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ECONOMIC NATURE OF THE "BUBBLE" IN THE INTERNATIONAL REAL ESTATE MARKET

The article is aimed at studying the economic nature and origin of the real estate bubble, its financial and economic impact, and the relevant consequences and risks for international real estate markets. The article also notes that during the boom period, the increase in supply is driven by the growth of demand for real estate from end users (the real sector of the economy), and during the bust period - by the growth of demand from investors. The oversupply in the market during the period of market saturation is largely due to the investment in real estate that preceded it during the boom. During this period, real estate is no longer seen as a real asset, but rather as a financial asset that generates income without regard to its connection to the real economy. This, together with rising household incomes and increased mortgage lending, led to the emergence of real estate bubbles.

A real estate bubble is defined as a sharp increase in prices and market turnover in the real estate market caused by a significant increase in demand (including speculative demand for the purpose of further sale). The factors contributing to the emergence of the real estate bubble have been identified as follows: sustained high rates of economic growth; high rates of growth of household incomes; increased availability of mortgage lending (lower requirements for borrowers); increased availability of construction lending; and increased investment in real estate.

Keywords: *real estate market; real estate bubble; mortgage lending; real estate overheating; price boom; investments.*

References: 25.

Target setting. The full functioning of a market economy is impossible without the real estate market, as it has a significant impact on numerous economic processes, primarily on savings, accumulation and investment. The transformation of the global real estate market in recent years has been driven by both general economic factors (e.g. high growth rates in a number of developing countries) and special factors (growing needs for infrastructure renewal in developed countries, large-scale privatisation in a number of European countries). The real estate market is an important component of the national economies of the EU member states, as it is closely linked to the formation of common markets for goods, services, labour and capital. During periods of market recovery, an increase in supply is associated with an increase in demand for real estate from the real sector of the economy, and during periods of recovery - with an increase in demand from investors. From this perspective, real estate is viewed as a financial asset that generates income. Together with rising household incomes and increased mortgage lending, this leads to the formation of real estate bubbles.

Actual scientific research and issues analysis. The economic interest in real estate arose due to the need to determine its value in the process of privatisation and mortgage, which stimulated the study of the entire system of economic relations. The mass privatisation process resulted in a change in the ownership of enterprises, and a large number of real estate objects, including buildings, structures and premises, appeared on the market, which gave rise to the emergence and development of the primary real estate market. Today, Ukraine is just beginning to develop a special area of economic study of the processes taking place in the real estate market, in particular, the economics of bubbles and their impact on the real estate market. This issue has been studied by such foreign scholars as DiPasquale D., Wheaton, W. C., Ring, A., Kaklauskas, A. Zavadskas, E.K., Bardauskienė, D., Dargis, R., Lee, S. Levine, Sheen S. and Zajac, Edward J. [1-5]. Among the Ukrainian economists whose works investigate the economic nature of real estate and the peculiarities of its market circulation, the following specialists can be distinguished: Baranovskyi O.I.,Galenko, O.M, Rizva, L.A., Kryvovyazyuk, I.V., and Yevchuk, A.V., Duginets G.V., Aliev R.A. [6-9].

Uninvestigated parts of general matters defining. The processes of real estate market revitalisation and structuring determine the directions of influence on both productive forces of the region, as well as on individual components and processes. The absence of obvious and significant results of the study of the impact of the real estate market on the development of productive forces (natural, material, labour, organisational and information resources) is, first of all, evidence of insufficient justification of the procedure for diagnosing this market at different stages of its evolution. In particular, the systemic risks, causes and consequences of the impact of bubbles on global real estate markets, including the use of the term "overheated" in the domestic real estate market, are not sufficiently investigated.

The research objective. The purpose of the article is to study the economic nature of the real estate bubble by analysing trends in the international real estate market.

The statement of basic materials. The real estate market is an important component of the national economies of the EU member states, as it is closely linked to the formation of common markets for goods, services, labour and capital. The European property market is very attractive for new players. But it is a very specific market - each country has its own nuances that need to be understood. Therefore, the easiest way to enter these markets is to find a local partner who, firstly, can provide its legal entity status, secondly, provide protection against financial risks, and thirdly, understand the procedure for participating in tenders. This symbiosis creates a very convenient combination for optimal cooperation between companies [9]. For example, the Polish market is the most attractive, as the country's real estate segment is developing rapidly. Infrastructure projects are being built, including bridges, roads and railways, commercial property, etc. The German market is more challenging as it is characterised by slow growth and high competition. The Swedish market is growing slowly. The Norwegian market is growing very fast due to the construction of public and infrastructure projects such as power plants and bridges. Romania and Bulgaria are not developing very much at the moment, but may grow quite rapidly in the next 2-3 years. The negative factors that characterise these markets are low prices and high competition. The situation in the Asia-Pacific market is different [9-12]. Given the overall economic growth and development of the region, it is expected to have a favourable investment climate for investors in the future. In the EU member states, there are general trends in the development of national real estate markets: an increase in the number of sales transactions (respectively, an increase in property values and yields on real estate investments) or a decrease in real estate market activity (a decrease in the number of sales transactions, property values and yields on real estate investments) [9].

CBRE's research shows that private capital in the real estate sector is estimated to reach around USD 53 billion in 2018-2021 [13]. Oxford Economics predicts that over the next 15 years, approximately 70% of the construction sector's growth will come from countries such as China, India and Indonesia, the UK, Mexico, the US and Canada. The forecast particularly highlights the rapid growth of the real estate market in India, which is driven by the country's rapid urbanisation. To meet the growing demand, India is expected to build at least 170 million homes over the next 15 years. According to international experts from Global Construction Perspectives and Oxford Economics [14], the global construction sector will grow by 85% in 2030 compared to 2018 and reach USD 17.5 trillion. This forecast is based on the fact that due to the ongoing industrialisation of the national economies of Southeast Asia and the recovery of the US economy, after a sharp decline during the financial crisis, the global construction services market will grow faster than the volume of changes in global GDP.

The difficult economic situation in Western Europe will lead to a decline in the construction market in the medium term compared to its peak in 2007, as the decline in the number of working-age population in 2025 may reduce demand in the European office and warehouse property market. At the same time, construction of social infrastructure (hospitals, clinics, etc.) will increase as the population ages and social standards improve [14].

For more than 20 years, the international consulting company Jones Lang LaSalle and its LaSalle Investment Management division have been conducting a systematic assessment of more than 100 international real estate markets using the Global Real Estate Transparency Index [15]. Thus, according to the latest ranking, the top 10 countries (markets with a high level of transparency) account for 75 % of the volume of global investment transactions in the commercial property sector.

It is worth noting that the analysis of the dynamics of changes in the ranking proves the need to introduce technologies to stimulate the transition of semi-transparent markets to full transparency. The top 20 countries in terms of the use of digital technologies in real estate, according to the 2022 ranking, include (sequentially from 1st to 20th place) the United States, the Netherlands, Canada, Australia, Switzerland, Spain, France, Ireland, Portugal, Italy, New Zealand, Sweden, Brazil, Japan, the UAE - Dubai, Taiwan, Germany, Mexico, the UAE - Abu Dhabi, South Korea [15].

However, the introduction of modern technology is particularly attractive in semi-transparent and opaque markets where traditional data sources are not available. In particular, the countries with the most transparent real estate markets include: The UK, the US, France, Australia, Canada, the Netherlands, Ireland, Sweden, Germany and New Zealand. The countries with the least transparent real estate markets are Lebanon, Iran, Côte d'Ivoire, Algeria, Senegal, Honduras, Tanzania, Dominican Republic, Iraq, Guatemala, Ethiopia [16]

In a boom period, an increase in supply is driven by an increase in demand for property from end users (the real sector of the economy), and in a bust period, by an increase in demand from investors. Oversupply in the market during the period of market saturation is largely due to the investment in real estate that preceded it during the boom phase. During this period, real estate is no longer seen as a real asset, but rather as a financial asset that generates income, without regard to its link to the real economy. This, together with rising household incomes and increased mortgage lending, has led to the emergence of real estate bubbles.

A real estate bubble is a sharp increase in prices and market turnover in the real estate market caused by a significant increase in demand (including speculative demand for the purpose of further sale).

The factors contributing to the emergence of a bubble in the market are as follows: sustained high economic growth; high growth rates of household incomes; increased availability of mortgage lending (lower requirements for borrowers); increased availability of construction lending; and increased investment in real estate.

From an economic point of view, a bubble is quite difficult to identify, as there are certain conceptual problems that complicate its economic interpretation [17, 18]. A bubble is also defined as a period of time that starts from a significant low to a significant high and is characterised by a prolonged rise in prices followed by a crash or significant fall [6, 17, 18].

A real estate bubble is one of the types of economic bubbles that periodically arise in local or global real estate markets. It is characterised by a rapid increase in the value of real estate until it reaches an unacceptable level in relation to income and other economic elements [6]. This "bubble" materialises in excessive growth of real estate prices as a speculative financial asset and a means of saving, which far exceeds its real value and natural demand associated with the movement of the population; this is largely due to leverage: bank loans to real estate buyers, direct investments of banks and other financial institutions in real estate, the source of which is ultimately debt (real estate portfolios, equity and shares of corporate structures that own real estate) [6,18]. So, this phenomenon is associated with the unreasonably high value of assets such as real estate, stocks and raw materials. When financial bubbles occur, the link between prices and the "underlying situation" in the market is broken. Despite the widespread use of the term "bubble", it does not have a clear mathematical definition. One group of scholars argues that a bubble should be considered to have formed if prices rise by 15% in a relatively short period of time compared to previous record highs. According to the second option, the amounts involved in real estate transactions must increase by at least 19% over a two-year period [6].

According to experts [6, 17 - 19], a real estate bubble can be recognised by *the following signs*: first, the price of a property is overvalued if it is one hundred times its rental value; second, a loss of relative liquidity (when everything is liquid). In other words, the bubble is rounded off unevenly: it swells in the most popular sector, gradually approaching illiquidity. Moreover, as it inflates from liquid to illiquid, it deflates in the opposite order. “Bubbles” don't just inflate when the economic environment is favourable, they are ahead of it. The essence of this phenomenon is the belief that “you need to buy and hold, because tomorrow it will be more expensive”. But if expectations outstrip real economic success, the bubble is doomed. It can deflate or even burst.

The real estate price boom has resulted in a significant portion of the debt-based assets of banks and other financial institutions across the country being invested in real estate, resulting in excessive concentration of credit, interest rate and market risks. As a result, banks and other financial institutions - direct investors and lenders - have lost a significant portion of the value of their direct investments (real estate portfolios and related income), as well as portfolios of loans to developers (construction customers), including those affiliated with financial institutions, as a result of the fall in real estate prices. Existing market, currency, credit and interest rate risks are being transformed into systemic risks of the financial crisis [19].

For example, the financial crisis of 2007-2008 was linked to the bursting of real estate bubbles that began in various countries during the 2000s. For example, today we have such a dangerous development situation due to the uncontrolled increase in the number of household loans in large cities around the world, as well as the sharp rise in property prices. Housing bubbles are more critical than stock market bubbles. Historically, a stock market bubble occurs on average every 13 years, lasts 2.5 years, and results in a loss of about 4 percent of GDP. House price bubbles are less frequent, but last almost twice as long and result in twice as much output loss [19]. Compared to financial markets, real estate markets are characterised by longer boom and bust periods. Prices decline more slowly because the real estate market is less liquid. In the broadest sense, a financial market bubble is a continuous rise in asset prices over a period of time followed by a sharp fall. As defined by Kindleberger [20], a financial market bubble is usually understood as a sharp rise in the price of an asset or set of assets over a long period of time, when the initial price increase creates the preconditions for further growth and attracts new investors who are more interested in the growth of the asset's value than in the use of potential investment income. This price increase is usually followed by a revision of expectations and a sharp drop in price, which is often the cause of a financial crisis [19, 20]. A similar definition is given by Blanchard, Olivier J. and Mark W. Watson [21]: they describe a bubble as "a price movement that is clearly unjustified by the information available to the investor at the time, which takes the form of a sharp rise followed by an equally sharp fall". However, the absence of a formal criterion for identifying bubbles has prevented their use in empirical research.

It is worth noting that, in particular, in Ukraine, the term "overheating" of the economy (market) has become widespread instead of the term "economic bubble". Overheating in the economy is a situation when one of the factors of production, labour or capital, is used too intensively.

The process of “overheating” of the real estate market is as follows [6]:

-active demand in the secondary housing market, which creates a fictitious excess of demand over supply - as a result, the price increases;

- the developers (by agreement), set a new price for the primary property, allegedly due to rising prices in the secondary market;

- the main task of the pyramid is to assure of constant future growth to attract new participants, so at the next stage a massive advertising campaign is launched to create such an image;

- as a result, people get involved in the game, prices really rise, the circle closes and the market begins to "heat up" itself, prices and demand increase;

- the moment comes when everyone who could afford to buy/sell property has already done so;

- an active advertising campaign for mortgage lending - the market starts to grow again, and the second wave of price increases begins;

- the second wave of activity is larger than the first due to the large amount of borrowed funds entering the market. Developers and speculators raise prices again, the number of pyramid scheme participants increases due to the desire to make easy money, the circle closes again and the market begins to overheat;

- the second peak is reached when the number of final home buyers falls below a critical level (by 10-20%, according to various estimates), cash flow to the market decreases, and almost all transactions between existing players are speculative. When all possible speculative transactions are exhausted, a collapse occurs as a result of the massive desire of speculators to get rid of an asset that is not in demand by end users;

- however, the collapse of the real estate market does not occur instantly, but is spread over time due to certain constraints.

The main factors of “overheating” in the real estate market include [6]:

- longer payback period, which is usually 11-13 years (price/annual rental rate).

- the generally accepted ratio of rental housing to mortgage purchase is 1:1. In our country, mortgage payments are 3-5 times higher than rental rates, provided that rents have reached the limit of growth and are close to the average salary;

- global practice has determined the affordability of housing at the level of two or three annual payments.

- the rational risk assumed by global banks in mortgages is three times the annual salary; the situation in the domestic market is much worse, with the possibility of loan default in the event of economic fluctuations;

- property prices should be in line with the standard of living;

- the share of speculative transactions should not exceed a certain threshold;

- the ratio of GDP in Western countries to the total value of residential property is 1:1. In Ukraine, the current value of Kyiv real estate alone is 160 % of GDP, while the value of all real estate is estimated at 300 % of GDP. This indicates an overheated market. By the way, in the US, a 150 % overheated market led to the crisis;

- in Ukraine, there are few opportunities for reliable investment, so most of the money goes to the real estate market and heats it up;

- the steady rise in utility bills will force some unprofitable speculative property onto the market, which means that rents cannot rise any further.

At the same time, the deterrents to the collapse of the real estate market are as follows: market inertia due to low liquidity of the asset; partial return of capital through leasing. Therefore, despite the downward trend, speculators may postpone the sale of the asset until better times; in the long term, housing remains the most reliable means of investing capital, despite ten-year (10-year) market fluctuations; increased income, which helps to balance the market.

Swiss bank UBS has conducted a study of the global residential property market and determined which cities are most likely to experience so-called "bubbles". UBS Global Real Estate Bubble Index 2022 assesses the global real estate market over the long term [22].

This allows the risk of bubbles in a particular city to be monitored. Bank analysts say that bubbles occur because of mispricing of assets, the existence of which cannot be proven until it bursts. However, price bubbles are a fairly common phenomenon in the real estate market. And although they are inherently difficult to predict, there are several models that can predict the likelihood of their occurrence.

For example, a bank takes into account and compares the value of a property with its rental income, changes in the ratio of mortgage to GDP and construction to GDP, as well as the relative value of real estate in a city compared to the national price. A ratio is thus derived that must not exceed a ratio of 1.5. [22]. If such a situation occurs, the city is considered to be at risk of a real estate market bubble.

Analysts note that in 2022, the housing market in many megacities around the world is experiencing a critical imbalance in supply and demand, as well as rising interest rates and speculation. For example, in Canada, record low mortgage rates during the coronavirus pandemic led to massive lending to households. The Bank of Canada is currently raising interest rates to fight inflation. As a result, Toronto is showing the most pronounced signs of a bubble. In addition to Toronto, the housing market in Frankfurt am Main is in a difficult situation. In total, the UBS Global Real Estate Bubble Index list includes the following megacities: Zurich, Munich, Hong Kong, Vancouver, Amsterdam, Tel Aviv and Tokyo. Nominal house price growth in the analysed cities accelerated to 10% from mid-2021 to mid-2022, the highest since 2007. Overheated real estate markets in the US are among the five fastest growing markets. These include cities such as Miami, New York, San Francisco and Boston [22]. UBS notes that bubbles remain a medium risk in a number of European cities (Stockholm, Paris, Sydney, Geneva and London) compared to 2020 [23]. Mortgage rates in these cities have almost doubled. However, the purchasing power of the population continues to decline due to inflation and asset losses. This temporarily restrains the demand for additional living space. Analysts say that prices will adjust in the near future due to the inflated cost of borrowing, which exceeds the return on real estate investments. But there are big differences between individual markets in terms of risk. For example, while Zurich is in a deep bubble, Warsaw is considered fairly valued. In Zurich, the combination of negative interest rates and high economic and demographic growth has led to excessive price growth over the past few years. Price-to-rent ratios have reached high levels that are out of sync with interest rates, which are consistently in positive territory. Frankfurt and Munich, for example, show the highest risks of a property bubble among the Eurozone markets. In both German cities, real estate prices have more than doubled in nominal terms over the past decade, although growth slowed to around 5 % from double-digit levels between mid-2021 and mid-2022 [23; 24].

Consequently, price bubbles are a recurring phenomenon in real estate markets. The economic nature of a bubble is a significant and persistent undervaluation of an asset that cannot be proven to exist until it bursts. However, historical data shows that the real estate market has experienced excessive fluctuations. Typical signs include a decoupling of prices from local incomes and rents, as well as distortions in the real economy, such as excessive lending and construction. The UBS Global Real Estate Bubble Index assesses the risk of real estate bubbles based on the following models. The index does not predict when a correction will begin. A change in macroeconomic dynamics, a shift in investor sentiment or a significant increase in supply could lead to a decline in housing prices.

In view of the above, the main reasons for the negative impact of bubbles on the economy are: the wealth effect, overinvestment and budgetary imbalances.

During the formation of a stock market bubble, asset values rise, and investors conclude that their wealth is increasing. The wealth effect makes it possible to significantly expand spending on current consumption, creating inflationary pressures.

High profitability expectations and low borrowing costs. It is very attractive for companies to invest in the assets of one sector or the entire economy. This leads to overinvestment - overinvestment. Thus, a significant part of investment moves from one sector to another, which creates an imbalance in the economic and financial decisions of agents. When the bubble bursts, it turns out that a significant part of the money was spent on an unnecessary increase in productive capital. This capital will be idle, making investment inefficient.

In addition, high tax revenues give governments the illusion that they can increase spending or reduce taxes. As soon as the bubble deflates, budget deficits at all levels can occur, and the authorities face difficult policy choices: increase taxes or eliminate many new budget programmes.

However, despite the many reasons to view the impact of bubbles as generally negative, monetary authorities in most developed countries prefer not to intervene directly in the stock market. In addition, monetary authorities prefer not to take financial market indicators into account, or at least not to give them the same weight as monetary aggregates. Financial indicators are highly volatile, making it extremely difficult to separate "true" signals from "false" ones [25].

Conclusions and proposals. A real estate bubble is a type of economic bubble that occurs periodically in local or global real estate markets. It is characterised by a rapid increase in the value of real estate until it reaches unsustainable levels in relation to income and other economic elements. When financial bubbles occur, the relationship between prices and the "baseline situation" in the market is disrupted. Price bubbles are a recurring phenomenon in real estate markets. Although they are difficult to predict by their very nature, further research should focus on further developing and analysing existing models that can predict the likelihood of bubbles and possibly provide a clear mathematical definition. The price boom in the real estate market has resulted in a significant portion of the assets of banks and other financial institutions across the country, formed by their debt obligations, being invested in real estate, leading to a high concentration of credit, interest rate and market risks. Therefore, the financial and economic impact and risks of the real estate bubble must be taken into account for balanced and sustainable development of the real estate market.

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ЕКОНОМІЧНА ПРИРОДА “БУЛЬБАШКИ” НА МІЖНАРОДНОМУ РИНКУ НЕРУХОМОСТІ

Повноцінне функціонування ринкової економіки неможливе без ринку нерухомості, оскільки він має значний вплив на численні економічні процеси, насамперед на заощадження, нагромадження та інвестиції. Трансформація світового ринку нерухомості в останні роки зумовлена як загальноекономічними факторами (високими темпами його зростання в ряді країн, що розвиваються), так і спеціальними факторами (зростаючі потреби в оновленні інфраструктури в *розвинених країнах, масштабна приватизація в багатьох європейських країнах). Ринок нерухомості є важливою складовою національних економік країн-членів ЄС, оскільки він тісно пов'язаний із формуванням спільних ринків товарів, послуг, праці та капіталу. У періоди пожвавлення ринку збільшення пропозиції пов'язане зі зростанням попиту на нерухомість з боку реального сектору економіки, а в періоди підйому – зі збільшенням попиту з боку інвесторів. З цієї точки зору нерухомість розглядається як фінансовий актив, що приносить дохід. Разом зі зростанням доходів домогосподарств та збільшенням іпотечного кредитування це призводить до формування "бульбашок" на ринку нерухомості.*

Мета статті полягає у дослідженні економічної природи «бульбашки» на ринку нерухомості з урахуванням міжнародних тенденцій його розвитку (використовуючи Global Real Estate Transparency Index, UBS Global Real Estate Bubble Index).

У роботі досліджено економічну природу «бульбашки» на міжнародному ринку нерухомості, а також визначено фактори її виникнення (зокрема, стійкі високі темпи економічного зростання; високі темпи зростання доходів населення; зростання доступності іпотечного кредитування; зростання доступності будівельного кредитування та обсягів інвестування в нерухомість). Також визначено ознаки, що свідчать про утворення «бульбашки» на ринку нерухомості (по-перше, ціна об'єкта нерухомості завищена, якщо перевищує стократний розмір його оренди; по-друге, втрата відносної ліквідності). Досліджено основні причини негативного впливу "бульбашок" на економіку, такі як: ефект багатства, надмірне інвестування, бюджетні дисбаланси.

Водночас у роботі акцентовано на дефініції «перегрів» ринку нерухомості, який експерти пропонують використовувати для ситуації, коли один із чинників виробництва, праця чи капітал, використовується надто інтенсивно. Визначені основні чинники «перегрітості» вітчизняного ринку нерухомості, а також стримуючі фактори обвалу ринку нерухомості. Аналіз зарубіжних та вітчизняних досліджень показав, що в економічному сенсі «бульбашку» доволі складно ідентифікувати, оскільки існують деякі концептуальні проблеми, що ускладнюють її економічну інтерпретацію. Бульбашка на ринку нерухомості – це тип економічної бульбашки, яка періодично виникає на локальних або глобальних ринках нерухомості. Вона характеризується швидким зростанням вартості нерухомості, поки вона не досягне нестійкого рівня по відношенню до доходів та інших економічних елементів.

Ключові слова: *ринок нерухомості; «бульбашка» на ринку нерухомості; іпотечне кредитування; «перегрів» ринку нерухомості; ціновий бум; інвестиції.*

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