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WHO CAN EARN RISK–FREE PROFIT?

Possibility of Arbitrage in the Hungarian Student Loan System[1]

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ABSTRACT

People without tertiary educational attainment are more affected by poverty. Thus, obtaining a higher degree of education can act as a key to pulling sections of society out of the poverty trap. In higher education, Hungary has a dual-track tuition policy, which offers restricted merit-based entry to state-funded universities, leading to entirely free higher education for a limited number of students. As the most disadvantaged students perform worse at secondary school, their chances of being enrolled in free tertiary education are much lower. To improve equity, students have access to a well-designed student loan system in Hungary. This study demonstrates that Hungary's higher education funding policy is currently further widening the gap between the rich and the poor, as holding a Student Loan 1 and a Hungarian Government Security Plus (MÁP Plusz) position results in arbitrage for those who do not need to borrow to finance their tuition fee and living expenses during the academic years. Instead of supporting the catching-up process for students coming from low-income backgrounds, the Hungarian system provides additional financial aid to advantaged students. Based on an international comparison of student loan schemes, adopting a targeted approach instead of a universal one might be worthy of consideration, e.g. providing an interest rate subsidy to disadvantaged students or setting a lower income level of the student's household as an eligibility criterion for borrowing.

JEL codes: I22, I24

Keywords: student loans, socio-economic background, Hungary, arbitrage

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1 INTRODUCTION

Oketch et al. (2014) highlighted that higher education has a strong positive impact on individual earnings. Obtaining a higher education degree can therefore be a key to pulling sections of society out of the poverty trap.

Hungary has a dual-track tuition policy in place to fund higher education. It offers restricted merit-based entry to state-funded free (or low-cost) higher education for a limited number of students and admission on a fee-paying basis for the rest of the applicants. Free tuition depends on the applicants' entry examination score and the cut-off score, i.e. the minimum score to reach in order to receive free education (*Marcucci* et al., 2008; *Gayardon–Brajkovic*, 2019). Cut-off scores are determined jointly by the Educational Authority and higher education institutions. Through the dual-track tuition policy, revenue supplementation can be achieved. However, its impact on equality is problematic, since disadvantaged applicants are less likely to be academically prepared, ultimately leading them to paying tuition fees (Marcucci–*Johnstone*, 2007).

In addition to the differences in performance, the probability of enrolment of applicants from economically disadvantaged backgrounds is more sensitive to increase in tuition fee (*Heller*, 2007; *Semjén*, 2012). Hungary is classified as a high tuition fee system internationally (Gayardon–Brajkovic, 2019), which is a particularly negative aspect for students with a low-income family background.

Free access to the higher education system as a right is a major controversial topic from the point of view of equity. According to *Barr* (2004), that does not mean completely free higher education. Instead, it implies a system from which no one is excluded because they come from disadvantaged backgrounds. Free higher education is financed by taxpayers. Applicants with disadvantaged backgrounds can be excluded from higher education due to their poorer performance; however, they ultimately contribute to the tuition fees of advantaged students. As a result, the system transfers goods from poorer to richer families (*Berlinger–Megyeri*, 2012). *Guerra Botello* et al. (2019) showed that free-tuition higher education can generate high-level inequality. Gayardon and Brajkovic (2019) demonstrated that free-tuition systems alone are not sufficient in fostering equity. According to their results, targeted approaches, such as loans or grants, are more effective in increasing enrolment and attainment among disadvantaged students than universal systems. Non-targeted approaches subsidise the students who do not need them, wasting scarce national resources.

Woodhall (2001) highlighted that a well-designed and efficiently administered student loan system can improve equity. Barr (2004) proposed that student loan schemes should have income-contingent repayments. This design element provides insurance against defaults and financial difficulties (Barr et al., 2019). Hun-

gary has a distinctly well-designed income-contingent student loan scheme to ease the burden placed by the cost-sharing policy in higher education on students in need and their families. Moreover, there are student grants, which also contribute to funding students' academic years.

This study illustrates that Hungary's higher education funding policy is further widening the gap between the rich and the poor. Although the Hungarian student loan system is well-designed, it does not represent a targeted approach. In the current interest rate environment, holding a student loan and a government bond position results in arbitrage for those who do not need to borrow to finance their tuition fee and living expenses during the academic years. This has been possible under particularly favourable conditions since the introduction of Hungarian Government Security Plus (MÁP Plusz) in June 2019. As disadvantaged applicants are less likely to be enrolled in higher education due to their poorer performance, students from advantaged backgrounds may receive the "additional subsidy". Thus, instead of facilitating the catching-up process of students from low-income backgrounds, the Hungarian system provides additional financial aid to advantaged students.

The paper is set out as follows. First, it points out differences in the performance of students according to their socio-economic status. Subsequently, it provides an overview of student loan schemes worldwide and a detailed description of the Hungarian student loan system. A simple numerical example shows the maximum possible risk-free yield achievable by combining Student Loan 1 and Hungarian Government Security Plus in a five-year holding period. Finally, the study draws conclusions and offers suggestions for reforming the current system.

2 SOCIO-ECONOMICALLY DISADVANTAGED STUDENTS IN TERTIARY EDUCATION IN HUNGARY

Hungarian data (*Table 1*) also demonstrate that it is worth obtaining a higher education degree. The share of people who live at risk of poverty and economic or social exclusion is much higher among those who have educational qualifications at primary or secondary level. People with tertiary educational attainment are less affected by poverty. It appears that obtaining a higher education degree may be a key to pulling sections of society out of the poverty trap.

Table 1
Data on poverty and social exclusion, categorised by educational attainment

Educational attainment	Poverty rate (%)	Share of people suffering from severe material deprivation (%)	The at-risk-of-poverty and economic and social exclusion rate (%)
At least primary level	24.6	19.1	35.3
Secondary level	11.2	5.3	15.4
Tertiary level	3.7	1.7	5.6

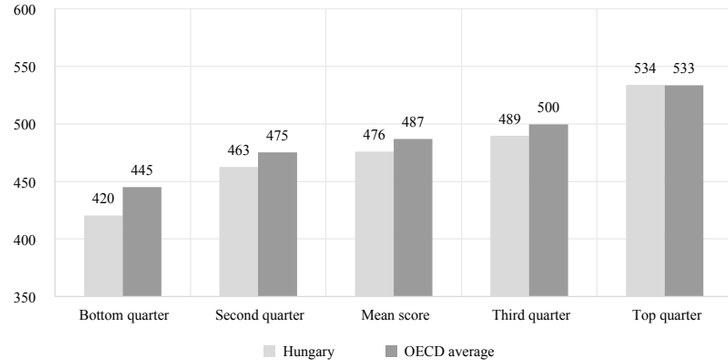
Source: Statinfo (2021a)

Hungary is still suffering from inequality in enrolment in tertiary education.

The Programme for International Student Assessment (PISA) was launched in 2000 by the Organization for Economic Co-operation and Development (OECD). The regular assessment of 15-year-old students' performance is based on three domains of literacy: reading literacy, mathematical literacy and scientific literacy. From the results of the survey, besides the basic profile of knowledge and skills among students, information can be obtained regarding student and school characteristics internationally. Furthermore, educational outcomes are also comparable (OECD, 2000).

"Socio-economic background refers to a combination of characteristics of a student's family that describes its social, economic, and cultural status. Socio-economic background is measured by the PISA index of economic, social and cultural status (ESCS)" (OECD, 2010). The index includes several variables in terms of parents' education, occupation and home possessions. *Figure 1* shows the performance of students in reading by quarter of the ESCS index in 2018. It is visible that the average score of the 25 per cent most disadvantaged students in Hungary (420 score points) lags behind the mean score of Hungarian students (476 score points) as well as the OECD average of students in the same quarter (445 score points) (Oktatási Hivatal, 2019).

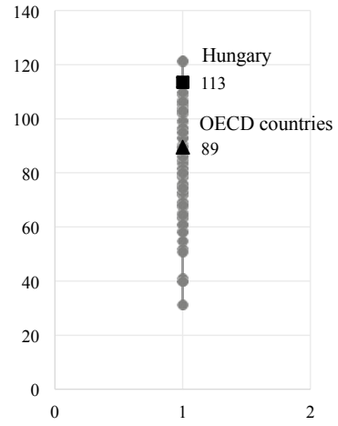
Figure 1
Mean performance in reading, by quarter of the ESCS index



Source: OECD, PISA 2018 Database, Table II. B1.2.3

The difference in the performance between socio-economically advantaged students and disadvantaged students is more considerable in Hungary (113 score points) than across OECD countries (89 score points) (OECD, 2018). Based on *Figure 2*, Hungary ranks poorly compared with international benchmarks: the socio-economic gap in reading performance is wider only in Israel and Luxembourg.

Figure 2
Socio-economic gap in reading performance



Source: OECD, PISA 2018 Database, Table II. B1.2.3

According to the results of PISA 2018, students from poor family backgrounds perform worse. Therefore, it can be concluded that the chances of being enrolled in tertiary education are much lower for the most disadvantaged students.

3 OVERVIEW OF STUDENT LOAN SCHEMES

3.1 Worldwide

Student loan schemes have been introduced in several countries worldwide to help students access higher education. *Table 2* briefly summarises the design, accessibility and purpose of student loans as well as the current interest rate on loans in the United States, England, Australia, New Zealand, South Africa, South Korea, the Netherlands and Hungary. Most of these countries have an Income Contingent Repayment (ICL) student loan system in place. This type of design element provides insurance against financial difficulties and to some extent also against default by students from low-income backgrounds as it eliminates high repayment burdens for students after graduation (Barr et al., 2019).

In the United States, many graduates employ some type of income-based repayment plan, and multiple plans with different rules coexist. Income-Based Repayment (IBR) is only available to students who took out a loan after July 2014. Under the IBR scheme, after 20 years, income-based repayment is no longer required, but the remaining balance should be treated as income and taxed accordingly. This tax can lead to high and potentially unaffordable repayment burdens. Therefore, repayment is not income-dependent for the entire loan term and does not protect graduates fully against default (*Britton* et al., 2019). US student loans can be used to cover both tuition and living expenses. In addition to basic eligibility requirements, such as being enrolled or having a valid social security number, there are additional eligibility criteria for most programs that require demonstrating financial need (Federal Student Aid, 2021a). A student loan type, known as Direct Subsidized Loan, provides better terms to help students with financial need (Federal Student Aid, 2021b). The interest rate on available loans currently ranges from 3.73 to 6.28 per cent, depending on loan type.

In England, the ICL student loan scheme was introduced. The loan can be taken out for tuition as well as for living expenses. However, the loan amount available to cover living costs is lower for students who live at home or whose yearly household income is above a certain threshold (Britton et al., 2019). Students must meet basic eligibility criteria for borrowing, such as enrolment, age, nationality or residency status. The loan interest rate is linked to the retail price index (RPI

+ 3 per cent). However, after graduation, the fixed part of the interest rate ranges from 0 to 3 per cent, depending on income level. Graduates below a certain yearly income threshold are charged 0 per cent interest (GOV.UK., 2021).

Australia and New Zealand, with long-established ICL universal systems, provide funding to all students. In Australia, the interest rate on student loans is linked to the consumer price index (CPI), which currently implies around 0 per cent real interest rate (ATO, 2021). The eligibility criteria for borrowing are minimal, but loans are available only for tuition fees. Student loans are repaid through the tax system. The repayment rate depends on the income level of the debtor, with a higher income level resulting in a higher repayment rate (StudyAssist, 2021). In New Zealand, the loans are free of interest if the students wish to continue studies in their home country (StudyLink, 2021). If they go overseas, the repayments are linked to the outstanding debt balance. A higher balance implies higher repayment burdens for the debtor (IR, 2021). The loans can be used to cover both tuition fees and living expenses.

In South Africa, only students from low-income family backgrounds can take out a student loan. Applicants are eligible for borrowing if their combined household income is not more than R 350,000 (approximately EUR 20,000) per annum. If the applicant lives with a disability, the household income must not be more than R 600,000 per annum. The loan can be used to pay for both tuition and living expenses (NSFAS, 2021b). Student loans are charged at 80 per cent of the benchmark repo rate (NSFAS, 2021a).

In 2010, South Korea introduced a new ICL student loan scheme. That was a necessary step as the maximum loan amounts under the previous system were not able to keep pace with the rapidly increasing tuition rates, and an increase in overdue debts was also observed. This income contingent student loan is not universal, because students are eligible only if they are from a family with an income level below the nation's 80th percentile or have more than three siblings (*Kim–Wiederspan*, 2019). An interest rate of 1.7 per cent is currently charged on the debt (KOSAF, 2021), which can be used for living expenses in addition to tuition.

In the Netherlands, the student financial aid system is based on four pillars: grants, regular loans, student travel products and student loans. In addition to basic grants, students from low-income family backgrounds may be eligible for supplementary grants. If additional financing is needed, there is a student loan system to cover tuition fees. Eligibility criteria extend only to age, course and nationality or residency status (DUO, 2021). The interest rate of student loans is linked to the interest on long-term government bonds (*Booij* et al., 2012). Currently, an interest rate of approximately 0 per cent is charged on the debt.

Table 2
Student loans worldwide

Country	Design	Accessibility	Purpose	Interest rate
US	Income Based Repayment (IBR)	For all students who meet the eligibility criteria; one type of the loans offers better terms to help out disadvantaged students	Both tuition fees and living costs	3.73–6.28%*
England	Income Contingent Repayment (ICL)	For all students who meet the eligibility criteria; loan amount for living expenses is lower for advantaged students	Both tuition fees and living costs	RPI + 0–3%**
Australia	Income Contingent Repayment (ICL)	For all students who meet the eligibility criteria	Tuition fees	CPI
New Zealand	Income Contingent Repayment (ICL)	For all students who meet the eligibility criteria	Both tuition fees and living costs	0–4.3%
South Africa	Income Contingent Repayment (ICL)	For disadvantaged students	Both tuition fees and living costs	benchmark repo rate * 80%; currently 4.20%
South Korea	Income Contingent Repayment (ICL) and Non-Income Contingent Repayment	Income contingent repayment for disadvantaged students	Both tuition fees and living costs	variable rate, currently 1.7%
Netherlands	Income Contingent Repayment (ICL)	For all students who meet the eligibility criteria	Both tuition fees and living costs	10Y government bond yields, currently 0%
Hungary	Income Contingent Repayment (ICL)	For all students who meet the eligibility criteria	Both tuition fees and living costs	refinance rate + operational premium + risk premium; currently 0–1.99%***

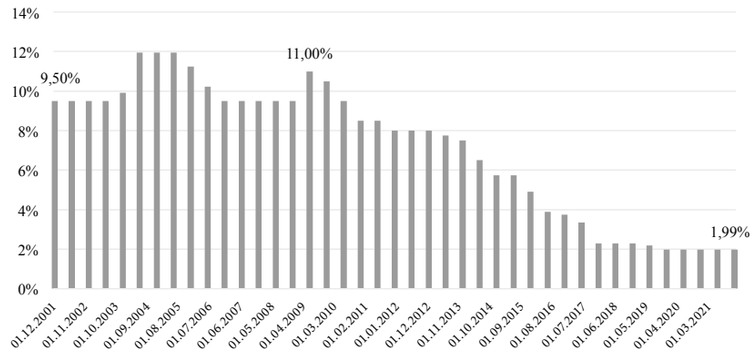
Source: ATO, 2021, Booij et al., 2012, Britton et al., 2019, DUO, 2021, Federal Student Aid, 2021a, Federal Student Aid, 2021b, GOV.UK., 2021, Kim and Wiederspan, 2019, KOSAF, 2021, NSFAS, 2021a, NSFAS, 2021b, StudyLink, 2021

In addition to several universal systems, the different financial backgrounds of students were also considered in many countries when the student loan schemes were designed. While some countries provide loans only to disadvantaged students (e.g. South Africa), other countries offer more favourable conditions to those facing financial difficulties, such as the Netherlands, South Korea and England.

3.2 Situation in Hungary

Diákhitel Központ Zrt, a state-owned non-profit organisation, is providing funding to students in higher education. Two types of student loans offered can be distinguished (Diákhitel Központ, 2021d). Student Loan 1 can be used for various purposes; the primary goal of the freely disposable loan is to cover the out-of-pocket expenses of students, especially housing costs, travel expenses and cost of living. It is possible to apply for up to HUF 1,500,000 per academic year. The loan has a floating coupon, which is currently especially favourable at 1.99 per cent. Other hidden costs do not arise in connection with the student loan. Based on *Figure 3*, the interest rate has been on a stable downward trend since 2009.

Figure 3
Interest rate on Student Loan 1



Source: Diákhitel Központ (2021a)

Student Loan 2 may be used to cover the entire tuition fee of students. The amount is transferred directly to the university with no interest rate charged on the loan.

One of the other specialities of these loans is that no penalty fee is charged on early repayment; it is completely free and can be initiated at any time. Family allowance is also included in the student loan system. In the case of two children, half of the mother's debt is forgiven, and if she gives birth to three children, the entire debt is cancelled.

The repayment of these special income-contingent student loans starts after the termination of student status. In the first two years, repayments are calculated based on the national minimum wage, and the applicable rate may vary from 4 to 6 per cent. The repayment rate remains the same from the third year; however, the basis to calculate the amount to be repaid is the annual gross income from two years earlier.

Table 3 shows the number of contracts in different phases of the student loans. It is visible that the demand for Student Loan 2 is increasing, but overall, the interest in Student Loan 1 is simultaneously reducing.

Table 3
Number of contracts in different phases of the student loans

	Student Loan 1			Student Loan 2		
Year	Borrowing	Repayment	Closed Repaid	Borrowing	Repay-ment	Closed Repaid
2001	70 774	57	8			
2002	118 497	116	646			
2003	133 832	21 731	2 155			
2004	121 857	52 983	5 925			
2005	117 357	75 654	13 533			
2006	115 906	90 632	24 752			
2007	109 075	103 992	37 479			
2008	99 071	116 738	52 018			
2009	92 832	128 788	65 301			
2010	87 534	139 154	79 052			
2011	79 788	147 533	92 823			
2012	69 992	155 162	106 115	5 708	3	6
2013	57 931	161 144	120 363	10 119	215	58
2014	46 657	163 484	135 594	14 311	1 054	164
2015	37 941	161 106	151 560	17 403	2 836	413
2016	31 172	154 957	168 651	18 213	5 938	927
2017	26 082	148 345	184 396	18 592	9 573	1 708
2018	22 901	139 409	200 616	20 051	13 425	2 695
2019	21 532	111 897	233 947	21 286	16 403	4 801
2020	21 677	101 573	249 797	20 944	19 855	6 659

Source: Diákhitel Központ (2021b)

The trend in the number of new borrowers (*Table 4*) in the case of Student Loan 1 confirms that in Hungary, the demand for financing living expenses by a loan during the academic years is declining. The number of borrowers in 2020 shows a slight increase compared to 2019, which however, might be due to the coronavirus pandemic. A reason for the decrease in student loans may be debt aversion. *Callender–Jackson* (2005) and *Boatman* et al. (2017) highlighted that debt aversion is more significant also among low-income students. Moreover, Barr (2012) underlined that the lack of information among students from disadvantaged backgrounds can result in these students being unwilling to take out student loans for their education, which hinders them from enrolling in tertiary education. It can be assumed that students are looking for another solution for subsistence. Instead of borrowing, they look for student work, which might negatively impact the time spent on studying.

Table 4
Number of new borrowers

Year	Number of borrowers Student Loan 1	Number of borrowers Student Loan 2	Total number of new contracts
2001	63 254		63 254
2002	52 528		52 528
2003	38 572		38 572
2004	24 232		24 232
2005	26 269		26 269
2006	24 632		24 632
2007	19 620		19 620
2008	17 606		17 606
2009	18 924		18 924
2010	18 515		18 515
2011	14 834		14 834
2012	11 527	5 001	16 528
2013	8 371	5 058	13 429
2014	6 368	5 245	11 613
2015	4 881	5 066	9 947
2016	4 189	4 467	8 656
2017	3 970	4 708	8 678
2018	4 189	6 301	10 490
2019	4 637	6 376	11 013
2020	5 378	4 913	10 291
Total	**372 496**	**47 135**	**419 631**

Source: Diákhitel Központ (2021c)

Overall, the number of full-time students has been declining since 2005 (*Table 5*). This decline is much lower (11.57 per cent) than the drop in loan applications (79.53 per cent) in 2005 and 2020. In other words, the declining demand for Student Loan 1 cannot be fully explained by the fact that fewer and fewer students are participating in higher education in Hungary.

Table 5
Number of full-time students and annual changes

Year	Number of full-time students	Annual changes
2005	231 482	
2006	238 674	103%
2007	242 893	102%
2008	242 928	100%
2009	242 701	100%
2010	240 727	99%
2011	241 614	100%
2012	233 678	97%
2013	223 604	96%
2014	217 248	97%
2015	210 103	97%
2016	205 560	98%
2017	202 278	98%
2018	200 130	99%
2019	203 625	102%
2020	204 711	101%

Source: Statinfo (2021b)

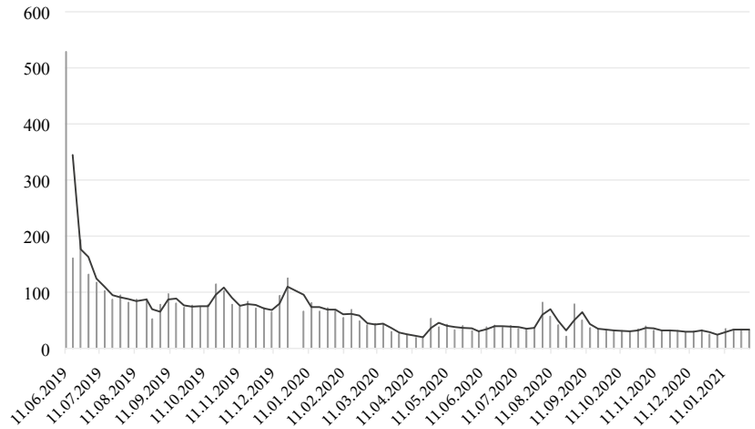
Recently, student loans have been used mainly to finance university tuition fees. However, freely disposable loans are unused, i.e. students with poor family backgrounds presumably cover their living expenses mainly from other sources, while wealthier students do not take advantage of the investment opportunity in the student loan.

The Hungarian student loan scheme is designed as a universal system, i.e. finance is not targeted. Eligibility for borrowing is not restricted to a lower income level of the households and the loan arrangements do not comprise components that would facilitate repayment for disadvantaged students.

4 ARBITRAGE – STUDENT LOAN 1 AND HUNGARIAN GOVERNMENT SECURITY PLUS (MÁP PLUSZ)

The first issuance of Hungarian Government Security Plus took place in June 2019 (ÁKK, 2021). The first issuance might be an outlier, but the total bid amount has stabilised at the level of HUF 30-40 billion on average since August 2020. Demand for this security has remained unbroken (*Figure 4*).

Figure 4
Total bid amount of Hungarian Government Security Plus (HUF billion)



Source: ÁKK (2021)

The statistics are unsurprising, as MÁP Plus provides higher interest compared to other existing government securities on the market. The total issued amount exceeds HUF 6.5 billion at present (ÁKK, 2021). These securities are issued with a tenor of five years, and the interest rate rises from 3.5 per cent to 6 per cent in the fifth year (Magyar Állampapír, 2021). The first interest rate rise becomes due after the first six months, and subsequently, there is a fixed annual rise. Hungarian Government Security Plus can be purchased by domestic and foreign individuals (residents and non-residents). Besides the preferential interest rate of the securities, its purchasers can also benefit from several other features. The denomination of HUF 1.00 allows residents from all income backgrounds to access the security. In addition, various post offices are selling the product, ensuring that those who are interested in investing but are unable or unwilling to buy the product online

are also reached. After each interest allocation date, a net purchase price of 100 per cent is fixed for the following five days. On the other days, the net price is limited to 99.75 per cent. Consequently, the security is sellable at a minimum loss on its capital. Furthermore, there is no tax on the interest, and if the security account is opened at the Hungarian State Treasury, other hidden costs do not arise (Magyar Államkincstár, 2020).

In a scenario where Student Loan 1 is taken at the highest possible amount for two semesters, *Table 6* shows the capital and interest changes of the loan in the next five years after borrowing. Interest is calculated on a daily basis, which is capitalised at the end of each year. The amount of the increased capital is always the basis for calculating interest. In the future (5 and 5.5 years later), HUF 827 655 must be repaid twice.

Table 6
Development over time of the capital and interest on Student Loan 1

	Student Loan 1 (HUF)			
Year	**Capital 1**	**Interest 1**	**Capital 2**	**Interest 2**
0	750 000			
0.5			750 000	
1	764 925	14 925		
1.5			764 925	14 925
2	780 147	15 222		
2.5			780 147	15 222
3	795 672	15 525		
3.5			795 672	15 525
4	811 506	15 834		
4.5			811 506	15 834
5	827 655	16 149		
5.5			827 655	16 149
Amount of the repayment	–827 655		–827 655	
Annual yield	1.99%		1.99%	

Source: by the author

After borrowing Student Loan 1, the borrowed amount should be invested in Hungarian Government Security Plus immediately. *Table 7* shows the capital and interest changes of the security in the five years after investing. The interest is

capitalised and always calculated on increased capital. In this case, the original invested capital is HUF 750,000 per semester. The annual yield can also be calculated, which is equal to 4.95 per cent in a five-year holding period.

Table 7
Development over time of the capital and interest on Hungarian Government Security Plus

Hungarian Government Security Plus (HUF)				
Year	**Capital 1**	**Interest 1**	**Capital 2**	**Interest 2**
0	**750 000**			
0.5	763 125	13 125	**750 000**	
1	778 388	15 263	763 125	13 125
1.5			778 388	15 263
2	813 415	35 027		
2.5			813 415	35 027
3	854 086	40 671		
3.5			854 086	40 671
4	901 060	46 975		
4.5			901 060	46 975
5	955 124	54 064		
5.5			955 124	54 064
Value of the investment at maturity	955 124		955 124	
Annual yield	4.95%		4.95%	

Source: by the author

The total risk-free profit that can be achieved in the future is HUF 127,469 per semester. The development of the repayment amount is shown in *Table 8* in the case a debtor (a mother) has two and three children. In the first example, a mother who has graduated from university or whose student status has been terminated needs to repay half of her debt (HUF 827,654). In the second example, her entire debt is forgiven.

Table 8
Family allowance for children

	Capital 1	**Capital 2**	**Total**
Family allowance for two children	413 827	413 827	827 654
Amount of the repayment	–413 827	–413 827	–827 654
Family allowance for three children	827 655	827 655	1 655 310
Amount of the repayment	0	0	0

Source: by the author

However, the example presented reflects a very simplified calculation. It assumes holding the position for five years, implying that student status must also last for five years. This example may meet the student loan needs of a student starting a bachelor's degree and after that immediately pursuing a master's degree. Nevertheless, it is difficult to imagine that a student will become a mother of three children by the end of her master's degree and takes advantage of the family allowance provided by the student loan system immediately. However, in the current interest rate environment, holding a student loan and a government security position results in arbitrage for those who do not need a loan to finance their tuition fee and living expenses during the academic years.

5 CONCLUSION

People without tertiary educational attainment are more affected by poverty. Obtaining a higher education degree can act as a key to pulling sections of society out of the poverty trap. According to the PISA assessment in 2018, the most disadvantaged students perform worse at secondary school, and their chances of being enrolled in free tertiary education are much lower. As Hungary's funding policy offers restricted merit-based entry to state-funded free higher education, the chances for disadvantaged students of being enrolled are much lower due to their poorer performance. To improve equity, students have access to a well-designed student loan system in Hungary. However, in the current interest rate environment, holding a Student Loan 1 and a Hungarian Government Security Plus position results in arbitrage for those who do not need to borrow money to finance their tuition fee and living expenses during their academic years. The maximum possible risk-free yield achievable by combining the two assets in a five-year holding period is HUF 127,469 per semester.

However, in Hungary, the demand for financing living expenses by a loan during the academic years is declining. Students in need probably finance their living

expenses from other sources; wealthier students do not borrow in spite of the fact that there is an arbitrage opportunity. This provides a good starting point for further research regarding the rationality of students.

In conclusion, disadvantaged applicants are less likely to be enrolled in higher education due to their poorer performance, and students from advantaged backgrounds may receive an "additional subsidy", which further widens the gap between the rich and the poor. Consequently, instead of supporting the catching-up process for students from low-income backgrounds, the Hungarian system provides additional financial aid to advantaged students. However, it would be more important to support the former target group to improve equity in higher education in Hungary. Based on an international comparison of student loan schemes, adopting a targeted approach instead of a universal one might be worthy of consideration, e.g. an interest rate subsidy or linking the loan application to income level.

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