Assessment of the Investment in Real Estate through Innovative Funding Mechanisms

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Abstract: The main purpose herein, is to assess the popularity of the innovative funding mechanisms when acquiring land at the national level. The results of the research suggest that the innovative funding mechanisms are neither popular nor available when making the investment in land in Lithuania. The unavailability of the innovative real estate funding mechanisms was determined by the lessons of the financial crisis of 2008. Now land plots are mainly acquired with personal funds as loans issued by credit unions. The future prospects are not very favorable, since a very small part of the transactions in the land market in Lithuania are funded with bank loans due to the Scandinavian banking policy which is currently responding to the crisis in the Scandinavian asset market. Issuance of corporate bonds serves as another source of funding. Although, theoretically, the mechanism of "crowd funding" could also be employed, the cases of its employment, thus far, have not been registered at the national level. The novelty of this article lies in the provision of a comprehensive approach to the innovative land funding mechanisms since scientific literature, thus far, has lacked the research on innovative real estate funding mechanisms.

Keywords: real estate; funding mechanisms; investment; land; innovative funding

1 Introduction

As real estate plays one of the major roles in modern economics, the mechanisms of its funding are under scrutiny at both European and global scales. The last global financial crisis has forced to look for the ways to reduce welfare expenditures. National governments have started reducing their investments and in many cases, completely stopped funding the improvement of public infrastructures (road maintenance, renovation of buildings, etc.).

Real estate markets are increasingly being treated as beneficial and able to flexibly respond to consumer needs, and so promote the revival of general economics.

Since 2008, advanced European countries have focused on the innovation of real estate funding mechanisms: they are looking for the ways to optimize the role of lending institutions, balance the debt-to-asset ratio in real estate development projects, rationally assess the risks of these projects, establish reasonable debt repayment requirements and promote public-private partnership. Currently, Europe possesses a wide variety of the innovative real estate funding mechanisms. The development of the global financial system conditions the establishment of the institutions searching for any asset accumulation opportunities. The visions of these institutions are linked to the investment in land through the innovative funding mechanisms that serve as an excellent basis for the new interest in land. As it was noted by Knuth (2015), the innovative real estate funding systems open the way for global, cross-regional and local investment in land. While analyzing the current policies of large-scale land transactions (co-called land grabbing), it seems reasonable to research land investment expediency, tendencies and funding opportunities.

Although, the current scientific literature has been rich in the studies focused on real estate funding issues (real estate funding forms were analyzed by Haffner and Boelhouwer (2006), Kemp (2007), Griggs and Kemp (2012), Squires et al. (2016) and others), the opportunities to invest in land through the innovative funding mechanisms have hardly been covered, in particular, at the national level.

The novelty of this article. Scientific literature lacks the studies on the innovative real estate value determinants and funding mechanisms. Hence, we find it purposeful to introduce a comprehensive approach to the innovative land funding mechanisms.

The main purpose of this article is to assess the popularity of the innovative funding mechanisms when acquiring land at the national level. For implementation of the defined purpose, the following **objectives** were developed:

1) To research the theoretical aspects of the innovative real estate funding mechanisms,
2) To select and introduce the methodology of the research,
3) To assess the popularity of the innovative funding mechanisms when making the investment in land as an investment object at the national level.

The methods of the research include systematic and comparative literature analysis and expert evaluation.

2 Bank- and Market-based Financial Systems. The Innovative Real Estate Funding Mechanisms

As large-scaled real estate projects in Europe are funded by employing the innovative funding mechanisms, it is extremely important to understand the character and features of these mechanisms so as to assess their role in real estate development.

The character of the innovative real estate funding mechanisms in different countries to a large scale depends on the national institutional environment and regulation of the financial system. Tiwari & White (2014) distinguish between bank-based financial systems and market-based financial systems. The differences between these two types of financial systems are observed since each of them differently accumulates savings from households, businesses and governments, differently selects and monitors the investment, and differently manages the risk. The role of any financial system, in this context, is to expand the mechanisms that would allow to effective funding of investments in real estate, with consideration of the class and characteristics.

So, which funding mechanisms can be provided by bank-based and market-based financial systems to redirect the accumulated savings to the development of real estate and property investment? Although traditionally, real estate is funded by employing bank lending mechanisms, over the last two decades more innovative funding mechanisms which enhance the role of market-based financial systems have also been developed.

Under the conditions of the modern economy, the investment in real estate is commonly funded through loans and subsidies (Bilal & Kratke, 2013). Marseguerra and Cortelezzi (2009), who researched the effects of debt-financing on real estate investment decisions, found that debt financing induces agents to invest earlier than in the case of pure equity financing. Nevertheless, the former type of funding is relatively inflexible: issuance of a bank loan is a long process, especially in terms of preparation of a project, documentation, submission of guarantees and deposits, the period of consideration, etc. In addition, if a state follows the policy of loan issuance limitation (such policies were established in weaker economies, including Lithuania, after the global financial crisis of 2007-2008 before which unreasonable availability of loans (often even without verification of a debtor's solvency) had caused painful problems of insolvency and numerous cases of foreclosure)), there are no guarantees that a loan will be issued at all. The process of subsidisation is even longer since a person (natural or juridical) who applies for subsidies has to prepare a project and pass the procedures of tendering (subsidisation in a state is commonly limited and granted only to most promising and relevant projects). Considering the facts explicated above, it can be stated that unlike the traditional real estate funding mechanisms, the innovative mechanisms allow to accumulate the funds, share

the investment risks among the participants of a project (an owner, an investor, a state, financial institutions, international organisations, etc.) and benefit from greater flexibility of funding (Carter, 2006).

Risk is one of the major components that must be considered when developing the innovative funding mechanisms (Bartke, 2013). Apart from the opportunities provided to large-scale projects, the innovative funding mechanisms incorporate many factors of risk that must be assessed along with the potential financial returns. As it was noted by Squires et al. (2016), the majority of the modern real estate funding mechanisms, such as value capture bond mechanisms, cover the innovation risks which are not high, but call for reasonable consideration. Although in general sense the development of real estate can be risky, the risks can be mitigated by increasing the degree of diversification of financial investments (Havard, 2013). As it was noted by Beracha et al. (2017), short-fall risk in a decumulation portfolio decreases with substantial allocations to real estate either public or private. What is more, an investor's strive to earn profits acts as an incentive for further development whatever methods of risk management are employed (Weber, 2002). The rational measures of risk management (i.e., consideration of the variety of risk and profit factors) ensure the efficient and stable long-term financial development of long-scale real estate projects.

The investment in real estate can also be funded through solidarity, public-private partnership as well as loan and bond innovation mechanisms (Grishankar, 2009) (see Fig. 1).

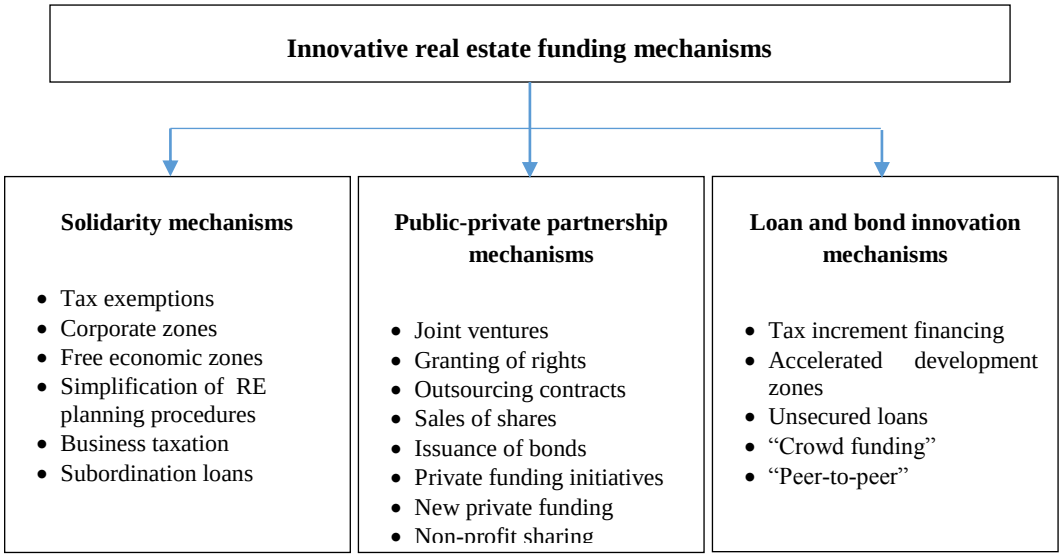

Figure 1
Innovative real estate funding mechanisms (source: compiled by the authors)

Public-private partnership is one of the most modern real estate funding mechanisms. The partnership of this kind facilitates budget constraints, contributes to the improvement of public service quality, promotes innovations and optimizes risk sharing (Liu & Wilkinson, 2014). Public-private partnership covers a wide variety of agreements starting with private financial initiatives, joint ventures and granting of rights, and ending with outsourcing contracts and sales of shares (McQuaid & Scherrer, 2008). Public-private partnerships are commonly employed in the countries where the schemes of real estate development, in the private sector, are based on long-term commitments.

Iblher & Lucius's (2003) study revealed that the demand for joint ventures in Germany is increasing, and this increase is linked to the growing demand for real estate in the largest German cities. The mechanism of joint ventures is often employed when co-operating institutions build close long-term relationship. The main advantage of this mechanism is sharing of responsibilities.

The "Lammenschans" real estate development project in Leiden (the town with the population of 120000 people) in the Western Netherlands can serve as an example of the employment of the innovative real estate funding mechanisms. The real estate was located in the southern part of Leiden, near the railway station. The town's municipality had developed the strategy following which the area of the project was divided into some complexes for different constructions, and the use of land in these complexes was restricted. The territory had to be rearranged into mixed-purpose land plots for a school, residential housing (dormitories, apartments), retail centers, parks and squares, industrial buildings and service centers. The owners of the land as well as the developers of the project took the initiative to protect their finances and agree on land ownership restrictions. The innovative approach in this project was funding of the real estate in the land plots after rearrangement (van der Krabben & Needham, 2008).

The above-described mechanism is the instrument of public planning employed for reduction of a real estate project risk and generation of the potential returns to the owners and project developers (van der Krabben & Heurkens, 2014). By employing this mixed real estate funding mechanism, land owners reformed their ownership rights, i.e. they acquired the right to change the purpose of the land (to use the land for construction in accordance with the terms of the project). Later, the ownership rights were transferred to the municipality. This financial innovation allowed the owners to participate in the publically-controlled project of regional development. After the "Lammenschans" real estate development project, this innovation has become widely-used in the projects of regional development as a measure that allows land owners and real estate developers to revive stagnant areas.

Public-private partnership initiatives are sometimes funded through issuance of bonds which are commonly linked to particular indices (the bonds of this type are called index-linked debts) and put bond holders at a potentially high inflation risk

(The European Public-Private Partnership Expertise Centre, 2010). The practice of land plot re-parceling, in some cases employed by municipalities to revive particular plots of land, can serve for public-private partnership initiatives (van der Krabben & Heurkens, 2014).

When analyzing the mechanisms of public-private partnership, the partnerships between foreign institutional asset funds and private development loan providers should also be mentioned. According to Squires et al. (2016), the latter mechanism is suitable for the projects of the residential property for rent, large-scaled real estate development projects and infrastructural projects, i.e. a substantial number of institutions could be attracted to invest in a particular asset class on condition they were offered a stable long-term low-risk return non-correlated to the return on the investment in other assets. Regardless of whether the real estate market is going up or down, large-scale projects possess longer stages of implementation, so it may take time to eliminate possible market inefficiencies even when the stimuli of the investment have been recognized. Financial innovations may help to "lock" the value of assets in any stage of a project (e.g., when acquiring land, starting-up or finishing construction works, etc.). From this point of view, the above-described partnerships are less dependent on the changes in real GDP, interest rates, inflation components, money supply and stock market returns – the factors that are recognized to significantly affect real estate fund returns (Delfim & Hoesli, 2016). It can be argued that distribution of funds for different stages of a project is a "long deal", and long-term investments are more favorable for implementation of large-scale projects funded by institutional investors. Nevertheless, institutional funding is commonly employed when the relationships with banks become complicated and long-term lending restrictions are unreasonably strict.

Private funding initiatives, such as employment of the innovative funding mechanisms, are quite controversial as private funding initiatives are linked to high construction risks which are transferred to the private sector just following the argument that the private sector is capable of managing this type of risk (Adair et al., 2011). Services are provided on the basis of a contract between a private consortium and an authorized public institution. As in the case of public-private partnership, private funding initiatives can offer the value for money and increase the overall efficiency of the private sector (Wall & Connolly, 2009). Private funding initiatives are arranged to ensure the full coverage of the consortium costs and generate extra returns on the borrowed capital (i.e., the returns on investment) (Greenhalgh & Squires, 2011). Despite the initial difficulties, such as insufficient operational flexibility, governments sometimes introduce the modifications of private funding initiatives so as to offset plausible shortcomings of this type of funding (HM Treasury, 2012). One of the most innovative forms of private funding initiatives is Private Funding 2 (PF2). Non-profit sharing in Scotland has already pushed out private funding initiatives. Non-profit sharing is reported to bring extra benefits: it generates limited returns so that the return surplus could be

reinvested in the public sector and thus would allow meeting the public interest (Scottish Futures Trust, 2013).

The most recent loan and bond innovations include tax increment financing (TIF) and accelerated development zones. The latter have become extremely important for the projects of infrastructure (The British Property Federation, 2008; Webber, 2010). For instance, the "BatterSea" power station project in London was initiated following the mixed scheme of the residential and commercial real estate development. The project was funded by employing the traditional debt-asset principle, i.e. the funds were obtained from foreign investors, pension funds and international banks. Although the development of the transport infrastructure was funded together with the construction of buildings, the former was based on the mechanism of public-private partnership which at that time seemed to be quite innovative. The case of the "BatterSea" showed that the project was not successful: it was stopped in 1983. Later on, the power station saw the changes in its owners and bankruptcy administrators till in 2006 the area of 750000 square meters with 600 residential and commercial premises was sold to the "Treasury Holdings", the Irish real estate development company, for 400 million pounds. The project was terminated in 2011 when the "Treasury Holdings" took over its administration and appointed the National Asset Management Agency (NAMA) a sole proprietor of this real estate. In September 2012, the property was transferred to the "SP Setia", the Malaysian consortium, which initiated the employment of the innovative real estate funding mechanisms. Having an unconditional right of ownership, the "SP Setia" initiated the campaign of the "BatterSea" power station development and started-up the works of the area reviving (the works were completed in stages and lasted for nearly 12 years). The value of the real estate reviving works amounted to approximately 8 billion pounds (Squires et al., 2016). The innovative funding mechanisms included tax increment financing as namely this mechanism allowed to balance the costs and returns by increasing the total value of the property and fixing the value of any improvements. This model of funding was largely directed towards the residential buildings with the aim to sell these buildings and thus raise the funds for the financing of the other stages of the project (currently the revenues from the sales and exploitation of residential buildings can be earned due to the vitality of the housing market in London). For funding of the transport infrastructure, the Public Sector Loans Board granted a loan of one billion pounds. It is expected that this expenditure will be covered after fixing of influence taxes – this way, the Northern underground line will be extended (Squires et al., 2016).

Coleman and Grimes (2009) and Medda et al. (2012) focused on a betterment tax and an accessibility increment contribution. Increment is an increase in the value of any property determined by public decisions and interventions. For instance, increment can be determined by abolition of land-use restrictions, changes in the purpose of a land plot after modification of the general land-use plan, improvement of the transportation or utility infrastructure, etc. To prevent an owner from receiving unearned increment and compensate a state or a community

a part of the spending on the infrastructure improvement, a betterment tax is imposed. Coleman and Grimes (2009) discuss two scenarios of increment: improvement of the infrastructure and changes in the purpose of a land plot (e.g., arable land is transformed into residential land). According to Coleman and Grimes (2009), both a regular land tax and an increment contribution should be levied against such increase in the value of property.

Loans can be issued by employing crowd funding systems. Crowd funding is a method to fund a project or an activity when funds are collected from a large number of people. Funds can be collected by mail, during various events, through online intermediaries, etc. The crowd funding model is based on participation of three main agents: an initiator of a project, supporters and intermediaries (intermediary platforms which link project initiators and supporters). The statistics show that in 2015 over 34 billion dollars worldwide were raised for funding of different projects by employment the method of crowd funding (Barnett, 2015). The model peer-to-peer is a method of debt financing which allows individuals to lend and borrow money without applying to financial institutions as intermediaries (Steinisch, 2012). Money is lent or borrowed online by combining the interests of lenders and debtors. The advantage of this method to lenders is that the peer-to-peer offers higher interest than the traditional lending methods (for instance, keeping money in bank accounts). For debtors, it is an opportunity to raise funds for different projects or activities that could hardly be funded through other channels. The main disadvantage of the peer-to-peer fund raising method is that a lender has practically no guarantees of a debtor's credibility. For this reason, lenders in some cases may demand higher interest for higher risks (Kennard, Bond, 2011).

Summarizing, it can be stated that the importance of public-private partnerships between foreign institutional asset funds and development loan providers is rising, in particular, when implementing real estate projects that require wide infrastructures. Employment of different methods of funding in particular stages of the real estate cycle can be considered as an extremely flexible form of real estate financing. Fixing of value as well as concentration on an increase in the total value of property are efficient supplements of the innovative real estate funding systems. Although the financing based on the expectations of the value increase in the future is comparatively risky, the appropriate measures of risk management (e.g., fixing of value in different stages of project implementation) can mitigate this risk. The variety of the real estate funding mechanisms is an important determinant of the real estate market development since it allows a reduction in the costs and risk of the investment in Real Estate, diminishes the compulsory volumes of investment per person and shorten the time of investment. In other words, the innovative real estate funding mechanisms make preconditions for effective and well-structured real estate transactions. Nevertheless, the innovative real estate funding mechanisms not always can be considered as an equivalent alternative to the traditional forms of funding. In some cases, the innovative

mechanisms serve as extra measures promoting the development of the real estate market.

In Lithuania, real estate is mainly funded by issuing bank loans or bonds. The other real estate funding methods are not popular due to the imperfections of the country's legal framework, poor subsidization of housing acquisition and a lack of VAT exemptions for real estate buyers.

3 Research Methodology

Literature research revealed that within the area of real estate financing, the methods of descriptive statistics that quantitatively describe and/or summarize the features of a collection of information are prevalent (see Table 1).

Table 1
Review of previous research methodologies applied in the area of real estate financing (source: compiled by the authors)

Research methods	Author(s), year
Literature review	Kane, 2001; Breuer, Kreuz, 2011; Vicent, 2015; Olsson, 2015
Citation analysis	Breuer, Kreuz, 2011
Statistical data review	"Knight Frank", 2017; "JLL", 2017
Case analysis	Squires, 2015; "JLL", 2017
Desk research	Squires, 2015
Secondary data analysis	Ezimuo et al., 2014; Olsson, 2015
Sample surveys	Ogedengbe, Adesopo, 2003; Nkyi, 2012; Mwathi, 2013; Ezimuo et al., 2014
Interviews	Ogedengbe, Adesopo, 2003; Iblher, Lucius, 2003; Nkyi, 2012; Ezimuo et al., 2014; Squires, 2015
Trend analysis	"Knight Frank", 2017
Univariate regression	Lasfer, 2007
Multiple regression	Gonenc, 2005; Lasfer, 2007; Abor, 2007; Nkyi, 2012
T-test	Brown et al., 1996; Redman et al., 2002; Ali et al., 2006; Nkyi, 2012
Correlation analysis	Nkyi, 2012
Chi-square	Brown et al., 1996; Nkyi, 2012
Factor analysis	Nkyi, 2012
SWOT analysis	Acquah, 2011; Nkyi, 2012
Chow test	Gonenc, 2005

As it can be seen from the review in Table 1, the most substantial part of previous studies adopt sample surveys (survey questionnaires) and interviews, whereas some of the studies rely on the sources of secondary data (financial statement,

articles from companies, press releases). The use of statistical tools demonstrates a considerable drift from basic (percentages, ratios) to more complicated tools (univariate and multiple regressions, T-test, correlation, Chi-square, factor analysis, Chow test). SWOT analysis is employed to research the impact of real estate financing related internal (strengths and weaknesses) and external (opportunities and threats) factors.

Expert evaluation is one of the most popular insight methods applied in different areas of research (Baležentis & Žalimaitė, 2011). According to Rudzkienė & Burinskienė (2007), expert evaluation can be treated as a generalized opinion of a group of experts. It is a procedure that allows combining different opinions and having an insight in the general understanding. Expert evaluation is commonly employed for the research of a particular problem, process or phenomenon that requires specific knowledge and abilities. The results of this research are submitted as reasoned conclusions and recommendations (Rudzkienė & Burinskienė, 2007). According to Makridakis et al. (1998), expert evaluation should involve 10 – 100 experts depending on the purpose of the research and expert competence in the area under consideration. Other scientists submit slightly different recommendations. For instance, Augustinaitis et al. (2009) recommends inclusion of at ***least 5 experts*** to ensure the accuracy and reliability of the research results. While conducting the empirical research, the authors of this work, followed the latter methodological recommendation in order to keep the focus on the expert competence, their specific knowledge of the real estate market and understanding of the conditions and problems of business environment rather than the scale of the questionnaire survey. First, 8 experts were included in the study, however, due to the split of opinions by filling out the questionnaire and improving the meaning of Cronbach's alpha and Kendall Concordance, three of them were removed from the expert evaluation.

Following the above-described recommendations, the group of the experts included 5 people:

- *Marius Dubnikovas,* who is currently in charge of Business Development Manager position at "Compensa Life Vienna Insurance Group SE", with more than 15 years of professional and practical experience in the areas of real estate valuation and finance. He started his career as the President of Lithuanian Financial Brokers Association, and subsequently followed the position of Client Investment Manager at "Finasta Ltd.". The expert is also the Chairman of the Tax Committee, Lithuanian Business Confederation. The financial analyst is particularly active with his speeches and insights into the trends of the real estate market in media;
- *Saulius Vagonis,* who is the Head of Valuation and Analysis Department in "OBER-HAUS Real Estate Ltd.". He has acquired his experience in working with real estate for over 20 years. During the expert's career, more than 3000 asset evaluations and about 100 outsource market studies and analyses have been conducted. Saulius Vagonis is a board member of

Lithuanian Association of Property Valuers and Lithuanian Association of Property and Business Valuation Enterprises, and the Chairman of the Commission on Science and Education. He actively participates in real estate conferences (e.g. Real Estate Conference 2016 and 2017, organized by the Bank of Lithuania);

- *Dr. Vytautas Azbainis*, who has gained his experience in drawing up real estate investment projects and land plot detailed plans during 13 years of professional career. Since 2005 he has held the position of the director of "Vilniaus Namas Ltd.". In 2014, he defended the dissertation on the topic "Real Estate Market Cycle Management and Modeling";
- *Romualdas Paulauskas,* who has accumulated more than 15 years of experience in the real estate sector. Currently, he is the Head of "OBER-HAUS Real Estate Ltd.", Panevėžys Department. His professional insights are published in popular Lithuanian newspapers "Verslo žinios", "Lietuvos rytas", "Vakarų ekspresas", etc.;
- *Emilijus Gedvilas,* who is a broker at "Akorus Real Estate". The expert has been purposefully working with land investment, purchase and sales of real estate, and the development of real estate objects for about 4 years.

During the empirical research, the experts were asked to assess the land investment funding mechanisms in Lithuania. With reference to the results of scientific literature analysis, the globally-practiced real estate funding mechanisms were classified into three main categories: the traditional mechanisms of private investment, the traditional mechanisms of public investment and the innovative real estate funding mechanisms. The experts were asked to indicate which mechanisms are most available when funding the investment in land in Lithuania. The main purpose of the questions was to identify the most available real estate funding mechanisms in the country and promote the need to develop the network of more innovative sources of real estate funding.

The experts were asked to evaluate particular mechanisms and statements on a scale from 1 to 5 (i.e. from 1 – "I completely disagree / It is completely irrelevant" to 5 – "I completely agree / It is completely relevant"). In accordance with the strength of their agreement / disagreement, the experts could select the intermediate numerical values 2, 3 or 4.

The data was processed with SPSS (Statistical Package for Social Sciences) and "Microsoft Excel" software.

In general, reliability of expert evaluations depends on the number of experts and the level of their knowledge. Presuming that experts are accurate assessors, it can be stated that an increase in the number of experts contributes to higher reliability of an expertise. The degree of an expert's competence (i.e. the degree of an expert's qualification in the area under consideration) is quantitatively measured by employing the coefficient of competence. However, it was not employed for this research.

The special attention should be drawn to possible interpretations of *Cronbach's alpha* coefficient when developing the conclusions of the expert evaluation. *Cronbach's alpha* indicates whether a questionnaire reflects an object under consideration with appropriate accuracy. Some scientists, for instance, Nunnally & Bernstein (1994), state that *Cronbach's alpha* has to be higher than 0.7, while others, for instance, Malhotra & Birks (2003), propose that the lowest marginal value of a questionnaire's reliability is 0.6. Hence, the selection of the lowest marginal value of a questionnaire's reliability is a subjective matter that may depend on the nature and qualitative aspects of a particular study. For this empirical research, the authors of this article selected 0.7 as the lowest marginal value of *Cronbach's alpha* coefficient.

4 The Results of the Expert Evaluation

To accomplish the main purpose of the empirical research, the results of the expert evaluation were systematized. A concept, factor or any other aspect under consideration was treated as important if its average rank was equal to or exceeded 3.5. The value of Cronbach's alpha coefficient estimated for the questionnaire was equal to 0.98, which proposed that the questionnaire reflected the dimension under research with appropriate accuracy.

Availability of the funding mechanisms when making the investment in land in Lithuania. The value of Kendall's coefficient of concordance was equal to 0.578 ($p = 0.000$). The experts unanimously indicated that the most available funding mechanisms when making the investment in land in Lithuania are money, loans and mortgages attributable to the category of the traditional mechanisms of private investment. The other funding mechanisms, such as the traditional mechanisms of public investment or the innovative real estate funding mechanisms, are not popular in Lithuania, in particular when it concerns the investment in land. This tendency can be related not only to the imperfections of the legal framework in the country, but also to poor attractiveness of the domestic real estate market in comparison to foreign real estate markets. The results are summarized in Table 1.

Table 1

Unpopular funding mechanisms while making the investment in land in Lithuania

Funding mechanism	Mean	Minimum	Maximum	SD
The traditional mechanisms of private investment				
Use of a part of the share capital	3.40	3	4	0.548
RELPs	2.00	1	3	1.000
CREFs	1.80	1	3	1.095
REITs	2.20	1	3	1.095
Real estate mutual funds	2.20	1	3	1.095

SWFs	2.00	1	3	1.000
The traditional mechanisms of public investment				
Bond issuance	2.60	1	4	1.517
IPOs	2.60	1	4	1.517
Sale and leaseback	3.00	1	5	1.871
ABSs	2.20	1	3	1.095
CMBSs	2.20	1	3	1.095
Real-estate related derivatives (property index certificates, forwards)	2.20	1	3	1.095
Public subsidization of real estate projects	2.60	1	4	1.140
Lower VAT tariffs for housing	2.00	1	3	1.000
The innovative real estate funding mechanisms				
Corporate zones	3.40	2	4	1.140
Subordination loans	3.20	3	4	0.447
Joint ventures	3.40	3	4	0.548
Granting of rights	3.20	2	4	0.837
Outsourcing contracts	2.60	1	4	1.517
Transfers of holdings	3.40	1	5	1.517
Private funding initiatives (PFI or PFI2)	2.80	1	4	1.643
Reinvestment of return surplus	2.80	1	5	1.789
Tax increment financing (TIF)	2.80	1	5	1.789
Accelerated development zones	2.80	1	4	1.304
Unsecured loans	2.40	1	4	1.517
“Crowd funding”	2.80	1	4	1.643
“Peer-to-peer” (P2P) model	2.80	1	4	1.643

Source: compiled by the authors with reference to the results of the expert evaluation

The results of the empirical research have revealed that in the group of the innovative real estate funding mechanisms, *tax increment financing* (with mean rank equal to 3.6), *free economic zones* (with mean rank equal to 3.8), *simplification of real estate planning procedures* (with mean rank equal to 3.6.) and *additional business taxation* (with mean rank equal to (3.6) are considered to be significant, although less available land funding mechanisms. According to the experts, the other mechanisms from the same group are not popular when making the investment in land in Lithuania. *Summarizing, it can be stated that money (cash), loans and mortgages are the most available traditional funding mechanisms commonly employed when making the investment in land in Lithuania.*

When Saulius Vagonis and Marius Dubnikovas were asked the question "What are the sources of land investment funding if land is treated as a kind of real estate?", the experts clarified that with reference to the data of the Bank of Lithuania, only an insignificant share of transactions in the land market are funded by employing loans. The Scandinavian bank policy was indicated as the main reason for this tendency: as the Scandinavian real estate market is overcoming the period of crisis, the excessive requirements are imposed on land funding. Issuance of corporate bonds serves as another source of land investment funding. Although theoretically the mechanism of "crowd funding" could also be employed, the cases of its employment have not been registered thus far. According to Saulius Vagonis, the funding of land investment in Lithuania is limited. This limitation was partly caused by the financial crisis of 2008, when banks used to lend money to the investors who wanted to acquire land plots driven by unreasonable expectations, but did not have any debt repayment capabilities. In addition, before the beginning of the crisis, many investors had acquired illiquid land plots which later turned out to be out of demand and caused the average price of land plots to decrease by 80 percent. After the burst of the real estate price bubble, banks stopped funding the investment in land plots. Now land plots are mainly acquired with personal funds as well as with loans or mortgages issued by banking institutions (in many cases, by credit unions).

Conclusions

Based on the analysis of scientific literature, it is possible to make the generalizations, that the main characteristics of innovative real estate funding mechanisms is a combination of loans and guarantees, which helps to add value to both land and buildings. The most significant innovations in the area of real estate funding cover solidarity mechanisms, public-private partnerships and the mechanisms of loans and bonds. The funds accumulated in the form of various taxes and fees have become a part of the funding of real estate development, like fixing the land value or tax exemptions which promise investors lower tax tariffs.

Public-private partnerships are invoked when the schemes of the long-term obligations in the private sector need to be matched up to long-term assets. The private funding of real estate (with consideration of both public-private partnership projects and private funding initiatives) allows for the pooling of funds from the public and private sectors, for a mutual purpose and allocate the investment-related risks. Finally, the innovative loan and bond mechanisms help to attract private investments and direct them to well-organized capital markets. The integration between transportation and land value fixing can also be considered as a part of the real estate funding innovations. By following the approach of refunding, the stages of the development of particular assets can be modified, and the development of the assets can be ensured, by promoting the sales and the flows of commercial revenues.

The results of the expert evaluation have revealed that the innovative funding mechanisms are neither popular nor available, when making an investment in land in Lithuania. The unavailability of the innovative real estate funding mechanisms was determined by the lessons of the financial crisis of 2008, before which, banks used to lend the money to the investors, who wanted to acquire land plots driven only by unreasonable expectations, but did not have any debt repayment capabilities. Now land plots are mainly acquired with personal funds, as well as, with loans or mortgages issued by banking institutions (in many cases, credit unions).

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