

EDUCATION AND ECONOMIC CERTAINTY: THE RELATIONSHIP OF THE PHENOMENA AND IMPLEMENTATION PECULIARITIES REGARDING THE REAL ESTATE MARKET

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The relevance of the research on education influence on achieving a higher level of economic certainty is primarily explained by education significant stabilizing potential. The existence of such a potential has been proven by many econometric studies and events in the history of many countries. With limited opportunities and resources for economic and social development, education has repeatedly become a decisive factor in stabilization. It is important that education does not appear automatically as a factor of stabilization. There is a certain transfer mechanism of the influence of education on economic certainty. In our opinion, this mechanism should be the subject of special research. The applied value of such a research is the substantiation of ways and forms of education modernization, taking into account the needs of a higher level of economic stability and certainty.

This study is based on the *hypothesis* that the content of education, the forms in which it is carried out, can create a basis for a higher level of economic stability.

The connection between education and economic certainty is not direct. It is mediated by certain units (elements) of a special transmission mechanism. Only under certain conditions will these units transmit the impulses received from education towards greater economic certainty. Under other conditions, education can be a factor of uncertainty. The idea of the transfer elements and the logic of the connection between education and economic certainty are given in Fig. 1.

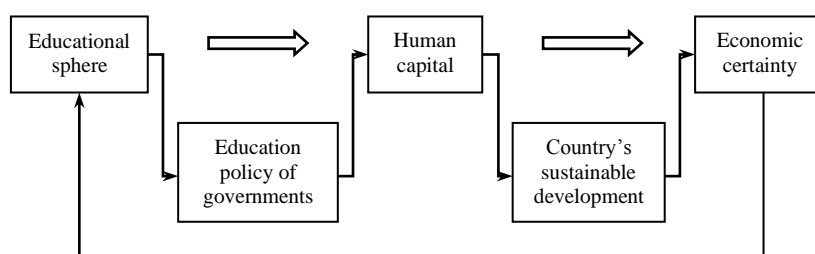


Fig. 1. Education and economic certainty connection

Source: authors' own

Fig. 1 visualizes the idea that education influences the level of economic certainty, primarily through **human capital**. The statement about the formation of

human capital under the influence of education is traditional, widespread, and indisputable. The facts about the impact of education on economic growth through human capital have also been tested many times. The novelty of the proposed approach, illustrated in Fig. 1, is related to two additional ideas, namely:

- that the connection between education and the formation and accumulation of human capital is mediated by *the policies of governments* which they implement in the field of education (educational policy);
- that human capital provides economic certainty when used by society as a resource for *sustainable development*.

To conclude about an educational system capable of providing a higher level of economic certainty, it is necessary to rely on the idea of the content of economic certainty / uncertainty [1]. At least the following characteristics (signs) of economic certainty are important for our research:

- economic certainty is associated with *volatility*, i.e. deviations of economic parameters from certain equilibrium values of such economic variables as economic growth rates, the level of resources application, the level of prices, etc.;
- economic certainty is derived from the nature of the expectations of economic agents, therefore, it depends significantly on the awareness and education of citizens, on trust in public authorities, individual communities, etc.;
- economic certainty is ensured by *institutionalization*, i.e. the normalization of economic processes, compliance with these norms, as well as the compliance of established norms with the objective needs of a developing society.

If the higher level of economic certainty depends on education, it is logical to substantiate the priorities of changes in education precisely from the needs of achieving such certainty.

By the logic of the connections represented in Fig. 1, economic certainty, formed under the influence of education, is achieved when the country's development acquires signs of **sustainable development**.

As it is known, the term «sustainable development» is the official Ukrainian equivalent of the English term «sustainable development». The latter, given the context, can be interpreted as «viable development», «internally supported development», «balanced development», etc.

According to the definition of the UN Commission on Sustainable Development, the goal of the latter is to meet the needs of modern generations without creating threats to future generations' ability to meet future needs. The theory of sustainable development is an alternative to the theory of economic growth on the basis of an extensive model. The latter, in particular, does not focus on environmental danger, the exhaustibility of non-renewable natural resources which provide economic growth. The terms «sustainable development» and «sustainable growth» are used as close in meaning.

The very concept of sustainable development has allowed us to look at economic growth, among other things, from the point of view of economic uncertainty. In

particular, this happened because sustainable development is explained as one that balances the economic, social, and environmental aspects of society [2]. And decent working conditions for the entire working age population, the availability of financial assets, developed banking and production infrastructure, etc. are regarded as conditions for sustainable economic growth [3].

Relevant signs of economic growth, identified in the priorities of the EU strategy «Europe 2020», are related to the issues of the economics of uncertainty. The document discloses reasonable growth (with more efficient investments in education, research and innovation), sustainable growth (in a low-carbon economy), and inclusive growth (in creating new jobs and overcoming poverty) [4]. The document «Agenda for Sustainable Development until 2030» contains even more important ideas for our research. It sets out the goal of sustainable development related to education, namely: «... to provide all learners with the knowledge and skills necessary to promote sustainable development...» [5].

In total, the concept of sustainable development envisages the achievement of 17 goals, each of which is in some way related to **human capital**. Therefore, according to the popular belief in science, the implementation of sustainable development is ensured by the accumulation of human capital. It has been proven that those countries which invest in human capital can significantly increase their competitiveness, especially in the face of rapid changes. Therefore, the adaptation of the economy and society to these changes, and hence a higher level of certainty, is ensured by the accumulation of human capital.

Despite some differences in approaches to the definition of «human capital», science has already proven the fact:

- human capital is created on the basis of «formal learning, education, and practical experience» [6], it, like any other capital, involves investment, especially investment in education;

- a higher level of knowledge and skills creates benefits both for individual carriers of human capital (each additional year of study significantly increases a person's income [7; 8]) and for the national economy as a whole. In particular, the excess of a certain country by 1 percentage point of the world average level of human capital correlates with 2.5 percentage points of relative growth in labor productivity and 1.5 percentage points of growth in gross national income per capita;

- investments in human capital are funding for health, education and culture that help to better adapt to new conditions in a rapidly changing world [9], and thus, these investments contribute to greater inclusiveness – the involvement of citizens in the lives of individual communities and society [10].

The connection between education itself and human capital, by our logic, is mediated by **educational policy**. Like any other, educational policy encompasses *goals* that reflect societal values and priorities. Educational policy involves the use of *tools* to achieve goals and certain *institutions* that provide a combination of goals and tools. Ukrainian researchers of educational policy usually focus on the goals of educational policy [11; 12]. It is likely that this emphasis is due to the fact that the

Ukrainian government does not demonstrate a deep understanding of the true current goals of educational policy.

To achieve the defined goals, educational policy must be based on certain rules – conscious and institutionally secured requirements for activity. The rules apply both to the actual procedure for providing educational services by educational institutions and to education state funding. In our opinion, the rules of policy in general and education policy in particular are a necessary condition for a higher level of economic certainty.

The assessment of the current policy influences on macroeconomic stability when comparing the two groups of countries – with implemented and non-implemented financial rules – yielded important results. This is the conclusion that countries with a tradition of following the rules usually achieve a higher level of economic stability.

The government's educational policy, which is primarily reflected in the level and methods of financing education, becomes the subject of many international studies. In particular, the report of the European Association of Universities for 2020 singled out five groups of countries according to the criterion of the connection between education funding and economic growth [13] (analytical Table 1).

Table 1. The connection between education financing and economic growth indicators

Indicator	Description	Country
Education financing $\uparrow > \text{GDP} \uparrow$	The rate of financing education is higher than the rate of economic growth	Austria, Germany, Iceland, Luxembourg, Denmark, Croatia, Sweden, Norway, Switzerland, Portugal, Netherlands, Turkey
Education financing $\uparrow < \text{GDP} \uparrow$	The rate of financing education is lower than the rate of economic growth	France, Poland, Hungary, Slovenia
Education financing $\downarrow / \text{GDP} \uparrow$	The rate of financing education is declining, despite the economic growth	Czech Republic, Slovakia, Finland, Romania, Lithuania, Ireland, Estonia, Spain, Serbia
Education financing $\downarrow > \text{GDP} \downarrow$	The rate of financing education is declining faster than the economic downturn	Italy

Source: developed based on [14]

According to the information presented in the Table, three (first, second, fourth) groups of countries showed a direct connection between higher education spending and economic growth rate. That is, in these three groups of countries, GDP growth increased against the background of increased investment in education and vice versa. These three groups covered approximately 65% of the total number of countries studied. Instead, the third group demonstrated the inverse relationship. Such countries account for approximately 35% of the number of countries analyzed.

The educational policy of the governments of countries is determined not only by the achieved economic potential, respectively, by the possibilities of education state financing, but also by the demographic situation.

For example, the study of the European Association of Universities represents different models of education, formed under the influence of the two mentioned factors – financial and demographic – in the period 2008 – 2017 (Fig. 2).

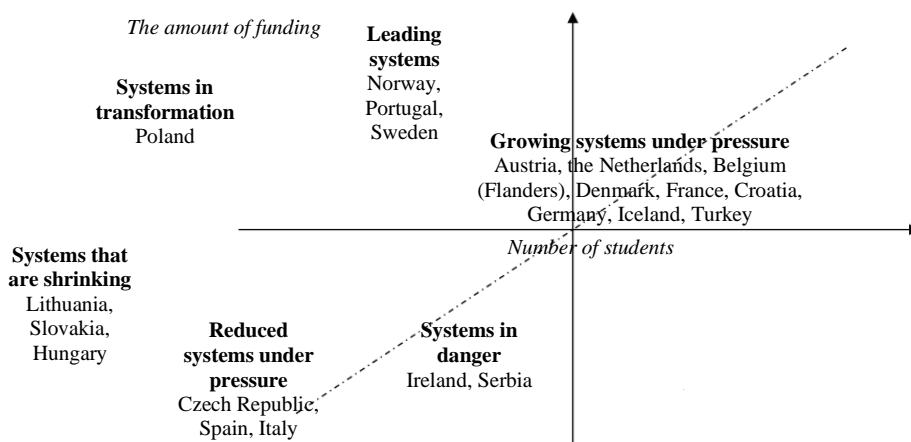


Fig. 2. The models of the EU countries educational policy, taking into account financial and demographic factors

Source: author's own [15]

The evaluation of educational policy in two coordinates – state funding of education and the number of students – provides grounds for the selection of a group of leading countries. As illustrated in Fig. 2, the group of leaders includes Norway, Portugal, and Sweden. It is the universities of these countries that rank high in international rankings and have stable and sufficient funding, with regard to the growing number of students. Austria, the Netherlands, Flanders (region in Belgium), Denmark, France, Croatia, Germany, Iceland, and Turkey are among the «growing systems», but those which are «under pressure» because they have a faster increase in the number of students. The educational system of Poland functions under special conditions. It has been identified as being «transformed» and operating with increasing public investment in universities to stop the outflow of young people from educational institutions. In all other analyzed countries, the educational systems are *at threat* with a tendency to decrease in number.

An important component of educational policy is estimating the expenditures for education. According to the results of the study under the auspices of the European Commission, an important regularity has been found. It turned out that the efficiency of the policy, which was assessed by the number of graduates and scientific publications, was higher with *greater autonomy of universities* [16]. Another interesting regularity was discovered in the fundamental study on public expenditure on education in the EU [17] – «Economists' perspectives on the investment in human capital: how efficient is public spending on education in EU member states?». A very limited number of EU countries ensure the efficiency of education expenditures simultaneously on three measures. It was about evaluation: by the number of applicants for higher education (I), by the quality of education according to the PISA (Program for International Student Assessment) in the field of science (II), by

inclusiveness, or inversion of youth in the educational process (III). Some countries had high scores on only some indicators and low scores on others. About a third of countries showed low and declining quality of education, according to the PISA criterion. Information on the evaluation of countries by this criterion is given in Fig. 3.

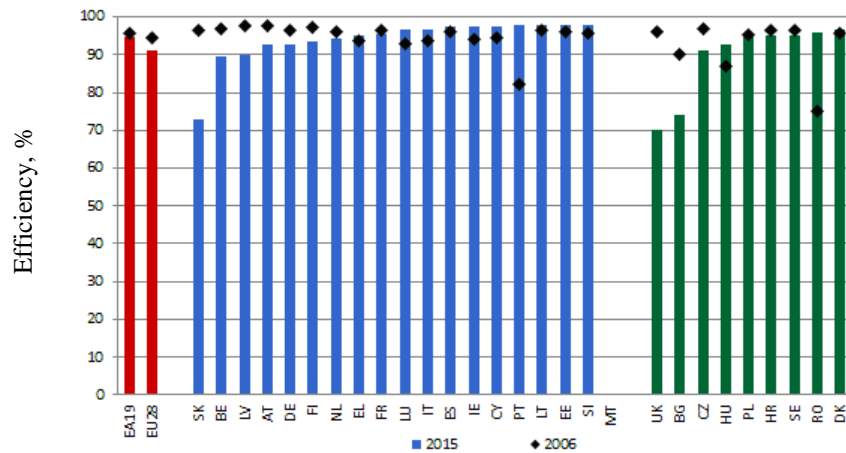


Fig.3. The evaluation of education costs efficiency, according to the PISA criterion

Source: [18]

As Fig. 3 illustrates, at least ten EU countries in the analyzed period showed deterioration in the quality of education. It is significant that this is happening in a community of countries with high welfare rates, sufficient education funding opportunities and investment in human capital.

For our study of the impact of education on economic uncertainty, the following generalizations made in the result of the analysis of the education expenditures efficiency in EU countries are important:

- *there is no ideal* educational policy, in particular, due to the continuity of educational traditions and, consequently, the conservatism of national education systems; this prevents rapid adaptation to the changing environment;
- human capital improvement in Europe occurs not so much due to the increase of public expenditures on education, but through the creation of better national models of financial resources management;
- people with higher level of education have a greater ability to respond to the threat of unemployment in times of economic uncertainty, while unemployment among people with low levels of education in times of uncertainty and crisis increases significantly;
- sufficient funding for education becomes not only a factor of economic stability, influencing economic growth, higher productivity and innovation, but also a factor of social stability, influencing the reduction of income differentiation and overcoming poverty.

Returning to the initial link of our proposed logical chain (Fig. 1), through which we tried to explain the impact of education on economic uncertainty, we can make the following generalizations.

- Education, to become a tool for guaranteeing stability, must facilitate the most important components of sustainable development – smart growth and inclusive growth. Smart growth implies that the education system provides *continuous learning, skills updating*, the ability to create new products and services, and uses new sources of information and technologies. Inclusive growth is based on the fact that the education system contributes to *the formation of communication and interaction skills, the creation of new communities, participation in change management*, etc.

The formation of the mentioned abilities and skills – constant updating of knowledge and interaction, participation, etc. – is discussed, in particular, in the scientific report on the necessary determinants of modern growth of the Ukrainian economy [19].

- Education is designed to form the value priorities of society, without which no success in the economic sphere will guarantee social unity and stability.

With regard to the indisputable fact of the crucial role of education in shaping the values of society, the idea of the Ukrainian researcher about the so-called «chain of educational effectiveness» in the following links deserves special attention: literacy – erudition – professional competence – culture – mentality [20].

- The limitation of economic uncertainty is achieved through a higher level of ***education professionalization***. Professionalization, as a process, involves a person's ability to meet the ever-changing requirements of the profession. Therefore, professionalism is based on at least three principles, namely: 1) the acquisition of fundamental knowledge and skills of the profession, 2) permanent training and self-improvement in the chosen sphere, 3) the implementation of universal and national values in performing professional functions.

Professionalization has a broader meaning than that covered by the «vocational education» concept. Under modern Ukrainian conditions, the latter correlates with the concept of the so-called «vocational training» (i.e. occupational training acquired before higher education) [21]. Attention to vocational training was generated primarily by the lack of qualified representatives of the so-called «working professions» in the Ukrainian labor market. A peculiar reaction to the unsatisfied demand in this segment of the labor market was the development of the Concept of the implementation of state policy in the field of professional (vocational) education «Modern professional (vocational) education» for the period up to 2027 [22]. Despite the focused attention of the Ukrainian authorities on professional and vocational education, the issue of professionalization of education, having a broader meaning, has become relevant for all other segments of the labor market.

Efficient measures to ensure the general professionalization of education include the following:

- formation of the content of education (educational programs) on a competency basis – taking into account what a professional must be able to do, know, anticipate,

taking into account the changing circumstances of the profession and the needs of consumers;

- involvement of successful professionals, professional associations and employers in the educational process;
- creation of a system of professional qualifications with a clear delineation of the range of competencies of specialists in a particular profession;
- a combination of different and most acceptable for the recipient of education forms of professional education and forms of retraining.

The following are some promising strategies for professionalization of education that show evidence of innovation and have been tested in different countries' educational systems:

- organization of the educational process in the form of educational clusters which combine educational, scientific institutions and enterprises, and organizations;
- creation of services to support the process of continuing professional education, such as, for example, adaptation, diagnostic, didactic, and psychological centers, etc.;
- harmonization of international (for example, European) and national qualifications frameworks;
- combination of «educational units» – ECTS (European Credit Transfer and Accumulation System) – and «professional units» – ECVET (European Credit System for Vocational Education and Training) – in educational programs of higher educational institutions;
- creation of new educational institutions – national centers dedicated to ensuring a higher degree of professionalism and employment for young people. For example, the Italian center Porto Futuro («Open Doors to the Future»), the French organization Citedes Métiers, and the Spanish institution Porta 22 («Open Doors to the Future»);
- establishment of organizational structures at all levels, from secondary to higher education, that combine educational levels with production and direct training in the pursuit of specialized qualifications and professions. For instance, in France, campuses of professions and credentials (Campus des métiers et des qualifications) and professional centers of competence in Latvia are the examples of such organizational structures.

Our generalizations concerning the relationship between education and economic certainty are important, with regard to the possibility of their use in the Ukrainian economy. It is noticed that different components of the Ukrainian economy demonstrate different levels of economic certainty and stability. For example, the real estate market throughout recent Ukrainian economic history, since the 1990s, has played the role of a kind of «shock absorber of the economy». This is real estate – apartments, buildings, office premises, etc. – which has always been the most attractive asset and investment object for Ukrainians. Such advantages of real estate as an asset are explained by the constant lack of alternative forms of financial assets with a similar level of profitability, usefulness, and risk (reliability) of investments.

In particular, a stable share of GDP testifies to the relatively higher, than in other segments of the Ukrainian economy, stability of the real estate market. «Real estate transactions» account for 8-10% of GDP [23]. Approximately 200,000 Ukrainians find jobs in this market.

Despite the relatively high «potential of economic certainty» inherent in the real estate market, it is characterized by significant volatility. After all, it is usually one of the first to react to changes in the economic situation. In particular, this happened in 2020 during the Covid-19 pandemic. The real estate market and the market for tourist services were the first to react with sales reductions to negative external influences and negative expectations of citizens.

Real estate market research on the reactions of actual and potential consumers of its services showed a fairly high level of *distrust*. It was found that mistrust was formed, among other things, due to the massive lack of understanding of what they do and what specialists in this market should be able to do.

The lack of more or less clear ideas about the profession, the professional functions of operators in the real estate market are inherent not only in consumers of services. A similar misunderstanding is often demonstrated by the national regulators of this market. After all, in Ukraine there has been a debate for decades about who and how should train real estate market specialists, how their qualifications should be certified, and how certification should be carried out. That is, the education of real estate professionals is the «sphere of uncertainty» which permanently creates uncertainty in the market itself. That is why it is important to study the experience of organizing the education of real estate professionals in other countries. Equally important is the awareness of the possibilities of applying such experience to the organization of double education in Ukraine.

The standard «Services of real estate agents – Requirements for the provision of services of real estate agents», approved by the European Committee for Standardization, Qualifications and Competences of Real Estate Agents, can serve as a defining guideline for the organization of education of real estate market specialists. [24].

The list of professional competences of real estate agents is fundamentally important for understanding what should be the education of professionals in this market. Actually, the list covers 12 positions, namely:

- 1) understanding of the most important financial and economic terms related to real estate transactions;
- 2) awareness of monetary, credit and banking systems related to the real estate sector;
- 3) awareness of the economic and political situation related to the real estate sector;
- 4) awareness of supply and demand factors in the real estate sector;
- 5) support for real estate investments;

6) real estate marketing, possession of marketing methods and their application to different types of real estate;

7) estimating the costs associated with the use of real estate, such as operating, caused by the need for insurance, etc.;

8) knowledge of the principles and processes of guaranteeing real estate transactions, namely: legislation and practice of mortgages, bank loans and other financial instruments;

9) possession of tools for assessing the real estate market value;

10) the ability to inspect and measure the area of different types of real estate, taking into account the purpose of measurement,

11) awareness of the basics of national and European legislation, norms and standards relating to entrepreneurship in real estate, taxation, labor protection, ecology, etc.;

12) the ability to enter into contracts related to real estate, or to facilitate their conclusion, examination of existing contracts as a result of certain changes to the parties to the contract.

The analysis of the given list of competences of experts of the real estate market, on their content, gives the bases for allocation of at least four necessary components of education of such experts:

- *economic* component (economic terminology for the real estate market, the impact of the macroeconomic environment on the market, supply and demand factors in the market, investment in real estate, assessment of the real estate market value);

- *legal* component (legal basis for guaranteeing real estate transactions, application of legal norms in business activities in the real estate market, conclusion and examination of real estate contracts);

- *financial* component (possession of financial terminology in relation to the real estate market, awareness of the banking (credit) system for the real estate market);

- *marketing* component (marketing tools for research in the real estate market).

With regard to the significant amount of economic knowledge required by a real estate market specialist, we are inclined to conclude that it is appropriate to train such specialists on the basis of basic economic education. It is clear that economic knowledge must be organically combined with the other three elements of the educational process. These are legal, financial, and marketing components related to the real estate market.

The following are ten examples of the experience of implementing educational programs related to the training of specialists for the real estate market in developed countries with established and institutionalized markets (analytical Table 2).

Table 2. Educational institutions and training programs for the real estate market specialists

Educational institutions	Partners involved in the education of professionals and/or professional communities engaged in educational activities	The content of the educational program
Florida International University (Miami, the USA)	Hollo School of Real Estate and Alvah H. Chapman Graduate School of Business	Training program in international real estate management
Bauhaus Universität Weimar (Weimar, Germany)		Bachelor's and Master's degree programs in real estate management and master classes by practicing market professionals
Antwerp Management School (Antwerp, Belgium)		The only master's program in real estate in the country, which gives the opportunity to obtain a master's degree in real estate (MRE) with relevant training
Kogod School of Business (Washington, the USA)	Professional real estate associations in the USA	Master's program in real estate with specialization: commercial development and investment banking, mortgage financing
Massachusetts Institute of Technology (the USA)	Real Estate Center (founded in 1983), created by the famous American developer, a graduate of the Massachusetts Institute of Technology Charles Spaulding	Master's program in real estate development, covering courses «Finance and Real Estate Development», «Real Estate Economics», «Strategic Real Estate Development», «Complex Urban Projects», «Real Estate Risks», «Leadership in Real Estate», etc.
Neapolis Universitz Pafos (Cyprus)	Royal Institution of Chartered Surveyors in the Eastern Mediterranean	The first special real estate program for Cyprus and Greece
University of Groningen (Groningen, The Netherlands)	Royal Institute of Chartered Surveyors	Interdisciplinary master's program in real estate, built in cooperation with the faculties of spatial sciences, economics, and law
Lucerne University of Applied Sciences and Arts (Lucerne, Switzerland)		Curriculum with specialization: real estate markets and real estate investments with trainings from market specialists
Cambridge (United Kingdom)		The program «Assessment of real estate markets» as independent and as a training course with the same name in other programs with training from professionals
IE School of Architecture and Design (Spain)		Master's program in training real estate development specialists with specialization in the field of investment in urban infrastructure with relevant trainings

Source: authors' own based on information available on websites of corresponding educational institutions.

Summarizing the experience of education of real estate professionals, based on the above examples, we can record the following:

1. There are different models of education for real estate professionals, namely:
 - a) at the master's (predominant model) and at the bachelor's levels;
 - b) within other, broader areas of training (managerial, economic analysis, financial, etc. levels) and actually within a special area – real estate market specialists with a master's degree in real estate.
2. Higher education institutions can provide training by building their relationships with real estate market experts in different ways:
 - a) coordinating their activities with professional public associations,
 - b) involving some successful professionals and market analysts in the educational process.
3. Despite the differences in models and methods of training for the real estate market, it is conducted in higher education institutions (universities) in different countries. Thus, it is assumed that this specialty is based on wide (universal) knowledge and a certain worldview, rather than on narrow functions and simple mechanical reproduction of certain actions.
4. The education of real estate professionals has many specializations, including those related to new processes in urban planning, environmental issues, and so on. Therefore, educational programs provide different – changing to the current needs of society – accents in the training of real estate professionals.

The Ukrainian real estate market cannot be considered either developed or finalized due to unregulated procedures and processes. These are, first of all, the processes of providing professional education, certification of specialists, etc.

Despite the final immaturity of the real estate market, it has already identified at least four professions which have gained recognition in Ukrainian society: property valuation specialists, real estate agents (realtors), real estate managers (including apartment building managers), and developers.

A certain system of training has been formed for the mentioned professions. The analysis of these systems makes it possible to outline the main problems of education of specialists in the Ukrainian real estate market. Information on the actual state of education of real estate professionals is given in the analytical Tables 3-6.

According to the information presented in the analytical Table 3, the training of real estate market specialists in the segment of property evaluation specialists is carried out by the state authority – the State Property Fund – and in accordance with the current Law of Ukraine. This gives such training a fairly high level of legitimacy. The content of the programs we refer to, in our opinion, narrows the role of property assessors. After all, the programs focus most on «valuation for tax purposes». Instead, property valuation has a much wider range of economic, financial, and social consequences than simply helping to increase tax revenues.

The analysis of the information presented in the analytical Table 4, gives grounds for such generalizations concerning the current system of professional training of real estate agents (realtors):

– the two current proposed programs, providing a wide range of competences, are similar to the programs of universities in other countries. This gives them undeniable advantages. But these programs provide short-term training. Therefore, it is likely that they can be fully mastered only by individuals who already have economic, marketing, financial, legal, psychological, etc. knowledge and practical skills. Such knowledge and skills are provided by university education;

– the content of the analyzed programs does not testify to a clear idea of the qualification (so-called «qualification framework») of a real estate agent (realtor). This conclusion follows, in our opinion, at least from the fact that the program «leads» this profession into the field of construction business.

Table 3. Ukrainian professional education in valuation activities

Profession (specialty)	Training entities	Names of programs	Contents of programs
Valuation activities	The State Property Fund of Ukraine (SPFU) in accordance with the Law of Ukraine №2658-III «On property valuation, property rights and professional valuation activities»	Basic training program for valuation specialist from the SPFU [25]	Covers the following modules: <i>Module 1:</i> «General valuation questions». <i>Modules 2-8:</i> features of the valuation of various objects, namely: land and property rights to them, machinery and equipment, wheeled vehicles, aircraft, vessels, things of cultural value and other things. <i>Module 9</i> «Valuation for the purposes of taxation and accrual and payment of other mandatory payments made in accordance with the law».
	Pan-Ukrainian Association of Valuation Specialists – PUAVS	Curriculum for the valuation of property complexes, shares, securities, property rights and intangible assets (SPFU)	Covers the following modules: <i>Module 1</i> «General property valuation issues», <i>Modules 2-3:</i> features of valuation of various objects, namely: integral property complexes, shares, securities, property rights and intangible assets, rights to intellectual property. <i>Module 4</i> «Valuation for the purposes of taxation and accrual and payment of other mandatory payments made in accordance with the law».

Source: authors' own

Table 4. Ukrainian professional education in the activities of real estate agents (realtors)

Profession (specialty)	Training entities	Names of programs	Contents of programs
Real estate agent (realtor) with the elements of real estate manager training	Non-Governmental Organization «Association of Real Estate Professionals (Realtors) of Ukraine» – AREPRU in cooperation with the Institute of Real Estate Management (Chicago, USA) – IREM	CPM Training Course (Certified Property Manager Degree – Certified real estate manager) «Real Estate Management» [26] from AREPRU and IREM	Covers the following topics: «Property Maintenance and Risk Management», «Fundamentals of Human Resource Management for Real Estate Managers», «Marketing and Renting: Real Estate for Retail», «Marketing and Renting: Apartment Building Real Estate», «Marketing and renting: Office buildings», «Real estate investment management: financial instruments», «Financing and valuation of commercial real estate», «Cash flow analysis: practical application», «Ethics of real estate manager», «Real estate management plans: IREM model».
Real estate agent (realtor) with elements of training in construction business and property valuation	Association of Real Estate Professionals (Realtors) of Ukraine	Residential and Non-Residential Real Estate Program – AREPRU	Covers the following topics: «Real estate activities in Ukraine», «The main directions of real estate activities. Methods of real estate market analysis», «Organization of real estate companies in the real estate market. Features of real estate management», «Real Estate Marketing», «Theoretical foundations of development. Features of suburban real estate development», «Mortgage and mortgaged property», «Fundamentals of construction business, architecture and urban planning», «Valuation of the technical condition of buildings. Types of demolition of houses», «Fundamentals of real estate valuation. Valuation methods», «Land legislation in Ukraine», «Legal support of real estate transactions», «Violations in real estate transactions, possible ways to prevent them», «Transactions with non-residential and residential real estate. Structure and segmentation of the commercial real estate market», «Real estate as an object of taxation», «Fundamentals of psychology. Psychological aspects of real estate transactions», «Rules of financial monitoring».

Source: authors' own

The information filed in Table 5 indicates that the Ukrainian higher educational institution KNUTE does not offer a system of education of real estate market specialists, but a system of their retraining. Therefore, it is assumed that the relevant education and practical experience have already been obtained. Therefore, the existence of such a program does not solve the issue of the actual education system of «real estate market managers».

Table 5. Ukrainian professional education in real estate management

Profession (specialty)	Training entities	Names of programs	Content of programs
Manager of the real estate market	Kyiv National University of Trade and Economics – KNUTE	<i>Professional training program</i> for real estate market managers KNUTE	<i>Covers the following topics:</i> «Analysis of the structure of the real estate market», «Introduction to development, architecture and urban planning», «Legal aspects of real estate, types of contracts», «Fundamentals of financial and investment management in real estate», «Fundamentals of valuation and management of profitable real estate», «Practice in the real estate services market and the code of ethics of real estate professionals», «Promotion of services in the real estate market, the basics of building databases and information support of real estate firms», «Formation of psychological readiness of realtors for successful professional activity and psychology of conflict».

Source: authors' own

Actually, the fact of the existence of the educational program presented in Table 6, and the fact of certification of managers of apartment buildings is an adequate reaction of the professional community represented by EIAU (Expert Intersectoral Association of Ukraine). This is a response to the formation of a new segment of the real estate market and to new, previously unmet, consumer needs. In connection with the analyzed program, as well as in connection with other programs, some reasonable doubts arise. It concerns whether training can be completed in a short time if program participants do not have the necessary knowledge in the fields of law, economics, management, etc.

Table 6. Ukrainian professional education in real estate management in terms of apartment buildings

Profession (specialty)	Entities which provide training	Names of programs	Contents of programs
Managers of apartment buildings	«Expert Intersectoral Association of Ukraine» Public Union – EIAU	<i>Training program for managers of an apartment building (group of buildings)</i> and / or management of a housing and communal services (HCS) from EIAU	<i>Covers the following modules:</i> «Organizational, legal and economic aspects of housing complex management and maintenance», «Technical and technological aspects of housing complex safe operation and maintenance», «Modern management standards and software for housing complex management and maintenance».

Source: authors' own

In our opinion, the general conclusions from the analysis of the Ukrainian education of real estate market specialists can be as follows:

- the current fragmentary education of specialists is not a system legitimized on the basis of relevant legislation and coordination with professional communities of qualification requirements;

- gaps in the existing system of education of market specialists are actively compensated by the activities of public organizations – PUAVS, ARESRU, EIAU – which are interested in the professionalism of all market operators and members of these associations;

- education offered at the initiative of professional associations has a number of limitations related to deadlines, teaching staff, sources of additional costs, etc., so it cannot be entirely entrusted to these associations;

- education of market specialists should be conducted in combination with the efforts of universities which provide basic education and professional associations, which, cooperating with universities in providing basic education, will organize professional certification, recognition of qualifications and retraining;

- public authorities (commissions, committees, foundations, etc.) can be participants of the education system of market professionals in the role of the so-called «third parties», without claiming the role of «first persons» in the educational process.

One of the possible models of education of potential specialists in the real estate market is implemented at «KROK» University at the Department of Theoretical and Applied Economics (DTAE). This model is based on the following principles:

- implementation in bachelor's degree programs of two specialties – 051 «Economics» and 076 «Entrepreneurship, trade and exchange activities» – disciplines *of students' choice* related to real estate economics, real estate valuation and entrepreneurship in the real estate market;

- coordination of the list and content of the disciplines offered by the department at the choice of students with professional associations of real estate market specialists, namely: with ARESRU and EIAU;

- involvement in the educational process of teachers who have experience as professional valuation specialists, realtors, real estate managers, owners of real estate, valuation etc. agencies;

- creation of the Laboratory of Capital and Property Management at the Department of TAE (Theoretical and Applied Economics), the functions of which include the organization of mini-trainings and seminars by leading experts in the real estate market.

Conclusions: The study of the relationship between education and economic certainty provides a basis for such generalizations:

- education contributes to the achievement of a higher level of economic certainty when its content and forms provide the accumulation of human capital in accordance with the requirements of sustainable development. The latter involves responding to technical innovations and adaptability and involvement (inclusion) of citizens in the life of society;

– the impact of education on the formation of human capital is usually mediated by educational policy. Within its framework, instruments and rules are chosen, including those related to education public funding. The educational policy successfulness and education state spending efficiency criteria should include not only the growth of the number of people covered by education, but also the achievement of the education quality indicators according to socially acknowledged standards;

– higher level of economic certainty is associated with the professionalization of education – a process that means the formation of the ability to meet changing requirements for the profession. This compliance is achieved by combining continuing education and professional activities with participation in professional communities, etc.;

– one of the segments of the Ukrainian economy, the achievement of stability of which significantly depends on the formation of the educational system and certification of specialists, is the real estate market. Professionalization of education of specialists in this market involves national qualifications framework ordering, selecting the relevant model of education, and the model of recognition of qualifications and its official recognition. A promising model of professionalization of education for the real estate market is the combination of university economic education with other elements. It is a combination with the financial, legal, marketing education which can respond to the needs of the real estate market. Public professional associations of real estate market specialists should become even more influential participants, customers of the content of education and assessors of its quality.

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