

‘LEMONISATION’ AND INFORMATION ASYMMETRY ON THE EDUCATIONAL SERVICES MARKET IN UKRAINE

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ABSTRACT

Aim. The article aims to analyse the manifestations of information asymmetry in the market of educational services to develop proposals for improving the communication programmes of higher education institutions of Ukraine.

Methods. The authors describe the display of information asymmetry in the market of educational services based on a sociological study among the 1st and 2nd-year students of Ukrainian universities, which aimed to study the criteria for choosing an educational programme. The authors used correlation analysis to assess the statistical significance of the influence of individual criteria on the selection of entrants. The survey was conducted at the universities in Ukraine that provide educational services on the bachelor's degree specialities of 073 Management and 075 Marketing. A critical and comparative analysis of state regulatory measures to overcome information asymmetry was also applied.

Results. The annual decrease in the number of university entrants in Ukraine and around the world has led to increased competition among universities, resulting in an escalation of information asymmetry in the market of educational services and its 'lemonisation'.

Conclusions. According to the results of the sociological study, despite the high availability of sources of information, at the time of entering the university, the vast majority of students did not consider themselves sufficiently informed about the benefits of studying in the chosen educational and professional programme. Several state regulatory measures have been taken to provide quality educational services in Ukraine and ensure unbiased information about universities. It was revealed that by allocating state-funded places for a specific speciality and university, the government significantly influences the choice of applicants. However, it should be noted that such impact is not very significant for applicants with high scores. Given this, the impact and effectiveness of both the state regulation system of universities in Ukraine and its specific instruments require further study.

Cognitive value. The study results contribute to overcoming the asymmetry of information in the market of educational services, serve as a methodological basis for improving the communication programmes of higher education institutions, promote healthy competition among them. The findings of this study can be considered an essential contribution to future research.

Keywords: education, educational services market, 'lemonisation' of the market, information technology, information asymmetry

INTRODUCTION

Today, globalisation affects all spheres of human life and primarily impacts education development. Given the rapid change in the functioning of universities, in which the development of information technology plays a key role, the criteria for assessing the effectiveness of their activities are gaining dynamic development and, most importantly, now have their specific mechanisms for the competitiveness of educational services. In a broad sense, competitiveness is the position of a country or a university in the domestic and foreign markets for educational services due to economic, social and political factors. In conditions of complete openness of

the educational space, the level of competitiveness can be defined as the ability of a country (university) to resist international competition on its own market (i.e., effectively counteract the outflow of Ukrainian citizens to study abroad) and the markets of other countries (i.e., effectively attract foreign citizens to study in Ukraine). The reasons for the weak market position of Ukrainian universities are low quality and/or low competitiveness of their educational services and inefficient communication, particularly their manifestations of information asymmetry in the market. We consider it reasonable to dwell in detail on the aspects of the issue.

RESEARCH ON INFORMATION ASYMMETRY IN THE MARKET OF GOODS AND SERVICES

Although the phenomenon of information asymmetry has been known for a long time, economics turned to the study of this problem only in the second half of the twentieth century. The concept of information uncertainty, incompleteness and asymmetry in economics was formed and developed in the works of many scientists. We refer only to some of them in our study, which significantly impacted the proposed research results. In particular, Nobel laureate Kenneth Joseph Arrow was one of the first to study information asymmetry. In his work, *Uncertainty and the Welfare Economics of Medical Care*, the scientist proved the existence of information asymmetry in the medical services market, as medical knowledge is quite complex and specific, and the doctor is always more informed than the patient about the consequences and treatment options (Arrow, 1963).

Significant progress in the study of the specified area has been made in the works of William Vickrey, devoted to the problems of taxation, pricing, allocation of resources under conditions of information asymmetry. In particular, Vickrey considered auction bidding, when the bidder may know more about the product than the seller, the classic example of a situation with asymmetric information. Vickrey proved that the seller could compensate for the lack of data by using the so-called 'second-price sealed-bid auctions', also called 'Vickrey auctions' (Vickrey, 1962).

Vickrey's conclusions on market asymmetry were further developed and summarised by a Nobel Laureate, sir James Mirrlees. He significantly expanded the set of economic problems characterised by information asymmetry by proposing many mathematical models for their resolution (Mirrlees, 1974, 1999).

The study of markets with asymmetric information has reached a qualitatively new level thanks to the works of George Akerlof, Joseph Stiglitz and Michael Spence. In 1970, Akerlof published his famous article, *The Market for Lemons: Quality, Uncertainty and the Market Mechanism*. He described the impact of information asymmetry on the market for used cars. In such a market, sellers have an incentive to sell goods with hidden

defects at inflated prices, resulting in a tendency to reduce both the average quality and cost of goods and the size of the market (Akerlof, 1970).

The phenomenon of information asymmetry is inherent both in commodity markets and services markets, including financial ones. In particular, Stiglitz proved the existence of two-way information asymmetry in the insurance market. It happens when insurance companies (the less informed party) without having complete information regarding the customer (the well-informed party) could set a single insurance premium, resulting in a lower risk of overpaying on behalf of the customer. A thorough analysis of the effectiveness of financial markets by Akerlof and Stiglitz concluded that when buyers do not receive complete and reliable information about a product or service, such a market needs additional regulatory action by the government (Stiglitz & Weiss, 1981). In turn, Spence proposed a concept involving market signals to address the harmful effects of informational asymmetry, which helps better understand the market's subjects (Spence, 1973).

Ukrainian scientists have also contributed to the study of information asymmetry and its impact on the development and functioning of commodity and financial markets. To set an example, these are the study of Valentyna Mazurenko and Yurii Hoinik on assessing the attractiveness of international commodity markets in terms of information asymmetry (Mazurenko & Hoinik, 2013), Anna Mokrytska on effective methods of forming complete information in the market of medical services and ways to process it to reduce possible risks during choosing medical services by consumers (Mokrytska, 2015). The impact of information asymmetry on the transport services market was the object of Larysa Krysiuk, Iryna Moskvichenko (Krysiuk, 2017); the effect of information asymmetry on assessing the attractiveness of foreign electricity markets was analysed in the creation of Mazurenko (Mazurenko, 2013).

Some information asymmetry problems are also manifested in the market of educational services, but they are almost not studied. This circumstance determines the relevance of the proposed study.

METHODOLOGY

We conducted a sociological survey to identify the criteria entrants take into account while choosing universities. The study involved 203 people aged 18 to 20, including 26.5% men and 73.5% women. The methodological approach of Volodymyr Paniotto and Valentyn Maksymenko to maintain the representativeness and volume of the sample was applied (Paniotto et al., 2004).

The questionnaire served as the primary survey method. **The questionnaire** consists of an adaptive part and 12 questions on the research topic, which were divided into two groups. In order to encourage respondents

to participate in the survey, the adaptive part explained the purpose of the study and the possibility of using its results to improve the communication programs of higher education institutions. The first group of questions is aimed at identifying important criteria present in the communicative programs of universities that influence the applicant's choice of an educational and professional program for study. The second group of questions is aimed at assessing the level of awareness of applicants about the advantages of the chosen educational and professional program at the time of entering the university and their beliefs about the correctness of the choice made. In order to increase the reliability of the survey, respondents were given the opportunity to evade the answer, give an uncertain answer or offer their own option.

Applying the correlation analysis helped assess the influence of individual criteria on the entrants' choice during the 2021 admission campaign. The statistical sample was formed on the basis of the analysis of the results of the admission company of Ukrainian higher educational institutions providing educational services in *073 Management* and *075 Marketing* specialities at the bachelor's degree level. The statistical sample was formed on the basis of open data of the Unified State Electronic Database on Higher Education (<https://vstup2021.edbo.gov.ua>) about competitive offers and statistics of submitted applications for the named specialities. For *073 Management* the statistical sample included 441 observations, for *075 Marketing* – 207.

The authors investigated the influence of the licensed number of student recruitment, the number of government procurement, the cost of contract education, the average score of independent external assessment among entrants on the number of submitted applications for the named specialities.

The significance of the results of correlation analysis was checked on the basis of Student's t-test. The obtained results are statistically significant and can be used in practice. Critical and comparative analysis of government regulatory measures to overcome information asymmetry in the educational services market was used.

RESULTS AND DISCUSSION

For a long time, the prevailing assumption in economics was the equal distribution of information among all participants in market relations. It was believed that at any time, a person could get all the necessary information about the factors that influence them to make the right decision. However, the research results of many economists show that in market conditions (especially in conditions of imperfect competition), such an assumption is not always valid. Sellers or buyers may intentionally conceal important information during economic activities to gain some competitive advantage in the future. Besides this, there will always be specific objective

barriers to disseminating market information. As a result, the information available on the market is primarily incomplete, and each economic operator usually has a limited amount of data. The incompleteness of information primarily affects the conditions and features of the market functioning. Moreover, the behaviour of economic agents in such conditions leads to an inefficiently functioning market and entails additional costs and result in damage from ineffective actions of economic subjects.

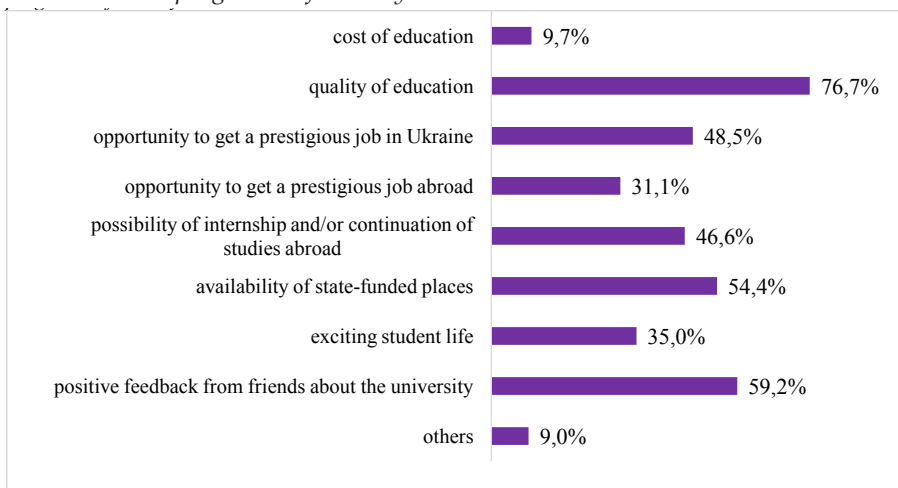
Asymmetric information is a particular type of incomplete information that significantly affects market activity. It defines the state when individual market participants have access to certain important information that other market participants do not have. Asymmetric information is an uneven distribution of information about a product, service or potential partner between the parties of the agreement. This situation is typical of the labour market, many commodity and financial markets, and the educational services market, where uncertainty and incomplete information also exist.

In general, the issue of assessing the information asymmetry in the market of educational services and its impact on the competitiveness of universities is relevant not only for Ukraine. The complexity and importance of this matter are due to the development of modern information technology, which changes the competition structure among universities, filling it with new content. On the one hand, competition's scale and geographical boundaries are changing, which is increasingly becoming global. On the other hand, it may seem that the availability of information sources about education helps raise awareness of educational services consumers and provides them with opportunities for more rational choices. However, practice shows that many universities successfully form their competitive advantages due to the imaginary characteristics of educational services based on applicants' perception of educational programmes. Without denying the importance of the educational services quality in its classical sense, we must state that, firstly, the centre of gravity in the competition for the entrant is shifted to the level of their perception. The competition of universities is increasingly similar to the struggle for the intensity, originality and novelty of information about educational programmes. Secondly, due to the openness of the educational space, the communication programmes of some universities are often copied by others, which are essentially identical in content and do not reflect the fundamental competitive advantages of a particular university and educational programme.

Given the above arguments, we conducted a sample sociological survey among students of 1-2 courses of all specialties of the Ukrainian higher education institutions, which aimed to study the criteria for choosing an educational programme for study. The peculiarity of this study is that the authors tried to determine the cumulative impact of university communication programmes on the behaviour of applicants, taking into account price, quality and performance characteristics of educational services.

Figure 1

Distribution of sociological respondents according to the criteria of their choice of an educational programme for study



Source: own research.

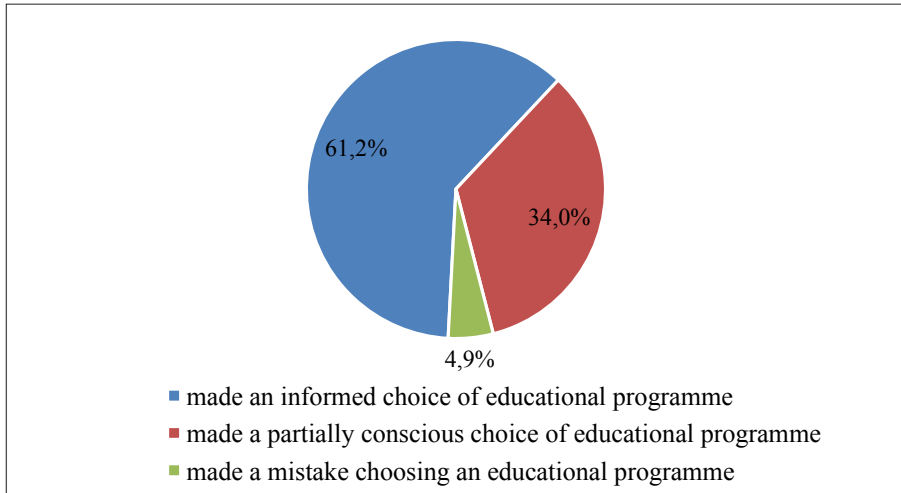
Among the 20 proposed criteria, only seven were significant for the respondents. According to the figure, most students choosing an educational programme focused on the quality of education (76.7%) and the availability of state-funded places for the selected EPP – 54.4%. Also, for a significant part of young people, an important argument is the effectiveness of studies, namely the opportunity to get a prestigious job in Ukraine after graduation (48.5%), the opportunity to get a prestigious job abroad – 31.1%, the possibility of professional internship and/or continuing education abroad – 46.6%; an exciting student life attracts 35% of respondents. However, the criteria listed above are present in the communication programmes of almost all universities as advertising messages, which is why 59.2% of respondents to get reliable information when choosing EPP relied on positive reviews of the university from their friends.

According to the authors opinion, the motives and stereotypes of the behaviour of modern youth have their own peculiarities. Since many of them have learned to use a computer before reading, they are not team players but instead focused on achieving their own individual goals. Born and raised in the information age, they, unlike any other, can utilise and analyse information “on the go”. It is access to an almost unlimited amount of information and educational materials that contribute to the early high erudition of young people and the formation of their decision-making skills at a relatively young age. Our research confirms this thesis: 61.2% of respondents believe they made an informed and correct educational study programme. However, it is alarming that a significant part of young people

do not think so: 34.0% of respondents question their own choice, and 4.9% are convinced that they were wrong (Fig. 2).

Figure 2

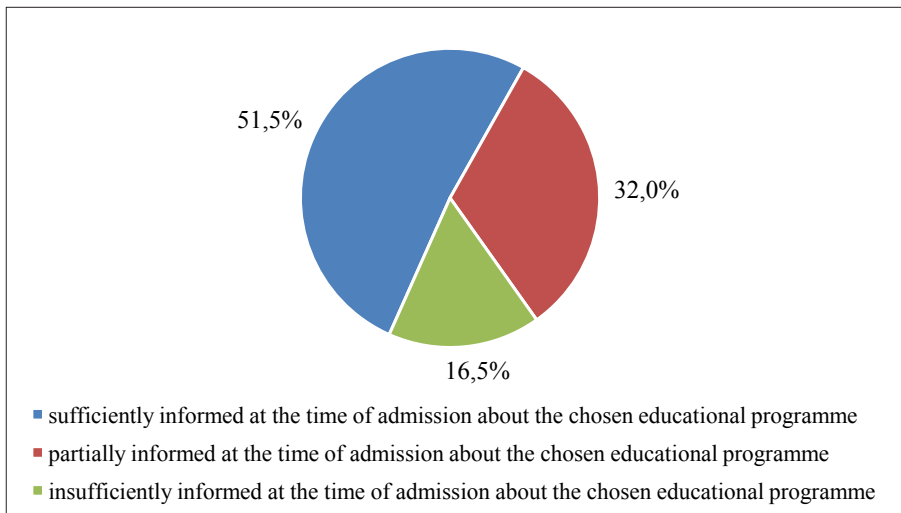
Allocation of sociological survey respondents on the conviction of the correctness and conscious choice of an educational programme for study



Source: own research.

Figure 3

Distribution of sociological survey respondents on the level of their awareness of the benefits of the educational and professional programme



Source: own research.

We consider this situation to be evidence of manifestations of lemonisation in the market of educational services, and the data presented in Fig. 3 only confirms this thesis. Even though information sources are constantly available, at the time of entering the university, only 51.5% of respondents considered themselves sufficiently informed about the benefits of studying in the chosen educational and professional programme, 32.0% of respondents felt partially informed, and 16.5% of them – insufficiently informed. This shows that based on the public information provided by universities about educational programmes, it is difficult for applicants to make the right choices.

The processes described are primarily due to the intensified competition among universities because of the annual decrease in the number of entrants in Ukraine and the world (the result of demographic fluctuations in the birth rate due to World War II). Higher education institutions, trying to enrol the licensed number of students, provide information about their educational programmes at the «peaches» level, making it difficult for applicants to choose.

In order to assess the tightness and statistical interdependence of criteria for choosing an educational programme for entrants, we evaluated the admission campaign results from Ukrainian universities based on correlation analysis. The statistical sample was formed on the basis of the analysis of the results of the admission company of Ukrainian higher educational institutions providing educational services in 073 Management and 075 Marketing specialities at the bachelor's degree level. The results of the study are presented in Tables 1 and Tables 2, where (Y) is the number of applications submitted to universities, which depends upon the licenced number of students (X1), the number of state-funded positions (X2), the cost of contract education (X3), and the average score of independent external assessment among entrants (X4).

Thus, among the listed factors, the most significant statistical dependence exists between the number of state-funded places and the number of submitted applications. The correlation coefficient between these factors for the *073 Management Speciality* is 0.816 and *075 Marketing Speciality* – 0.860. Therefore, by allocating state-funded places for a specific speciality and university, the government significantly influences the choice of applicants. For other factors, the correlation dependence is much smaller. In particular, there is a slight correlation between the number of state-funded places and the choice of entrants with high scores, as the correlation coefficient between this factor and the average score of independent external assessment among entrants for the speciality of 073 Management is only 0.346, and for the speciality of 075 Marketing – 0.420. It indicates that the government's policy on the criteria for allocating state-funded places to study at the university should be subjected to a more critical analysis.

Table 1*Summary Statistics*

A) 073 Management, using the observations 1 - 441

Variable	Mean	Median	S.D	Min	Max
Y	126.8	43.00	229.0	1.000	1761
X1	49.69	30.00	69.23	0.0000	620.0
X2	4.941	3.000	10.38	0.0000	120.0
X3	18821	18200	7245	6400	55583
X4	149.1	149.4	9.498	105.6	187.7

B) 075 Marketing, using the observations 1 - 207

Variable	Mean	Median	S.D.	Min	Max
Y	165.8	56.00	311.1	1.000	2293
X1	33.48	25.00	35.75	0.0000	255.0
X2	4.565	5.000	7.674	0.0000	70.00
X3	19123	18480	7647	6830	59417
X4	151.3	151.9	8.877	115.2	180.2

Source: own research.

Table 2*Correlation coefficients between university admission campaign indicators in Ukraine for 2021*

A) 073 Management, 441 observations

Y	X ₁ (t-test)	X ₂ (t-test)	X ₃ (t-test)	X ₄ (t-test)	
1.0000	0.4780 (11.4002)	0.8161 (29.588)	0.4957 (11.959)	0.3816 (8.560)	Y
	1.0000	0.5352 (13.275)	0.2877 (6.294)	0.2696 (5.866)	X1
		1.0000	0.3809 (8.631)	0.3457 (7.719)	X2
			1.0000	0.4390 (0.439)	X3
				1.0000	X4

B) 075 Marketing, 207 observations

Y	X ₁ (t-test)	X ₂ (t-test)	X ₃ (t-test)	X ₄ (t-test)	
1.0000	0.5008 (12.123)	0.8602 (15.343)	0.4109 (9.443)	0.3839 (8.711)	Y
	1.0000	0.7744 (15.645)	0.4196 (9.685)	0.2875 (6.289)	X1
		1.0000	0.4204 (9.708)	0.4203 (9.705)	X2
			1.0000	0.4312 (10.013)	X3
				1.0000	X4

Source: own research.

It is believed that the cost of studies is an indicator of their quality, so it has the most significant impact on applicants. However, the statistical relationship between this factor and the performance indicator in our study is relatively moderate: for the speciality of *073 Management*, it is 0.496, and for the speciality of *075 Marketing* – 0.411 (Table 2). **The results of the sociological survey** show a similar picture: for only 9.7% of respondents, the cost of studying is an important criterion when choosing an educational programme (Fig. 1). In our opinion, the liberalisation of pricing for educational programmes would significantly improve the situation. However, by introducing a set of regulations, the government has strictly regulated these processes in Ukraine. Currently, the mechanism of educational services pricing in Ukraine is non-market and depends on the level of state funding of higher education institutions (Postanova Kabinetu Ministriv Ukrainy № 1146, 2019; Postanova Kabinetu Ministriv Ukrainy № 191, 2020).

Several state regulatory measures aim to overcome the manifestations of information asymmetry in the market of educational services, but the question of their effectiveness remains debatable. The most common methodological approach to assessing the quality of educational services in Ukraine is determining their compliance with regulatory criteria due to legislation and/or various domestic and international rankings. The state and various rating developers have pursued providing quality educational services and accessible, unbiased university information. However, the current government and the vast majority of ratings force universities to participate in ongoing competitions of various kinds to obtain many quantitative indicators without assessing their actual impact on the quality of educational services.

An example is the recently introduced state funding system of educational institutions in Ukraine. Despite the innovative nature of the Resolution of the Cabinet of Ministers of Ukraine № 1146 of December 24, 2019, the mechanism of distribution of state budget expenditure between higher education institutions proposed in it contains several shortcomings (Postanova Kabinetu Ministriv Ukrainy № 1146, 2019). First of all, the list of indicators of educational, scientific and international activities of universities remains debatable, as well as the specific values of indicators used to adjust their funding and the allocation of state assignments to study for a particular university.

An equally important aspect of this problem is how consumers of educational services perceive these indicators as ensuring the quality of educational services.

In this case, will government regulations increase the number of applicants, more efficient use of budget funds, the development of healthy and transparent competition between universities, and most importantly – ensure the right of citizens to receive quality educational services at optimal prices.

CONCLUSIONS AND REMARKS

The annual decrease in the number of university entrants in Ukraine and around the world has led to increased competition among universities, resulting in an escalation of information asymmetry in the market of educational services and its 'lemonisation'. According to the results of a sociological study, despite the high availability of sources of information, at the time of entering the university, the vast majority of students did not consider themselves sufficiently informed about the benefits of studying in the chosen professional and educational programme. Thus, based on public information about educational programmes provided by universities, it is difficult for applicants to make the right choice.

Several state regulatory measures have been taken to provide quality educational services in Ukraine and ensure unbiased information about higher education institutions. The vast majority of entrants evaluate universities by combining the quality of educational services and the availability of state-funded places. According to the study results, there is a significant statistical relationship between the number of state-funded places of a particular university and the number of applications. Therefore, by allocating state-funded places for a specific speciality and university, the government significantly influences the choice of applicants. The correlations are much lower for other factors, particularly the insignificant influence of the number of state-funded places for applicants with higher scores. The correlation coefficient between this factor and the average score of independent external assessment among university entrants is relatively low. It indicates that the government's policy on the criteria for allocating state-funded places to study at the university should be subjected to a more critical analysis.

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