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TUITION FEES AS A SOURCE OF FUNDING AND A POLICY INSTRUMENT: INTERNATIONAL EXPERIENCE

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Abstract. The article discusses conceptual grounds of tuition fee policies based on literature review and the study of country-specific cases of the USA, France and Russia in order to highlight general trends and identify practices which can be considered for implementation in Russia. The Authors believe that scholarly publications offer contradicting empirical results related to the impact of tuition fee policies on the performance of higher education institutes. Several theoretical frameworks such as human capital, demand and consumer choice theories as well as the concept of new managerialism are used to explain controversial empirical evidence. Moreover, the effects of tuition fee policies are proven to be contingent on multiple factors such as state governance system, dynamics of labor market, organizational design of higher education, maturity of financial assistance system, prestige and uniqueness of specific educational programs. It is concluded that, apart from PhD studies, overall trend is towards wider application and increase in tuition fees combined with high price for foreign students. Doctoral students in most cases do not pay tuition fees, but get salary for work in research projects conducted to develop new knowledge. Both in the USA and France the best education is provided by highly selective expensive private institutions (although in both countries there are high quality public education). In Russia the most attractive, though expensive for those who pay tuition fees, are public universities because they provide high quality education. Potential change in tuition fee policy in Russia should acknowledge that, in general, higher tuition fees are justified for studies providing higher future earnings. Increase in tuition fees should be coupled with more developed financial aid system.

Keywords: tuition fee, higher education institutes, university governance, financial aid, price discrimination, Russia, USA, France

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Introduction

Regulation of tuition fees is an important element of policies at higher education institutions (HEIs). The term «tuition fee» usually refers to a mandatory charge upon a student covering all or some portion of the general cost of education. Tuition fees are the source of income and at the same time a policy instrument aimed at achieving such goals as regional and ethnical diversity of students, recruitment of students with outstanding achievements, international students, etc.

Various studies demonstrate that tuition fees do affect the type of students applying to a university. However, the existing literature on the impact of tuition fees is mostly country-specific and even university-specific. Scholarly studies such as [1, p.13] confirm that the effects of tuition fees largely depend on country specifics, tuition fee level and its dynamics, as well as on the measure under study (for example, introduction or elimination of charges). Still, the effects are usually studied based on cases, within one or several universities, located in one or several countries. The findings of such analyses may be contradictory (for example, in measuring strengths of the effects caused by changes in tuition fees).

Empirical evidence and theoretical background

While summarizing different studies on impact of changes in tuition fee policies, several observations can be made.

First, increased tuition fees make students more responsible and result in improved scores [2]. Furthermore, the case of Spain has proven the increased tuition fees not to lead to dropping out of students [1], while the study conducted in Germany [3, p. 6] has shown that attendance dropped by 1/3rd when financial aid was suspended. The same has been

confirmed by UK case study – increase in fees in 2012 reduced attendance by 1/3rd [4, p. 18] and, in addition, has led to the growing share of students applying for loans [4, p. 6]. Therefore, financial aid is an important policy component that should accompany tuition fees.

Second, rise in tuition fees leads to decreased competition and thus may affect the quality of students, this assumption being confirmed in three separate country studies conducted for different time periods in Canada, USA, and Germany [5–7]. At the same time, other studies found the effect to be non-significant [3]. Definitely there are universities-exceptions in many countries where the competition to get into most expensive universities is quite high.

Third, the experiment with abolishment of tuition fees in Ireland showed that it did not lead to better access to education for students from low socio-economic background since usually these students perform poorly in secondary school [8].

Even though empirical results are controversial, a number of theoretical concepts are linked to them. These concepts, aimed at explaining and even predicting outcomes of tuition fee policies, include human capital theory, theory of demand and consumer choice theory. The demand theory explains the negative relationship between tuition fees and enrollment (empirically confirmed in many studies, even though it is not applicable for top-20 U.S. universities). This assumption is further expanded by human capital theory claiming that students take rational decisions concerning the choice of place of study [9, p. 2]. It is also confirmed by empirical studies, that students weigh expected direct and indirect costs against lifetime monetary and intangible benefits [10]. For example, the case-study conducted in UK has shown applications to programs with weaker employment prospects to be more sensitive to changes in tuition fees [4, p. 2]. Nonetheless upsurge in tuition fees for foreign students may lead to the sharp decline of their number [11]. Therefore, the rational choice is taken based on multi-component decision-making.

Factors influencing the effects of tuition fees policies

Tuition fee and financial assistance policies in many countries depend on major government regulations. External factors influencing the effects of tuition fees may be revealed through comparative analysis of countries with centralized and decentralized decision-making. According to Kemnitz [12], educational quality improves with decentralization. Thus, in the U.S.A., government does not set general norms and the country has the world's best universities. However, the countries with centralized regulations may apply wide variety of approaches (differing by type of HEI, for example). The experimentations with approaches show that there is no magic solution that would improve the quality of education. Therefore centralization and decentralization may coexist. For example, in France and Russia, there are general norms set by the government and a number of exceptions to them.

The political context also implies that governments chose either free education for all students or fee-based education; in latest years however mixed approaches are utilized in growing number of countries. The rationales for free education rely on beliefs that the returns to society from highly educated individuals are substantial and that education is a fundamental right [13, p. 26]. The opposite view is that upfront tuition fees are needed because parents or students should be responsible for coverage of at least some portion of education costs. Often tuition fee policy implies international students to pay higher tuition fees than domestic full-fee paying students [13, p.33].

The balance between free and paid education moves towards widening application and growing diversity of tuition fees. This dramatic shift has happened in recent years in many countries. The cost of tuition is gradually increasing in the countries where higher education is not free (USA, for example); simultaneously, countries with free education started to apply different tuition fee schemes (France, Germany). There are multiple reasons for these developments. One of them is commonly shared opinion that students paying fees demand more accountability. Therefore, universities charging tuition fees are to be more consumer oriented [13, p.27].

The boost in tuition fees was also induced by the concept of new managerialism that has become popular in governance of universities worldwide. According to this concept, universities should be managed as corporations and therefore the volume of attracted external funding is becoming an important indicator of their performance [14].

One of the disputable concerns is that universities in countries with high tuition fees are less accessible than those who charge moderate tuition fees or do not charge tuition. The study based on the analysis of 16 countries [11] has revealed that there is no direct correlation between the level of tuition fees and accessibility. For example, USA and UK – countries characterized with high tuition fees – do not experience difficulties with participation and attainment rates, while other countries even with free education systems, like

Germany, do not have good scores on any of accessibility measures. This result confirms theoretical assumptions about multi-factor choices of students.

A separate politically sensitive issue is the treatment of domestic and foreign students. In many countries, foreign students pay more since it is assumed that higher tuition fees for them are less politically controversial [15]. The common approach is to treat international students as «cash cows» [16, pp. 5–6]. The tuition fee policies towards foreign students underline a conflict between social justice and need for universities to earn money. It is noticeable that universities in countries with less advanced education systems rely not on educational quality for acquisition of international students, but rather on specificity of their countries in political, economic, cultural or geographic aspects [17].

Analysis in historical perspective, covering 33 OECD countries for the period of 1995–2015, suggests that approaches to tuition fees may be related to dominant political regimes [18]. Garritzmann identifies four country groups with similar tuition fee policies, relating these policies to political regimes that prevailed in respective countries after the World War II. The author concludes that in countries with partisan composition of government where neither party is leading, there is high tuition fee, but also high public support (USA). In countries with dominant leftwing parties education is free. In contrast, when rightwing parties dominate for a long time, this leads to «elitist», expensive higher education accompanied by low-subsidies regime.

The suggested logic suffers from ignoring of the dynamics in tuition fee policies. It does not acknowledge that countries are moving towards introduction of tuition fees and raise them tremendously in countries where they already were high. A very noticeable is the case of UK where the cost of university degree was subsidized by the government until 1998 [4, p. 2]. Moreover, in the same country various tuition fee policies may co-exist: some universities may charge tuition fees and others are totally or almost tuition-free (France, Germany). In addition, there are countries with dual tuition track system when the same university charges some students while others study at tuition-free basis (Russia).

In the next three sections tuition fee policies are analyzed for USA, France and Russia in more detail.

USA

The American higher education system evolved relatively free from government oversight and regulation. The unique synergy of public and private HEIs made the country a special case [19, p. 108] and crafted a solid basis for research productivity in the country.

Diversity is the main feature of American tuition fee system. It is characteristic of both private and public universities. The size of tuition fees is also determined by demand and supply balance in a particular HEI and differs by discipline.

Public universities receive some funding from the state governments, allowing them to charge students, who have been living in the state where university is located, lower tuition fees. This is applicable to specialties highly demanded by a state, such as agricultural ones. These study fields are usually not attractive to private universities and are less popular among students. This is why *public universities are less prestigious than private ones despite the lower tuition fees*. However, there are noticeable exceptions, such as Berkeley, Georgia Tech, UCLA and a number of other public universities that are very prestigious.

Universities with lowest acceptance rates are the top private HEIs, with long history and large endowments: Stanford University (5.1 % accepted out of 100 % applied), Harvard University (6 %)[1], Yale University (6.3 %) and Columbia University (7 %)[2]. They charge the highest tuition fees: Yale and Columbia Universities have average tuition fees 50,000 USD/year; Princeton University – over 42,000 USD/year[3].

These high tuition fees are balanced by wide variety of funding sources providing full or partial compensation of tuition charges. Financial aid system differs depending on the type of university (private or public) and origin of a student (American-born or foreign). In addition, some categories of students may get more privileges, for example, outstanding athletes or musicians, former military and students from the underrepresented groups of population.

Top private university may offer larger variety of sources for students to cover the cost of education. For example, Caltech provides to MA students in STEM a «menu» of 90 organizations and foundations available for financial aid or educational loan.

PhD level of study is very different from BA and MA degree. Doctoral students often do not pay

[1] The acceptance rate is constantly decreasing in the top American universities. According to latest data, acceptance rate for Harvard University became 4.5 %. Source: Lou M., Griggs B. Acceptance rates at top colleges are dropping, raising pressure on high school students, available at: https://edition.cnn.com/2019/04/03/us/ivy-league-college-admissions-trnd/index.html?no-st=1554452933 (accessed: 10.09.2019).

[2] Top 100 – Colleges with Lowest Acceptance Rates for 2019, available at: https://www.educationcorner.com/colleges-with-lowest-acceptance-rates.html (accessed: 15.09.2019).

[3] Tuition Fees for Master's Degrees in the USA – Average Costs for Popular Subjects, available at: https://www.mastersportal.com/articles/1762/tuition-fees-for-masters-degrees-in-the-usa-average-costs-for-popular-subjects.html (accessed: 21.09.2019).

tuition fees; their study is covered with funds allocated to scientific projects in which PhD students take part. Usually there should be grant money from external organizations, for example, the National Science Foundation or the National Institutes of Health. PhD students may receive teaching assistantship for services provided to professor, however they cannot work full time outside of campus, since the main task of a graduate student is to study and to write a thesis.

Many studies on USA higher education are focused on the effects of increased tuition fees, especially in public universities, as well as on treatment of international students.

In latest years, the highest growth of tuition fees for MA and even PhD students is envisioned at public universities (Fig. 1). At public universities, tuition for foreign students is on average twice as high as for domestic in-state students. Growth of tuition fees in public sector is connected to decrease in government funding for these HEIs. Tuition fees may partially substitute financial losses for a university.

In private universities tuition fees have always been high and there is typically no difference in fees charged to domestic and international students.

The studies have shown that enrollment falls down at public universities when tuition fees increase. The exact estimates vary. In early studies of the beginning of 90s the enrollment was estimated to fall by 0.5–1 % with a 100 USD increase in tuition. Later studies revealed that 100 USD increase in tuition fees leads only to 0.25 % or less decline in enrollment [21]. Along with the effects on enrollment, increased tuition fees lessen diversity of students, including the ethnic one [10, pp. 37–38].

The problem of growing tuition fees is becoming more and more significant. Nowadays it frequently comes as a shock, especially to MA and PhD students [20, p. 630]. For example, at the Louisiana State University student fees more than doubled in 5 years. Growing tuition fees at public universities make it difficult for faculty to recruit new students, especially those with limited financial resources.

France

The case of France is characterized by several specific features. First of all, the tuition fee policy is deeply intertwined with state system framework and current socio-economic policy. These two factors translate into the structure of stakeholders in higher education, the amount and sources of public spending both in public and private HEIs.

France is a partially decentralized state comprised of regions, departments and communes, meaning that public spending is shared among these public bodies and the central government. In addition, other multiple public agencies, such as chambers of commerce and industry, also invest in higher education.

In scholarly articles the public spending is stated to be gradually decreasing [22, 23], however it fluctuated around 81.7 % of total funding since 2013 (Table 1), while overall spending has grown almost by 8 % in 2017 compared to 2013 [24]. Until 2017 the burden of tuition fees on households has not largely changed; the increase in spending has been mainly distributed between «other public entities» and enterprises. The rising share of these organizations is justified by specificity of organizational structure of French higher education.

In terms of tuition fees policies, it is important to distinguish two prevailing forms of organizations – universities and Grandes Ecoles (elite, highly selective

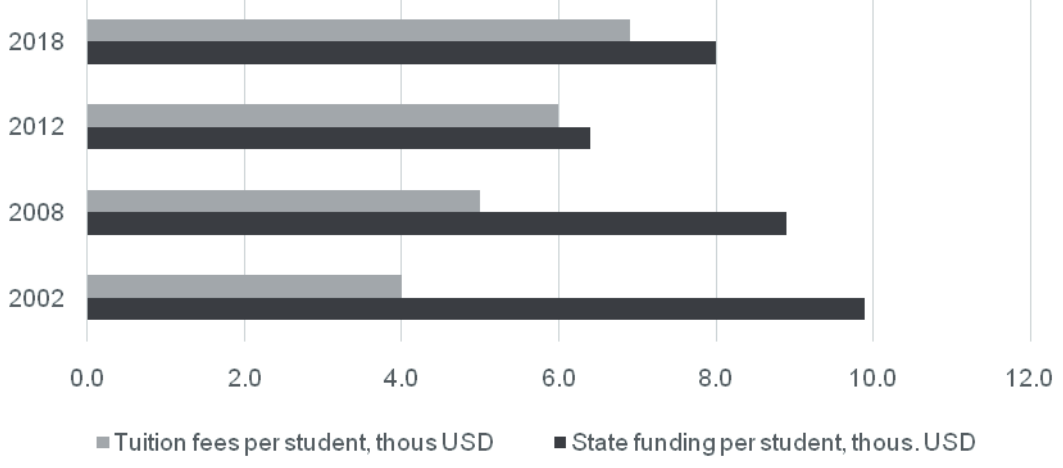

Fig. 1. Growing tuition fees in USA public universities (numbers are adjusted for inflation)
Source: calculated based on data from [20, p. 630]

Table 1

Structure of spending on higher education by types of stakeholders (%)

	2010	2011	2012	2013	2014	2015	2016	2017[p]
Public entities	83.7	83.1	83.0	81.6	81.7	82.7	81.7	81.9
Central government	71.4	70.3	70.2	68.6	67.9	68.4	67.5	67.7
Territorial administrations	10.6	10.7	10.7	11.1	10.6	10.8	10.8	10.7
Other public agencies	1.7	2.1	2.1	1.9	3.2	3.5	3.4	3.5
Enterprises	7.8	8.3	8.4	9.6	8.8	9.0	9.5	9.4
Households	8.5	8.6	8.6	8.8	9.5	8.4	8.7	8.7

Source: [24]

higher education establishments). All universities in France are public, while Grandes Ecoles can be both public and private. Consequently, there are three main tuition fee policy models.

Universities dominate the market of educational services, accounting for 60 % of enrolled students in 2018/2019 academic year [25, p. 153]. Consequently, the prevalent tuition fee policy in France is that characteristic of universities.

Until recently universities have adhered to a «low fee – low aid» educational model. The amount of the annual tuition fee is fixed by the Ministry of Higher Education, Research and Innovation (MESRI) and varies between 170 euros per year for bachelor studies to 380 euros for PhD students. The grants are need-based and entail exemption from paying tuition fees based on family income. Merit-based grants are based on needs and amount just to 900 euros per year [26, p. 49].

«Low fee – low aid» model has been backed by social justice rationale (i. e. inexpensive higher education for low-income families) as one of the state policy pillars. However, the status quo is changing under the pressure of evolving socio-economic situation, namely shortage of resources in the face of higher competition among HEIs and rising number of students enrolled. As a result, spending per student in universities, which rely heavily on central government funding that has not increased accordingly, has decreased by almost 1000 euros since 2013 [24]. To support universities, the government has implemented a differentiated enrollment rate for international students since 2019, increasing tuition fees for BA degree by more than 16 times and for MA – by 15,5 times[4]. Moreover, central authorities silently approve the universities' switching to cost-sharing model, i. e. increase of tuition fees in some specific programs. Usually these are the most prestigious programs with a high future earnings premium. The most prominent case is Université Paris-Dauphine, where some national MA degree programs, for which tuition fees are defined by state, has been transformed into special master's programs, for which the university can set any tuition fees. As a result, tuition fees has become higher for these programs. [27].

Around 18.5 % of students study in public Grandes Ecoles system [25, p. 153]. The tuition fee policy is quite similar to that of universities but the rate is higher[5]. Higher tuition fees are justified by higher per student expense by the state: while average spending per university student in 2017 was 10 330 euros a year, the education of a student in preparatory classes for Grandes Ecoles cost 15 760 euros per year [25, p. 333]. In addition, public Grandes Ecoles also carry out experiments with tuition fee level for their most outstanding programs and have implemented differentiated tuition fee rate for non-EU students.

Finally, private Grandes Ecoles, which are considered the most prestigious, accounted for 18.8 % of students enrolled in HEIs in 2018–2019 academic year [25, p. 153]. Since they guarantee high graduate earnings premium, these HEIs are the most expensive – a year of study can cost more than 20 000 euros and the price is usually higher for foreign students.

Thus, firstly, France incorporates a hybrid tuition fee policy system. Notwithstanding distinctive cases of increase in tuition fees in specific universities, it embodies «low fee–low aid» model in the public sector. On the other hand, more credit is given to highly elite HEIs in private sector, which can set much higher tuition fees. This feature is partially mirroring that of USA, except for much smaller share of private funding in France (Fig. 2) and underdevelopment of financial aid system. Secondly, refuting inferences

[4] Droits d'inscription [Registration fees], available at: http://www.etudiant.gouv.fr/pid33847-cid96721/droits-d-inscription.html (accessed 18.09.2019). (In French).

[5] Le coût des études supérieures en France [The cost of higher education in France], available at: https://www.campusfrance.org/fr/cout-etudes-superieures-france-frais-inscription (accessed 18.09.2019). (In French).

in [18], we acknowledge that tuition fee policy system in France is largely predefined by historical development of labor market which has shaped its institutional diversity and determines low price elasticity on educational programs with outstanding future earnings premium.

As far as PhD studies are concerned, the cost of tuition is low (380 euros per year non-contingent on nationality), however admission to a doctoral program usually requires a candidate to confirm the availability of funding for the entire duration of a thesis research. To this end, PhD candidates can receive financing either under a special employment doctoral contract with MESRI, host research organization, company or in the form of scholarships from the European Union or the country of origin for foreign students. In the case of doctoral contracts, the thesis theme is defined by funding organization, namely by professor or researcher leading the overall study.

In 2017/2018 academic year 73 % of doctoral students enrolled in the first year had their theses financed by another party. The majority of supported PhD students were funded by public entities such as MESRI (34 %). Businesses accounted for almost 11 % of funded thesis research [24].

To summarize, the French tuition fee system, in accord with the American case, is moving towards high-fee model with elevated prices for international students.

Russia

In Russia, the central government sets all major rules regarding higher education despite the fact that it is a federal country. Most of HEIs (over 60 %) report directly to the Ministry of science and higher education. Two other important ministries that supervise HEIs are Ministry of Health and Ministry of Agriculture.

The majority of HEIs are public, and the most prestigious universities are all public. The legislation that came into force in 1992 allowed establishing private universities; at present, the share of private HEIs is about 14 % [28, p.345]. Most of them teach social sciences, business and finance and do not cover STEM, because these are the most costly fields of study to provide.

The same legislation allowed universities to do fundraising, giving start to application of dual tuition track system, when in the same university some students study free of charge while others pay tuition fees (usually up-front). Thus, while the state subsidizes some students as selected, presumably on merit, by individual institutions, it requires the rest of them to provide full compensation for costs incurred [29, p.41].

As a result of legal changes, there are currently three practices related to tuition fees:

– regularly admitted (tuition-free admission) students in public HEIs
– fee-based admissions in public institutions (quasi-private admission) of less than 25 % of total enrolment in high demand fields;
– fee-based admission to private HEIs.

Since 2000, more than 40 % of students enrolled in public universities pay tuition fees [28, p. 346]. The size of tuition fees varies significantly depending on university and discipline. The studies also show correlation between tuition fees level and average annual salary in the region [30, p.73]. That explains why universities located in Moscow charge the highest tuition

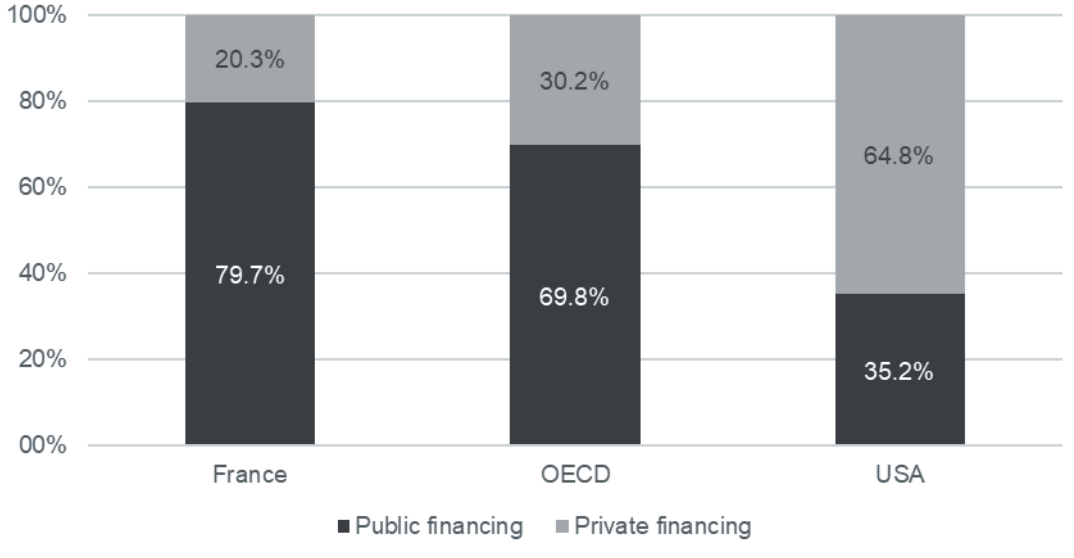

Fig. 2. Relative shares of public and private financing of HEIs in France, OECD and USA, 2015
Source: [24]

fees. The connection between tuition fees and salary is also revealed for Europe and USA but there the coefficient of correlation is lower (0.4 versus 0.8 for Russia).

The fees charged by private institutions are often three to four times lower than those charged by similar programs in top tier public HEIs [29, p. 43]. For applied mathematics, sciences, engineering the tuition charge is set at the lowest level: there are not many applicants in these fields despite the fact that STEM programs in Russia are considered to be of good quality. Also, according to educations.com[6], only four Russian universities offer MA degree in natural sciences and mathematics for international students – Skolkovo institute of science and technology (Skoltech), ITMO, Higher School of Economics, and Moscow Institute of Science and Technology. For some specializations, international students do not pay tuition fees. Otherwise a Master's degree for international students costs from RUB 82,000 (USD 1473) up to RUB 450,000 (USD 8082) per year[7].

The peculiarity of Russian system is that PhD study in English is even more expensive for students than study at MA programs. Graduate school (PhD) in English is a very rare phenomenon, and competition among universities is almost absent; some prospective disciplines are taught in few universities (Table 2). The exception is Skoltech where all PhD programs are in English and tuition-free.

These observations show that in Russia tuition fees are not a selection instrument, because best students study at top tier public universities free of charge. Therefore, tuition fees in public universities are just a source of additional income. Also, the system of financial aid is underdeveloped: tuition fees are not balanced by opportunity to apply for bank loans or to get scholarships from a foundation (public or private), Only students from well-off families can afford tuition-based study. Credit system also benefits those who can pay for education out of pocket. In case the income is unstable, it becomes very difficult to get a loan for education [31, p.116].

International students may become not only a source of income for universities, but also promote their visibility as well as become workforce for research. Foreign MA and especially PhD students may contribute to reaching simultaneously both goals stated by the National Project «Science» – to attract 35 thousand young researchers and to promote internationalization. In addition, attracting students from developed countries with good education background improves the overall quality of graduates and thus benefits all areas of universities' activities – tuition, research, and innovation.

However, as theory and empirical evidence show, students make rational choices and they will choose the place either with low tuition or good political climate, economic prospects, or cultural and geographic richness in the country. At present, Russian universities' competitive advantage is in the ability to charge comparatively modest by world standards tuition fees. English language study is also very important for attracting international students but expanding it in Russia is a difficult task because English language proficiency among teaching staff remains low, and the whole system of teaching English should be modernized. On a positive side, cultural and geographic richness of Russia can be attractive to international students.

Conclusion

International experience demonstrates wide variety of tuition fee policies both backed up or not by the system of compensations and educational bank loans that could decrease the cost of study for a student. The diversity is explained by various internal and external

[6] Science, Master's degree in Russia, available at: https://www.educations.com/search/institutes/masters-degree-science-russia/a63-c42-d1034 (accessed 20.09.2019).

[7] Tuition Fees & Study Costs in Russia, available at: https://www.educations.com/study-guides/europe/study-in-russia/tuition-fees-13341(accessed 20.09.2019).

Table 2

Annual tuition at Russian universities, for PhD studies in English, by select disciplines, USD

Discipline	Minimal cost, USD per year / Name of university	Maximum cost, USD per year / Name of university
Information security	2 645 /Tomsk state university	5 078 /National Research Nuclear University
Material science	3 000 /Siberian federal university	5 078 /National Research Nuclear University
Biological sciences	3 030 /Siberian federal university	5 078 /National Research Nuclear University
Computer engineering	5 078 /National Research Nuclear University	
Photonics, optical systems and technologies	5 078 /National Research Nuclear University	

Source: Data from «Study in Russia». Study in Russia, Official website about higher education in Russia for foreigners, available at: https://studyinrussia.ru/en/ (accessed 12.09.2019).

factors, such as historical legacy, pace of reforms in the higher education sector (France, Russia), political regimes, type of hierarchies in state governance of higher education systems, and some others.

The world trend is in the direction of growing costs of tuition and in introduction of tuition fees in countries with previously tuition-free policies. This trend is partially caused by decreasing government expenditure for higher education, especially after the 2008 economic crisis.

Still, there are two broad assumptions concerning the tuition fee policies: one is based on «social responsibility» of the State and the right of everyone to education; this concept supports free of charge education. Another approach is based on the assumption that parents and students should compensate for at least a part of the education costs, which makes universities more responsible for the quality of services provided.

International practices along with more detailed observations of the tuition fee systems in USA, France and Russia allow defining several important principles that may be taken into consideration in Russia.

First, high tuition fees are possible in cases where a system of loans, grants and subsidies is available for students to offset, at least partially, the cost of study. In the absence of such a system of partial compensation, as in the case of Russia, cost of study should be less expensive than in countries with equal level of educational services (as compared to universities from the same ranking groups, for example). In that case, tuition fee becomes a less profitable source of funding, but it can work as an instrument for attracting better students. Best Russian universities may gradually increase tuition fees, after they improve positions in world ratings and become more recognizable in the international educational market.

Second, high future earning premium of certain educational programs and institutions justifies soaring tuition costs for students. The high tuition fee level in this case does not affect negatively the quality of enrolled students, since the price elasticity is low and competition for acceptance is high. This policy can be tested in some of highly competitive Russian institutions and be proven to be an effective instrument. However, to avoid elitism this policy should be coupled with a comprehensive financial aid system.

Third, foreign students may be a good source both of higher quality students and additional funding for Russian universities. International experience shows that foreign students usually pay more than citizens of the country do. The attractiveness of Russia for foreign students is, in our view, in country's cultural and geographic aspects (assumption based on what?), as well as in quality of training in some disciplines (especially in physics and math). For universities it is important to make international student body geographically, gender-wise, and ethnically diverse. To achieve this goal, universities should conduct proactive academic outreach.

Fourth, in the developed countries, PhD training is often covered not by students but from the grant money because graduate students work with and for professor and thus are employed in a research project. This practice may be useful for Russian universities: instead of charging tuition fees for graduate study, it may be more beneficial to support students from resources allocated to research projects. This approach also makes professors more responsible because selection of best students becomes their core interest.

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