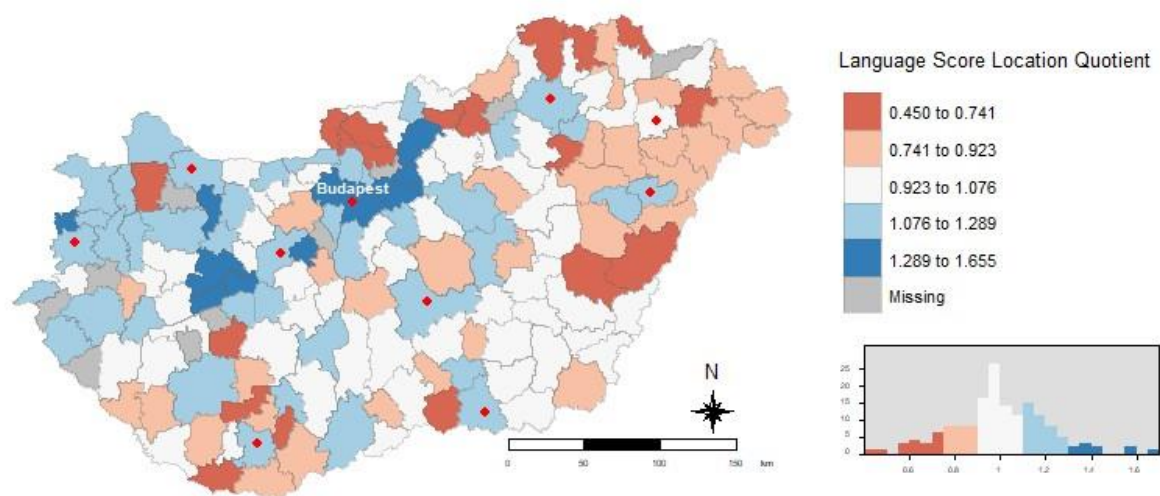

Figure 3: Location Quotient of the Foreign Language Scores in Hungary. Red dots indicate the 10 most populated cities in Hungary

Discussion

The analyses performed above on mapping the FLPS indicates there is heterogenicity in the Hungarian students' languages capabilities. Regional variations in exam results can be driven by a variety of factors. One explanation may be that the quality of language education available in the poorer performing regions (rural and eastern districts) is of lower quality than of those regions where students achieved higher results. However, even if such a statement were true, it is likely to be the product of various contributing factors that cause systematic differences in the quality of language education across the country. Studies have found that the economic geography of talent tends to be significantly concentrated (Florida, 2002), suggesting that highly talented, ambitious individuals are more likely to be drawn to urban areas (Lawton Smith, et al., 2005). It can be assumed, that this also holds true for language teachers, where many talented individuals tend to live and work in the cities. Additionally, the students in urban areas may have more exposure to foreign influences than those in the rural areas, via tourists or media.

Another trend emerging from the above analysis is the divergence between the exam results of the North-Western and Eastern Hungarian Districts (Figure 2). The results are even more interesting when viewed in conjunction with Figure 4 from a 2016 World Bank report, illustrating the poverty distribution in Hungary. Red areas represent districts where the largest proportion of residents live below the poverty threshold. It is a well-documented experience,

that students from impoverished backgrounds generally achieve lower levels of educational attainment and perform poorer on exams (Goodman & Gregg 2010, Chowdry, et al. 2010).
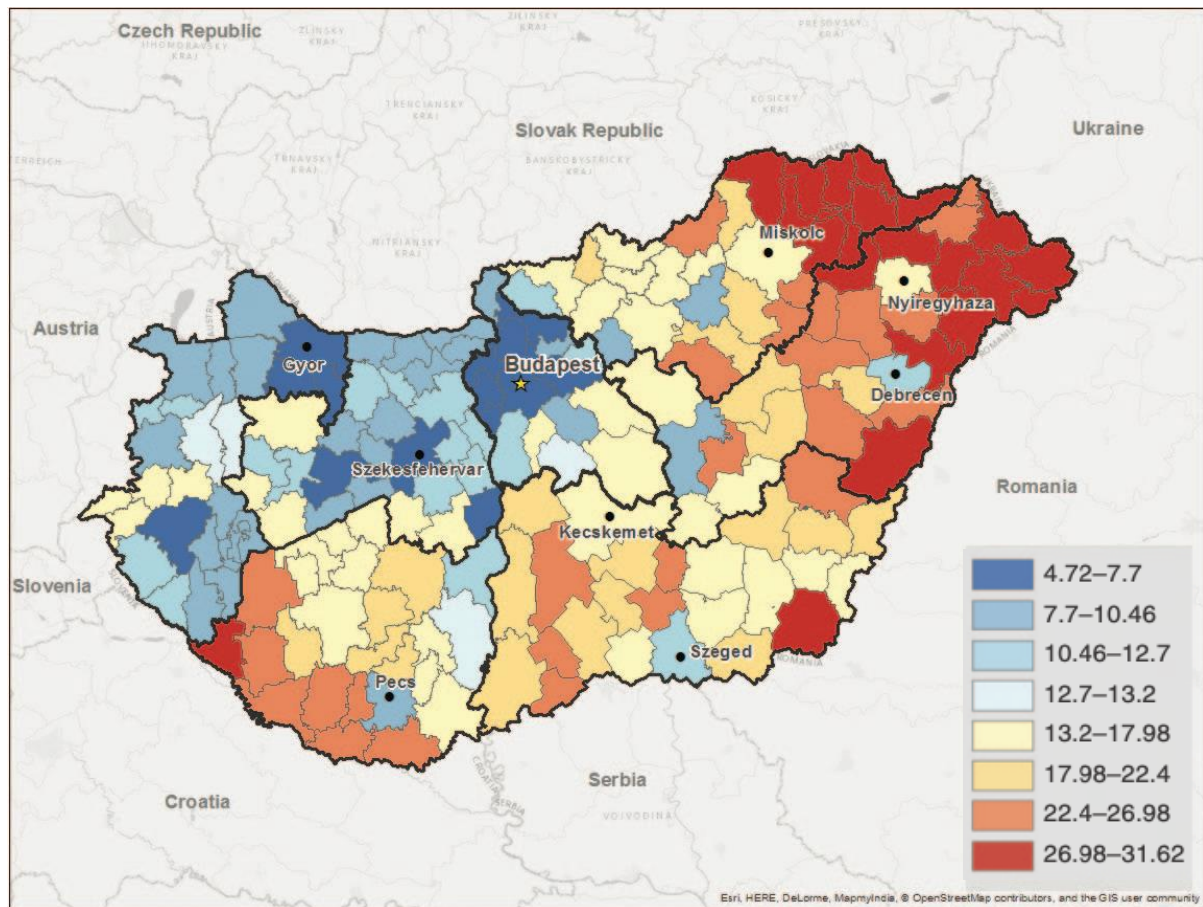

Figure 4: World Bank Data 2016 Poverty in Europe – Hungary Country Policy brief (World Bank, 2016)

Based on the above, the Hungarian government's proposal to require all students to obtain a Foreign Language Certificate to be considered for university level education would predominantly negatively impact students from the most deprived areas of the country. Students from these areas are already likely to have lower quality educational institutions and are much less likely to have ample home learning environments. Therefore, it is already less likely that they should attend university in the same proportion as students from wealthier areas. While the intentions behind the new proposal are to improve the nation's human capital by encouraging foreign language studies, it would provide an unreasonable barrier to university level studies for students who are already disadvantaged in their educational opportunities.

Understanding which districts underperform on SELE can support a more efficient targeting of resources for development, especially for foreign language subjects, which is a key area of interest for the Hungarian Government. The language score maps (Figure 2 & Figure 3) provide a more comprehensive picture on sub-national variations in senior students' language skills, which could potentially facilitate resource allocation. Based on the maps, the average students from large cities like Budapest (84.9), Győr (77), Pécs (80) are significantly closer to reaching the 110 points for the minimum entry requirements, than students from North-Eastern Hungary, where their average language scores are between 35-45 points. It is clear based on the significant diversion in sub-national language scores, that 'blanket policies', such as the one proposed, will not have the desired effect, as there are already considerable differences in the opportunities and abilities of the population. Instead, regional differences

should be considered when constructing new policies to avoid discrimination based on socioeconomic and geographic factors. Additionally, the government should consider non-exclusionary methods of incentivising students to learn languages, such as increasing hours of language education in schools, investing in additional resources for language teachers and promoting student exchange programmes abroad.

Limitations

The opportunities regarding a comprehensive analysis of the foreign language skills of Hungarian students is somewhat limited, given that data available. The Hungarian SELE data is published in an aggregated format. The information is provided on secondary school level and not individual student level. Due to this compression, the exam results lose some of its precision as we are only able to use the average scores by schools and weighting them by the number of students. Because the data points are schools, it's important to not directly reflect the finding to the student population, but the schools situated in the certain areas.

The analysis and calculation of the FLPS included every secondary school across the country without excluding exceptional institutions, such as institutions where the teaching takes place in a foreign language. As the population of secondary schools are unevenly spread across the country, the results are more reliable for the more densely populated districts.

To develop a deeper understanding regarding the government's opportunities in more effective resource allocation for promoting foreign languages in the underdeveloped districts, the analysis would also need to consider the demographic distribution of the population. For example, some North-Eastern rural districts with the worst language scores often only have few secondary institutions. Other districts with below average scores that aren't necessarily deemed in the 'worst scoring' category may have more institutions, more students. Therefore, to determine the optimal allocation of resources, population distribution should be significantly considered.

Conclusions

There are many benefits to promoting foreign language studies in Hungary, such as increasing the levels of foreign investment into the country, improving the competitiveness of the country's workforce and enhancing Hungary's relationship with Europe. Additional studies are still required to gain a more comprehensive understanding of the current state of Hungarian student's foreign language skills. In particular, we have yet to fully understand the interconnection of the various factors that contribute to Hungary's poor ranking on the European foreign language charts, despite significant efforts historically and presently by governments. The goal of the proposed regulation is for students to prioritise foreign language studies early on, by limiting tertiary education to students who can pass an advanced foreign language test. However, the policy would not provide additional means for secondary institutions to improve their language education and support their students in meeting this requirement. Therefore, students from impoverished and rural areas, where the foreign language scores are weakest will be unfairly impacted. Such 'one-size-fits-all' policies should only be considered if all students had similar opportunities to learn languages to the extent that is required to obtain such a language certificate. Based on the analyses performed in this paper, that is currently not the case. As such, an increased emphasis should be placed on diminishing the regional differences in foreign language skills, through directed resource allocation using spatial analysis to determine the areas where most resources are required.

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