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**THE IMPACT OF HIGH FEE-LOW-SUBSIDY AND
LOW-FEE-HIGH-SUBSIDY HIGHER EDUCATION
FUNDING MODELS ON HIGHER EDUCATION
ACCESS IN EUROPEAN UNION COUNTRIES**

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Introduction. Higher education funding is relevant topic and widely analysed by scientist all over the world. Nowadays there is very big difference between higher education funding models across European Union countries – students have to pay very high fees for their studies in one countries, while in other countries – students have no obligations to pay for their studies at all, or have to pay very low tuition fees. All EU member states declare importance of HE for the future of economic, individual and society wellbeing. With respect to cost-sharing principle in higher education funding, higher education funding models can be divided into four models: Low-fee-High-subsidy; Low-fees-Low-subsidy; High-fees-High-subsidy and High-fee-Low subsidy.

Aim and tasks. The aim of this article is to perform comparative analysis of two extremely different higher education funding models, which are applied in European Union states – Low-fee-High-subsidy higher education funding model (LFHS model) and High-fee-Low-subsidy higher education funding model (HFLS model).

Results. The results of scientific research shows, that LFHS and HFLS models, which were analysed, have a different impact on access to higher education (i.e. gross enrolment rate (GER), GER male, GER female and HE graduation rate (HEGR) in EU countries.

Conclusions. Tuition fees (max., min., net, normative) have a statistically significant, but not only positive or negative impact on enrolment to HE and graduation of HE, as well as for women and men enrolment to HE (GER male, GER female) – it depends on funding model EU state applies. Max. need-based grants have positive impact only in LFHS model case as well as min. need-based grants. In addition, the results of research show, that there is gender inequality – women enrolment to HE exceed men enrolment at most in HFLS model. Men are more likely to study in countries with higher need-based grants (for instance, in LFHS model countries). Countries with higher GDP per capita are more likely to apply LFHS model, than countries with lower GDP per capita.

Keywords: higher education, funding model, higher education access, tuition fees; grants, subsidy.

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ВПЛИВ МОДЕЛЕЙ ФІНАНСУВАННЯ З ВИСОКИМИ ТА НИЗЬКИМИ СУБСИДІЯМИ НА ДОСТУП ВИЩОЇ ОСВІТИ В КРАЇНАХ ЄВРОПЕЙСЬКОГО СОЮЗУ

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Вступ. Фінансування вищої освіти є актуальною темою і широко аналізується вченими усього світу. На сьогоднішній день існує дуже велика різниця між моделями фінансування вищої освіти в країнах Європейського Союзу – студенти повинні платити дуже високі збори за навчання в одних країнах, тоді як в інших країнах – студенти взагалі не зобов'язані платити за навчання або повинні платити дуже низьку плату за навчання. Усі країни-члени ЄС заявляють про важливість ВНЗ для майбутнього економічного, індивідуального та суспільного добробуту. Що стосується принципу розподілу витрат при фінансуванні вищої освіти, моделі фінансування вищої освіти можна розділити на чотири моделі: низька плата - висока субсидія; низькі збори-низькі субсидії; висока комісія - висока субсидія та висока комісія – низька субсидія.

Мета і завдання. Метою цієї статті є порівняльний аналіз двох надзвичайно різних моделей фінансування вищої освіти, які застосовуються в країнах Європейського Союзу – моделі фінансування вищої освіти з низьким рівнем оплати (висока модель субсидії) та моделі з низьким рівнем оплати праці модель фінансування вищої освіти (модель HFSL).

Результати. Результати наукових досліджень показують, що аналізовані моделі LFHS та HFSL по-різному впливають на доступ до вищої освіти (тобто валовий коефіцієнт зарахування (GER), GER серед чоловіків, GER, жінок та рівень вищої освіти (HEGR) у країнах ЄС.

Висновки. Плата за навчання (максимальна, мінімальна, чиста, нормативна) має статистично значущий, але не лише позитивний чи негативний вплив на зарахування до ЗВО та закінчення ЗВО, а також на зарахування жінок та чоловіків до ЗВО (чоловіків, жінок) – це залежить від моделі фінансування, яку застосовує держава ЄС. Максимальні гранти на основі потреб мають позитивний вплив лише у випадку моделі LFHS, а також мінімальні гранти на основі потреб. Крім того, результати дослідження показують, що існує гендерна нерівність – кількість жінок, які відвідують ЗВО, перевищує кількість чоловіків за моделлю HFSL. Чоловіки частіше навчаються у країнах з вищими стипендіями на основі потреб (наприклад, у країнах з моделями LFHS). Окрізь з вищим ВВП на душу населення частіше застосовують модель LFHS, ніж країни з нижчим ВВП на душу населення.

Ключові слова: вища освіта, модель фінансування, доступ до вищої освіти, плата за навчання; гранти, субсидія.

Introduction. The objectives and motivations for writing this article arose from the view of the problem, which has place to be in the field of higher education (HE) funding. Nowadays there is very big difference between HE funding models across European Union (EU) countries – students have to pay very high fees for their studies in one countries, while in other countries – students have no obligations to pay for their studies at all, or have to pay very low tuition fees. All EU member states declare importance of HE for the future of economic, individual and society wellbeing. HE is recognized as a major driver of economic competitiveness in an increasingly

knowledge-driven global economy. Widening of access to HE education is the key moment to achieve this objective. However, the accessibility of HE is highly dependent on financing [24].

Literature review. The expansion of HE is an issue that is high on the agenda of many national and international HE policymakers [16]. The sociologist Trow M. [25] identified three basic stages of HE development worldwide – *elite*, *mass*, and *universal access*. He argued that most nations, at varying times, will move toward mass or universal participation in postsecondary education, and this is indeed what has happened.

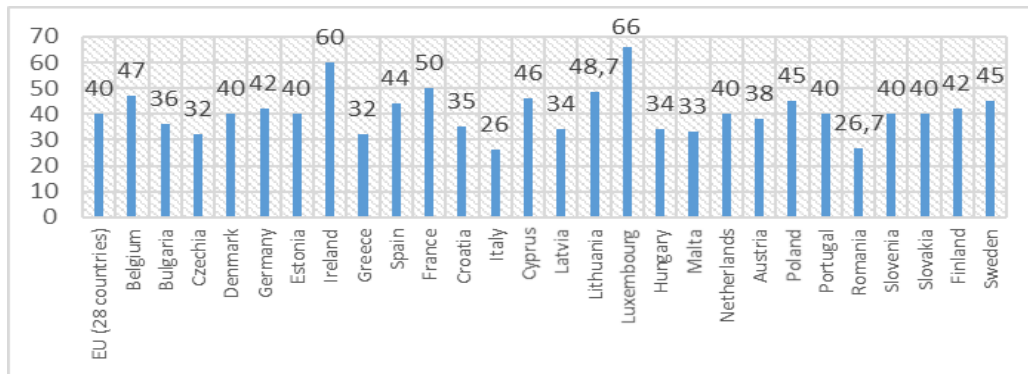


Fig. 1. HE educational attainment by age group 30-34, national targets 2020 (%)

Source: [prepared by authors according to Eurostat]

Note: UK is not available data

In 2008, the Council adopted an EU-wide benchmark on HE, stating that by 2020 at least 40 % of 30-34 year-olds should have a tertiary or equivalent level qualification [4]. This officially established the priority to EU member states to have mass HE systems. Although, some EU member states (*for instance*, Luxemburg, Ireland and France) selected *target2020* to achieve more than 50 per cent (66, 60 and 50 per cent) of 30-34 year-olds will have tertiary or equivalent level qualification and become owners of universal HE systems (see Fig. 1).

Obviously, expansion of access to HE, growing demand for studies in HE institutions leads to higher costs of HE. One of the rational decision was to implement cost-sharing principle to the HE funding models. Cost sharing in HE has become relevant and important question in scientific discussions in

theoretical and practical point of view, recently. Cost sharing in higher education is particularly analysed by Orr. D. [22], Goksu A., Goksu G.G. [13], Payne B., *et al.* [25], Johnstone D.B. [15] and *etc.* On the one hand – it has theoretical background with regard to conception of education as a “public”, “private” and “mixed” good and on the other – the practical economic aspect that beneficiaries of HE (students, society, government, *etc.*) should contribute to the cost of HE (see also *Santiago et al.* [23]. Goksu A. & Goksu G.G. [13] noted, that three different reasons lie behind *cost-sharing method*: one of them is the raising costs for students and departments; another reason is the significant increasing number of student enrolments as a result of the growth in university-age population in last years; many countries’ having insufficient public revenues is the last reason.

HE funding impact on access to HE was investigated in Kane [17], Kaiser & O’Heron [16], Baumgartner & Steiner [1], Hemelt & Marcotte [19], Hübner [20], Clancy & Goastellec [3], Falch, Oosterbeek [11], Dearden *et al.* [5], Payne *et al.* [25], Orr [22], Geven [14], Bennetot, Estermann, Kupriyanova [2], Kučaidze [18]. When the topic is about HE studies funding, *tuition fees* are the most common method to cover HE cost from private sector side, and the *student support systems* – from public sector. *Tuition fees* on the one hand and *student support systems* (which include grants and student loan systems) on the other – led to a number of discussions and development of new researches in which different relevant questions of cost sharing are analysed. OECD research suggests that charging a moderate level of tuition fees – while simultaneously giving students opportunities to benefit from comprehensive financial aid systems – is an effective way to countries to increase access to HE, make efficient use of limited funds, and acknowledge the significant private returns that students receive from HE; well balanced mix between public and private funding is becoming increasingly important [21].

In scientific literature, we have examples of different HE model classification (*for instance*, models by market type, by control scale, etc.). In this research, the classification of HE funding model according to *cost-sharing* is suggested. It is based on idea of “*Four Worlds of Student Finance*”, presented by Garritzmann J.L. [12] and practically applied by Eurydice [6]. Due to this classification, the main types of models can be distinguish:

- (1) *High-fees-Low-subsidy model*;
- (2) *Low-fees-Low- subsidy model*;
- (3) *High-fees-High-subsidy model*;
- (4) *Low-fees-High-subsidy model*.

Eurydice gives the main definition of tuition fee: “*a fee is understood as any sum of money paid by students, with which they formally and compulsorily contribute to the cost of their HE. This may include, but is not restricted to, a registration fee, tuition fees, graduation fees, administrative fees, etc. Payments to student unions are not taken into account*” [6].

In Figure 2 the main fees, which students pays for their studies are presented.

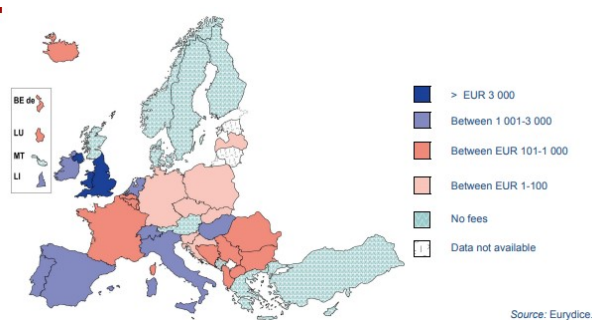


Fig. 2. Most common annual fees in first-cycle HE, 2018/19

Source: [6]

Researchers use different research designs, methods and indicators to evaluate the impact of tuition fees and financial aid on access to HE (*participation, enrolment and etc.*). For example, *difference-in-difference strategy*, which allows to identify a *causal effect* by comparing trends *before* and *after* fees or grants are introduced and HE funding model’s changes are implemented [1; 14; 20]. *Semi-experimental research design* identifies the causal effect of price changes on student enrolment, using treatment and control groups [14; 20]. Panel data analysis – in order to examine the association between funding model and access among EU member states, OECD countries and other cross countries analysis; Fixed effect model – in order to examine the relationship between the change of HE funding models and related outcomes (*e.g., entry, participation, enrolment rates*) between different groups of countries (EU, OECD and *etc.*) [18; 24; 30].

The rate of participation has become an important indicator for the progress towards the knowledge-based society [16]. However, it is surprising to find that there is no common and clear understanding of how the *rate of participation* is defined and calculated and how differences in scores between countries or trends within countries may be interpreted. In order to facilitate cross-country comparisons scientists are looking for more accurate index for better evaluation of HE access. For example, Clancy & Coastellec [3] has developed *Higher education participation index*. Firstly, researchers used three types of measures to study comparative trends in participation in HE: *entry measures, enrolment measures and output measures* [3].

In many respects *entry measures* are the least ambiguous measures and indeed at national level they provide the best lens by which authors monitor change. However, Clancy & Coastellec [3] note, that it is no longer possible to use entry data in comparative studies – and authors should rely on *enrolment data* and *output measures* to develop comparative indicators. *Gross Enrolment Rate (GER)*, based on the number of students enrolled, regardless of age, expressed as “a percentage of the population In the 5-year age group following on from the secondary school leaving age” [27]. As it is determined by UNESCO Glossary: “a high GER generally indicates a high degree of participation, whether the students belong to the official age group or not. A GER value approaching or exceeding 100% indicates that a country is, in principle, able to accommodate all of its school-age population, but it does not indicate the proportion already enrolled. The achievement of a GER of 100% is therefore a necessary but not sufficient condition for enrolling all eligible students in school. When the GER exceeds 90% for a particular level of education, the aggregate number of places for students is approaching the number required for universal access of the official age group. However, this is a meaningful interpretation only if one can expect the under-aged and over-aged enrolment to decline in the future to free places for pupils from the expected age group. The purpose of this indicator is to show the general level of participation in HE. It indicates the capacity of the education system to enrol students of a particular age group” [28]. *Net enrolment rate (NER)* is also an indicator, it is determined in UNESCO glossary of indicators [see 28]. NER means total number of students in the theoretical age group for a given level of education enrolled in that level, expressed as a percentage of the total population in that age group. However, for HE, this indicator is not pertinent because of the difficulties in determining an appropriate age group due to the wide variations in the duration of programmes at this level of education.

Aim and tasks. *The aim of this research* is to perform comparative analysis of two extremely different higher education funding models, which are applied in European Union

states – *Low-fee-High-subsidy* higher education funding model (LFHS model) and *High-fee-Low-subsidy* higher education funding model (HFLS model). The tasks of this research: (1) to distinguish all EU member states to four groups according to HE classification by cost-sharing principle; (2) to determine which financial indicators of HE funding models (fees, grants and etc.) has statistically significant impact on HE access indicators (*enrolment and graduation*); (3) to compare the results of LFHS model’s and HFLS model’s impact on access to HE.

Taking into account the aim of the research, it is important to describe the methodology of research in detail. *The methods of the research*: systemic analysis, review and generalization of the scientific literature, statistic data analysis, comparative analysis. Firstly, it should be noted, that the material for research was selected according to the relevance of the topic of HE funding models and impact on access to HE.

The selection of research period is based on data accessibility. The main sources of statistical data for this research are from Eurostat, Eurydice, UNESCO UIS.Stat databases. For specific data for EU states’ HE funding were used the latest data of Eurydice – Student’s fees and support systems in EU HE (see Eurydice 2016, 2015, 2014, 2013, 2012, 2011).

There are two extremely contrast types of HE funding models – two extremely different „*Worlds of Student Finance*” – the first one is *Low-fees-High-subsidy model* and the second – *vice versa – High-fees-Low-subsidy model*. The decision to take these two types of models relies on the fact of these two models significant contrast and difference. It is interesting and useful to investigate how these two models influence the participation in HE among EU countries.

Scientific methods, which were applied in this research, are systemic analysis, review and generalization of the newest scientific literature, statistic data analysis (comparative and statistical analysis). The empirical research relies on econometric methods of correlation and regression analysis. The main indicators for panel data analysis (fixed effect model) were selected: *gross enrolment rate (GER)*, *GER*

male, GER female and gross graduation ratio) and indicators of a student, which pay max. and min. tuition fees (%), students, which receives max. and min. needed based grants (%) and etc.). The panel data analysis method was used in order to evaluate the impact of two selected HE funding models on HE access and compare the obtained research results.

With respect to different economic status of EU countries *k-mean clustering* method was used in order to distribute all EU countries to four HE funding methods (*High-fees-Low-subsidy model; Low-fees-Low-subsidy model; High-fees-High-subsidy model; Low-fees-High-subsidy model*). The main indicators were used for this analysis (*tuition fees, need-based grants, share of students, paying max./min. tuition fees (%), share of students, benefiting from need-based grants (max./min.) (%), GDP per capita, Public expenditures for one student, Public expenditures for HE as a percent of GDP*) [18]. Further analysis is intended to compare two models – *High-fees-Low-subsidy HE funding model (hereinafter HFLS model)* and *Low-fees-High-subsidy HE funding model (hereinafter LFHS model)*.

Results. With respect to results, which were received after the *k-means clustering method* was applied to group 27 EU member state – four groups of countries were determined. In this research, two HE funding models were analysed. As it is shown in Table 1, nine EU countries (*Denmark, Sweden, Finland, Austria, Germany, Malta, the Netherlands, Belgium, and Luxembourg*) apply LFHS model and five EU countries (*Lithuania, Latvia, Estonia, Romania, Hungary*) apply a opposite HE funding model.

Table 1. LFHS models' and HFLS models EU countries

HE funding model	EU member states by HE funding model
LFHS model ¹	Denmark, Sweden, Finland, Austria, Germany, Malta, the Netherlands, Belgium, Luxembourg
HFLS model ²	Lithuania, Latvia, Estonia, Romania, Hungary

Source: prepared according to [18]

¹ Low-fee-High-Subsidy higher education funding model

² High-fee-Low-Subsidy higher education funding model

The LFHS models' countries max. tuition fees are EUR 1984, max. need-based grants – EUR 9492, about 100 percent of students receive need-based grants, and from 0 to 100 percent of students must pay for their studies. It should be noted, that these EU states has better average GDP per capita indicator (134 PPS (min. 95/max. 260) and the expenditures for 1 student indicator is highest among all HE funding models (15174–43944 PPP dol.). The average of Expenditures for HE as percent of GDP is the highest as well (1,57). In the general context, countries of this model are economically stronger, then countries of next HE funding model.

It should be noted, that LFHS model usually is called Scandinavian model – in this case the costs of students' studies are covered by the state budget (i.e. from taxes), students do not pay or only a few students pay tuition fees (with the exception of the Netherlands, Belgium and Luxembourg).

In addition, most students receive grants, the amounts of which are usually adjusted according to the individual socio-economic situation of the student [18]. Given that the state budget relies on significant investments to support student participation in HE, this provides students with a high level of economic independence. It should be noted, that countries, which prefer to apply this HE funding model usually, are dominated by a progressive tax system and students face high income taxes after graduation.

According to OECD data [21], LFHS model countries have high rates of entry into HE institutions (hereafter – HEI) (about 74 %), and more than 55% students received grants, loans, or a combination of these two types of state financial aid. In LFHS model, HE funding reflects the deep-rooted social values of these countries, such as equal opportunities and social justice, with free HE provided by the state as part of their culture [21]. In countries with this funding model, HEI are a right, not a privilege. Although these countries (e.g. Denmark and Sweden) have decided to apply tuition fees to students from abroad, which has led to reduced admissions from other foreign countries.

Next model is HFLS models, in this case max. tuition fees countries have are EUR 14241, and max. need-based grants – EUR 3308 (it is the smallest among all four models), max. need-based grants – EUR 9492 and maximum 29 percent of students can receive need-based grants. In this model countries 13,8–49 percent of students must pay for their HE. It should be noted, that these EU states has the smallest average of GDP per capita (68 PPS (min. 59/max. 77) and the expenditures for 1 student are 4252–11098 PPP dol. The average of Expenditures for HE as percent of GDP is the smallest (0,85).

It should be noted that in the countries of HFLS model a higher percentage of students (up to 50%) pay tuition fees – these students study in non-state subsidized study places. In countries applying this model, a quarter or less of all students receive grants. For example, in Lithuania (45%) and Romania (49%) students pay tuition fees, while needs-based grants are received by 3% in Lithuania and 29% in Romania (according to the statistical data 2016).

Attention should be paid to the case of Lithuania, as here students who are from a socio-economic disadvantage do not receive needs-based grants, as students studying in state-funded places can only receive grants (scholarships). Although the burden of paying tuition fees in the group of this model falls on a minority of students, and they are not necessarily those who are able to pay the set tuition fees [18]. In most cases, students, especially those studying in paid study places, are financially dependent on their family or work income [29].

With respect to research results, applying panel data analysis (fixed effect method), the comparative analysis of two HE funding models is shown in Table 2.

In LFHS model case, positive impact on enrolment to HE have: *GDP per capita*, and *public expenditures for HE* - when these indicators increase – enrolment in HE tends to increase too.

In HFLS model case – these two indicators has no impact (statistically are not significant).

Table 2. LFHS models' and HFLS models' impact on HE access research results

HE funding model indicators	LFHS model	HFLS model
Max. Tuition Fee	No impact	No impact
Min. Tuition Fee	HEGR ³ - positive	No impact
Net max. Tuition Fee	HEGR – positive	No impact
Net min. Tuition Fee	HEGR – negative impact	GER, GER male, GER female and HEGR – negative
Max. need-based grants	GER male, GER female and HEGR – positive impact	No impact
Min. need-based grants	GER – positive HEGR – negative	No impact
Share of students, paying max. Tuition fees	No impact	No impact
Share of students, receiving max. need-based grants	GER female – positive impact	GER, GER male, GER female – positive impact
Study price “scissors”	HEGR – negative	No impact
Expenditures for 1 student	GER – negative	GER, GER female, GER male – negative
Public expenditures for HE	GER – positive	No impact
GDP per capita	GER – positive	No impact
Time trend	GER, HEGR – positive	HEGR – negative

Source: prepared by authors

On HE graduation positive impact have: *min. tuition fees*, *net max. tuition fees* and *max. need-based grants*. It means that students become more motivated to finish their studies when they have to pay for their studies in the case of LFHS model, when it is usual thing not to pay for the HE from the private sources. *Max. grants* also positively affect HE graduation, because students has high level of economic independence and can devote all their time and attention to studies, not for search of funding sources for their studies.

What about HFLS model – in this case *net min. tuition fee* has negative impact on both – enrolment and graduation rates. In this case grants are relatively small, and amount of tuition fees is more sensitive indicator for

³ Higher education graduation rate

students in HFLS models countries, than in LFHS model. Tuition fees negatively affect GER (general, male and female) and HEGR – when the *net minimum tuition fee* increase, the enrolment and graduation rates of HE decrease. Maximum need-based grants in HFLS models' countries statistically are not significant, because not all students receive grants. In addition, as it was mentioned, need-based grant in HFLS model are relatively small in comparison to LFHS model.

Minimum need-based grants has positive impact on enrolment to HE in LFHS model, but negative – on graduation of HE. It can be explained by facts, that in this model students usually receive grants, and if students receive not max., but instead – min. need-based grants – they have less motivation and at the same time – possibilities to finish their studies. Compared to the HFLS model – need-based grants have no statistically significant impact on enrolment or graduation rates of HE, because they can be received by students on rare occasions.

Share of students paying max. tuition fees has no impact on GER or HEGR. In case of LFHS model it is because of the fact, that students generally on rare occasions have to pay tuition fees (actually only in Netherlands, Belgium and Luxembourg). In addition, in case of HFLS model it is because of the fact, that usually students pay lower tuition fees rather than max. tuition fees.

Share of students receiving max. Need-based grants has positive impact on GER for women in LFHS model and for GER (general, male and female) – in HFLS model. When this indicator increases, the enrolment to HE increases too.

Expenditures for 1 student has negative impact on GER. This indicator usually is called “normative” tuition fee, or the price of study place. So if this “price” increases, the GER – decreases. This is relevant for LFHS model cases, where countries still have to pay for studies (e.g. Belgium, Luxembourg and the Netherlands) and in all countries of HFLS model.

The time trend shows a statistically significant effect on the overall participation in HE – the enrolment in HE increases by 1.32% every year in the case of LFHS model, and it is significant change compared to the results of other HE funding model. In the case of HFLS model time trend shows that HE graduation rate is negative. Analysing this case in detail, it can be seen, that in fact compared to 2011 the graduation rate in 2016 decreased in 3 of the 5 EU states in HFLS model countries. In Romania, Latvia and Hungary, the graduation rate decreased, while in Lithuania and Estonia it increased.

Conclusions. In conclusion, the results of research show, that tuition fees (*max., min., net, normative*) have a statistically significant, but not only positive or negative impact on enrolment to HE and graduation of HE, as well as for women and men enrolment to HE – it depends on HE funding model, which EU state decides to apply. Grants have positive impact only in LFHS model case. In addition, the results of research shows, that there is gender inequality – women enrolment to HE exceed men enrolment at most in HFLS model. Moreover, men are more likely to study in countries with higher need-based grants. EU counties with higher GDP per capita are more likely to apply LFHS model, than HFLS model.

REFERENCES

1. Baumgartner H. J. & Steiner V. (2006) *Does more generous student aid increase enrolment rates into higher education? Evaluating the German student aid reform of 2001*. DIW Berlin Discussion Paper No. 2034
2. Bennetot Pruvot E., Estermann, T., Kupriyanova V. (2017) Public Funding Observatory Report 2017, EUA, Brussels.
3. Clancy P., Goastelle G. (2007) Exploring Access and Equity in Higher Education: Policy and Performance in a Comparative Perspective. *Higher Education Quarterly*, 61(2): 136– 154.
4. Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020'), OJ C 119, 28.5.2009.
5. Dearden L., Fitzsimons E. & Wyness G. (2011) The impact of tuition fees and support on university participation in the UK.
6. Eurydice (2018) *National student fee and support systems in European higher education – 2018/19. Eurydice facts and figures*. Luxembourg: Publications Office of the European Union. doi: 10.2797/233986.
7. Eurydice (2017) *National student fee and support systems in European higher education – 2017/18. Eurydice facts and figures*. Luxembourg: Publications Office of the European Union. doi: 10.2797/274915.
8. Eurydice (2016) *National student fee and support systems in European higher education – 2016/17. Eurydice facts and figures*. Luxembourg: Publications Office of the European Union. doi: 10.2797/735546.
9. Eurydice (2015) *National student fee and support systems in European higher education – 2015/16. Eurydice facts and figures*. Luxembourg: Publications Office of the European Union. doi: 10.2797/698301.
10. Eurydice (2014) *National student fee and support systems in European higher education – 2014/15. Eurydice facts and figures*. Luxembourg: Publications Office of the European Union.
11. Falch & Oosterbeek (2011) *Financing lifelong learning: Funding mechanisms in education and training*. European Expert Network on Economics of Education (EENEE) Analytical Report No. 10 Prepared for the European Commission.
12. Garritzmann J.L. (2015) The Political Economy of Higher Education Tuition Fees and Subsidies. Retrieved form <https://ecpr.eu/Filestore/PaperProposal/cd2dd7aa-a63b-4548-9fbd-84854cb63c5e.pdf> (26.03.2019).
13. Goksu A., Goksu G.G. (2015) A comparative analysis of higher education financing in different countries. *Procedia Economics and Finance* 26 (2015) 1152-1158. doi: 10.1016/S2212-5671(15)00945-4.
14. Geven K. (2015). How Did the Latest Increase in Fees in England Affect Student Enrolment and Inequality? In Curaj A. Matei L., Pricopie R., Salmi J. & Scott P. (Eds.). *The European Higher Education Area Between Critical Reflections and Future Policies*. Springer Cham Heidelberg, New York Dordrecht London.
15. Johnstone D.B. (2006) *Financing Higher Education: Cost-sharing in International Perspective*. Boston College Center for international higher education; and Rotterdam: Sense Publishers.
16. Kaiser F. & O'Heron H. (2005) *Myths and methods on access and participation in higher education in international comparison*. Center for Higher Education Policy Studies.
17. Kane T. (1995) *Rising Public College Tuition and College Entry: How Well Do Public Subsidies Promote Access to College?* National Bureau of Economic Research (NBER) Working Paper 5164.
18. Kučaidze N. (2020) "Evaluation of Higher Education Funding Models and Impact on Higher Education Access in the European Union States". Doctor dissertation, Vilnius, Lithuania.
19. Hemelt S. & Marcotte D. (2008) *Rising Tuition and Enrollment in Public Higher Education*. Institute for the Study of Labor (IZA) Discussion Paper: 3827.
20. Hübner, M. (2009). *Do tuition fees affect enrollment behavior? Evidence from a 'natural experiment' in Germany*. CDSE Discussion Paper No. 69, University of Mannheim, pp.1-25.
21. OECD (2012) How are countries around the world supporting students in higher education? Education indicators in focus. Retrieved form <http://www.oecd.org/education/skills-beyond-school/49729932.pdf> (10.12.2019).

22. Orr D. (2015) A Comparative Study on Cost-Sharing in Higher Education—Using the Case Study Approach to Contribute to Evidence-Based Policy. In Curaj A. Matei L., Pricopie R., Salmi J. & Scott P. (Eds.). *The European Higher Education Area Between Critical Reflections and Future Policies*. Springer Cham Heidelberg, New York Dordrecht London.
23. Santiago P., Tremblay K., Basri E. & Arnal E. (2008a) Tertiary Education for the Knowledge Society. Volume 1. Governance, Funding, Quality. OECD. Retrieved form <http://www.oecd.org/education/skills-beyond-school/41266690.pdf> (15.12.2019).
24. St. John, E. P. (2006) *Public policy and equal educational opportunity: school reforms, postsecondary encouragement, and state policies on postsecondary education*. In Readings on equal education; vol. 21. New York: AMS Press, Inc.
25. Payne B., Charonis G.K., Haaristo H.S., Maurer M., Kaiser F., Siegrist R., McVitty D., Gruber A., Heerens N., Xhomaqi B., Nötzl T., Semjonov M., Primožič R. (2013) Compendium of financing of higher education. Final report of a project named Financing the Students' Future. Retrieved form <https://www.esu-online.org/wp-content/uploads/2016/07/FinSt-online.pdf> (12.03.2019).
26. Trow, M. (2006) Reflections on the transition from elite to mass to universal access: Forms and phases of higher education in modern societies since WWII. In Forest J.J.F. & Altbach P.G. (eds.), *International Handbook of Higher Education, Dordrecht*. The Netherlands, pp. 243-280.
27. UNESCO (2005) *Global Education Digest 2005*. Montreal: UNESCO Institute for Statistics.
28. UNESCO (2020) Glossary: gross enrolment ratio. Retrieved form <http://uis.unesco.org/en/glossary-term/gross-enrolment-ratio> (10.12.2020).
29. Yeshchenko, M., Koval, V., & Tsvirko, O. (2019). Economic policy priorities of the income regulation. *Espacios*, 40 (38), 11.
30. Yang L. (2011) *World Education Finance and Higher Education Access: Econometric Analyses of International Indicators and the Implications for China*. University of Michigan.