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## *Real Estate as Investment Instruments in Poland Between 2020 and 2023*

**Keywords:** real estate; investment instruments; property

**JEL:** G5; G1; E3; E4

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### **Abstract**

**Theoretical background:** The article constitutes an analysis of the macroeconomic situation from 2020 to the first quarter of (Q1) in relation to real estate investments. Factors such as the COVID-19 pandemic, the influx of refugees to Poland, and rising inflation had a significant impact on investor behavior in the discussed market. The dynamic macroeconomic situation also led to changes in consumer and tenant preferences, while significantly affecting demand and supply. The years 2020–2023 (Q1) were characterized by a distinct specificity that accentuated the risks associated with real estate investments. This emphasized clear differences in various categories between real estate as investment assets and funds, securities, or other alternative investment methods.

**Purpose of the article:** The aim of the article is to identify the risks associated with real estate investment in Poland during the period from 2020 to 2023 (Q1). It is also crucial to describe the macroeconomic aspects and their impact on the investment real estate market during the mentioned period.

**Research methods:** The article presents the results of an empirical study aimed at identifying factors contributing to the increase in risk associated with real estate investment in the years 2020–2023 (Q1). Additionally, it was significant to verify the financing methods for the purchase of investment properties by the survey participants. The study was based on a survey questionnaire. A total of 250 respondents participated in the study, expressing their willingness to purchase their first or subsequent property for investment

purposes during the years 2020–2023 (1Q). Respondents were asked 7 questions, including those related to factors influencing or hindering the completion of investment property transactions in the years 2020–2023 (Q1), as well as the method of financing the purchase and the reason why respondents utilized borrowed capital or relied solely on their own funds. Furthermore the article employed a research methodology that included critical analysis of secondary sources, as well as methods such as analysis, synthesis, description, deduction, induction, and reduction. The Polish and foreign literature related to investment and investment properties was subjected to analysis. Additionally, laws, resolutions, regulations, scientific works from other organizations, and reports were studied, serving as valuable sources of information about the real estate market situation from 2020 to 2023 (Q1). In formulating recommendations, a generalizing-synthesizing method was employed (deduction, reduction, induction). The inductive method aided in analyzing the significance and characteristics of investment properties. On the other hand, the deductive method was used to analyze the issue starting from the macroeconomic situation in Poland and delving into the changes in the investment real estate market. By making a critical analysis of the literature, the reduction technique was applied, thus, verifying the previously formulated hypotheses.

**Main findings:** Based on the conducted analysis, it can be observed that the return on equity (ROE) from real estate investments takes on a negative value when investors partially use borrowed capital. This situation is influenced by high interest rates. However, alongside this factor, there is also a social element related to the high demand for property rentals. In the case of investors investing solely from their own sources, this leads to a return on equity ranging between 2.7% and 3.6% during the analyzed time period. The conducted analysis reveals that macroeconomic, social, and legal factors dynamically shape the demand and supply in the real estate market during the period from 2020 to 2023 (Q1). This is closely related to the decisions of investors aiming to invest their capital in investment properties.

## Introduction

The subject of the article is the issue of real estate as investment instruments in Poland between 2020 and 2023 (Q1). The chosen time frame is due to the dynamic socio-economic situation in the country. The aim of the article is to identify the threats arising from investing in these assets during the specified time interval, as well as to describe macroeconomic aspects and their impact on the investment real estate market in Poland from 2020 to 2023 (Q1).

The following hypotheses were also formulated in the study:

H1: The socio-economic situation in Poland between 2020 and 2023 affected the reduction of supply in the real estate market.

H2: High financing costs result in investors in real estate experiencing negative returns on equity since the second half of 2021.

Hypothesis 1 was verified through the results of our own study conducted using a questionnaire survey on a sample of 250 people living in Gdańsk, Wrocław, Warsaw, and Kraków, who expressed the intention to purchase investment property between 2020 and 2023. On the other hand, hypothesis 2 was subjected to verification based on secondary data from the Central Statistical Office (GUS) and the National Bank of Poland (NBP). Subsequently, the return on invested capital and the correlation coefficient were calculated.

Real estate is presented in this study as an alternative investment form for investors seeking to protect their capital or increase its value. The article highlights

the ways of understanding investment real estate, the factors influencing property valuation, and the elements that affected the value of these assets in Poland from 2020 to 2023.

## Literature review

### Concept of investment and definition of “investment real estate”

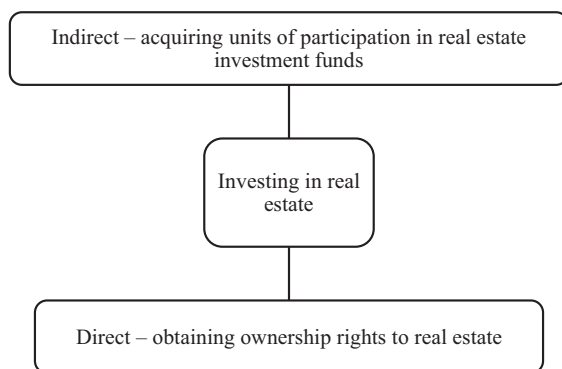
In the light of the law, investments are assets acquired to achieve economic benefits resulting from the increase in the value of these assets, obtaining revenue in the form of interest, dividends (shares in profits), or other benefits, including those from commercial transactions (Act of September 29, 1994 on Accounting, Art. 3). This includes financial assets as well as immovable property and intangible assets and rights that are not used by the entity but have been acquired to achieve these benefits. Investment can also be understood as incurring expenditures to increase capital or maintain it. According to Kucharska-Stasiak, investing is the process of engaging financial resources in various types of economic activities based on:

- purchasing intangible assets, which involves investing in research and development, education, patents, licenses, and improving organizational structures,
- acquiring tangible assets through the purchase of real estate (land, buildings), businesses or their parts, and movable property,
- procuring art objects, numismatics, jewellery, gold,
- creating tangible assets through the investment process (construction along with the purchase of investment goods) leading to the growth and/or reconstitution of tangible capital to achieve specific benefits (Kucharska-Stasiak, 1999). Real estate investment can be pursued through both direct and indirect methods (Czapiewski & Niedziółka, 2016), as illustrated in Figure 1. This study will focus on analyzing the first of these mentioned approaches.

However, when addressing the concept of real estate as a direct investment, it should be initially pointed out that, according to the definition of investment in this context, real estate becomes an asset acquired with the aim of achieving profit. According to the Act on Accounting, real estate includes land, perpetual usufruct rights, structures and buildings, as well as individually owned units, cooperative ownership rights to residential units, and cooperative ownership rights to commercial units (Act of September 29, 1994 on Accounting, Art. 3, Para. 1, Point 17).

The subject of real estate is examined in the literature from three perspectives: technical, legal, and economic. As stated by Śmietana and Ramian, regarding the technical aspect, the components of real estate are analyzed. Among these components, they distinguish land and constructed objects with facilities that are subject to operation and wear (Śmietana & Ramian, 2014, p. 19). This, in turn, necessitates actions aimed at maintaining their technical and functional efficiency. On the other

hand, real estate as a legal entity functions in relation to laws and various regulations associated with property management, as well as the activities of entities operating in these domains within defined frameworks of their professional responsibilities. Perceiving the discussed phenomenon as an economic good highlights its specificity as a market object. It serves as a capital allocation target, an investment instrument, and a subject of market transactions. This multidimensional approach to real estate can be described as a comprehensive examination of the subject.



**Figure 1.** Methods of real estate investment

Source: Author's own study.

For the purposes of this article, it is crucial to understand investment real estate in an economic context as:

- a source of income generation,
- an instrument whose value can be shaped through the implementation of effective management strategies,
- an instrument that provides tangible capital value protection.

According to Romanowski and Fedak (2020), investments in real estate encompass properties not used for the entity's own purposes but owned by it for the purpose of achieving economic benefits arising from their value growth or obtaining income in the form of other benefits, including commercial transactions. Similarly, Kucharska-Stasiak points out that capital investment in real estate generates three sources of income: rental income, non-rental income, and capital return upon property sale (Kucharska-Stasiak, 2016, p. 297). Real estate as investments possesses its specific characteristics, setting them apart from other types of investments, as demonstrated in Table 1.

**Table 1.** Characteristics of real estate in comparison to other types of investments

Property	Other types of investments, e.g. securities
Low liquidity	Higher liquidity than in the case of real estate
High transaction costs	Low transaction costs
Location stability	Ability to change location
Lack of standardization	High standardization
Local market	Organized market
Limited access of investors to information	Open access for investors to information
The need to regulate the legal status of the investment	No need to regulate the legal status
Lack of regular valuation in the organized market	Periodic valuation of assets in the market
Choosing sources of future income (rental, sale)	No need to choose the method of generating income
High entry threshold	Lower entry threshold than in real estate
Indivisibility of investment → lack of diversification	Possibility of diversifying the portfolio of securities/stocks/investment funds

Source: Author's own study.

The above comparison highlights the distinctiveness of the discussed investment type from other compared instruments such as securities, stocks, bonds, or investment funds.

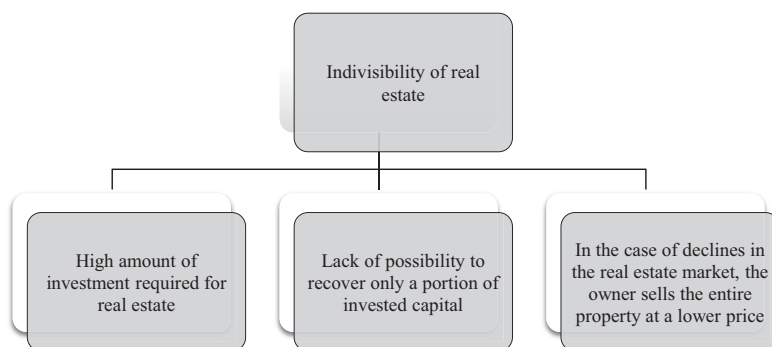
#### **Factors affecting the value of investment real estate and the risks associated with this type of investment**

According to the law, the market value of real estate is an estimated amount that could be obtained on the valuation date in a market-conditioned sale transaction between a willing buyer and a willing seller, acting with determination, knowledge, prudence, and not under compulsion (Act of August 21, 1997 on Real Estate Management). Factors that shape the value of real estate include social, economic, government-related, and physical factors. The first group encompasses aspects related to demographics, family size, and lifestyle. Economic factors involve the business cycle, economic development status, and forms and costs of financing. The third group involves elements related, among other things, to the tax system and applied tax benefits (Mach, 2014, p. 56). Physical aspects, on the other hand, relate to factors like the sun exposure of the land, its layout, size, age of the building, its wear and tear, material solutions, and accessibility (Davis, 2007). The uniqueness of this type of investment and the aforementioned factors that shape the value of real estate highlight the distinctiveness and specific nature of this kind of investment.

Real estate as an investment provides a unique way to shield investors from inflation. Typically, during inflationary periods, the value of real estate tends to increase. This is manifested through rising construction costs and the increased expenses associated with credit. Dasso and Ring draw a comparison between real estate and a ship, which, regardless of price fluctuations, sails through waves and maintains its value expressed in constant purchasing power (1989). Investing in real estate also offers a means of capital unfreezing. This is especially relevant as inves-

tors enhance resource utilization efficiency. One form of this phenomenon involves taking out a loan secured by a mortgage, specifically an entry in the land register. This empowers the owner to allocate funds for further investments. The real estate market is also correlated with consumer demand, thereby revealing the so-called wealth effect. Consequently, the real estate market can function as an accelerator of economic business cycles.

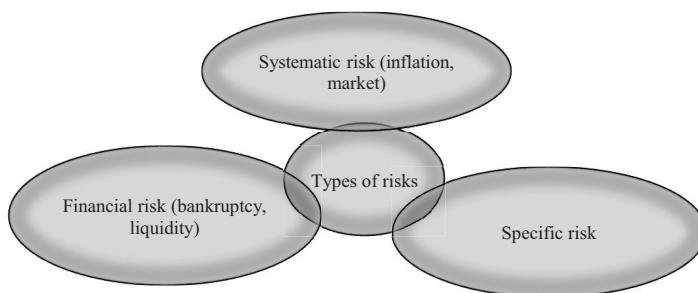
However, a drawback of this type of investment is its indivisibility, which has already been mentioned in Table 1 when discussing the differences between real estate and other investment types. Figure 2 presents aspects related to the issue of indivisibility in this type of investment.



**Figure 2.** Aspects related to the indivisibility of investment real estate

Source: Author's own study.

Risk becomes a significant aspect within the context of real estate investment. Tarczyński and Mojsiewicz define risk as the threat of incurring a loss or achieving benefits less than anticipated (2001, p. 76). According to Rowland (1993), the following categorization can be adopted (see Figure 3).



**Figure 3.** Risks associated with real estate investment

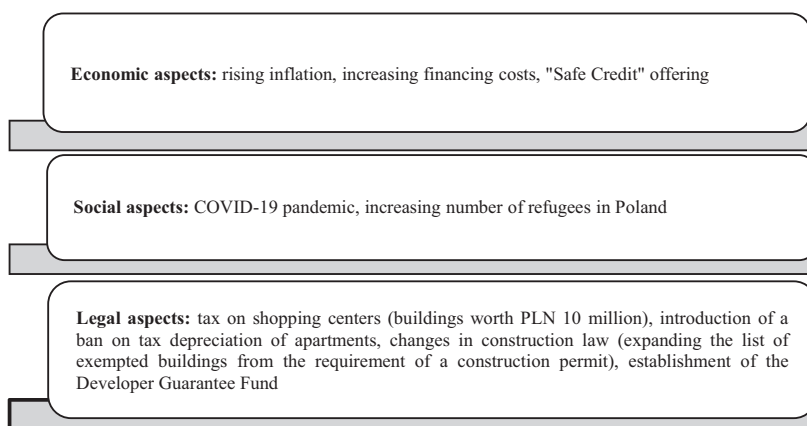
Source: Author's own study based on (Rowland, 1993, p. 178).



## Results and discussions

### The investment real estate market in Poland from 2020 to 2023

The years 2020–2023 were characterized by dynamic socio-economic changes (Figure 5) in Poland and globally, which had an impact on the real estate market functioning.



**Figure 5.** Factors influencing the real estate market in Poland in the years 2020–2023 (Q1)

Source: Author's own study.

The factors presented above significantly impacted changes and trends in the real estate market during the discussed period. In 2020, the largest share in both the number and value of property purchase/sale transactions was related to the sale of local properties (44.3% and 48.0%, respectively) (GUS, 2021, 2023). According to data provided by the GUS, this trend persisted in 2021, remaining at levels of 44% and 47.6%, respectively.

At the beginning of 2020, both the broader investment market and the economy experienced noticeable slowdown and investor uncertainty. This was manifested through restricted societal mobility, which consequently affected the investment real estate market. Additionally, concerns about job security and personal health led to a pause in property purchase decisions. In 2020, shifts in trends within the market were observed due to remote work and learning. People sought properties closer to nature, away from major cities. As a result, houses and apartments with gardens and additional space for home offices became highly desirable properties. The remote work and education trend also led to decreased interest in commercial properties or office spaces among investors. Many businesses shifted to remote work environments, while others opted for online services or sales only (EY, 2022). Consequently, there



was a reduced interest in properties intended for office spaces, commercial purposes, or retail outlets (Szymczyk, 2022, p. 131). Simultaneously, limited mobility and the closure of hotels and lodging facilities discouraged investments in such properties in seaside or mountain resorts.

The investment demand for apartments in 2020 was relatively high, as the estimated rental yield in relation to returns from other assets was more favorable. The low interest rates on deposits during the COVID-19 pandemic onset made investing in apartments an attractive alternative. Despite the pandemic, the observed consumer demand for apartments in 2020 was a result of favorable household sector conditions following fiscal and monetary interventions, as well as historically low mortgage rates starting from the second quarter of 2020 (NBP, n.d.).

In the first and second quarters of 2021, the residential real estate market experienced an expansion phase, which slowed down in the third quarter due to rising financing costs. During this period, supply-side barriers in the real estate market became evident. Research conducted by the National Bank of Poland indicated that the demand for apartments in the first half of 2021 had both investment and consumption characteristics (NBP, 2022, p. 8). A significant portion of apartment purchases was financed using personal funds, indicating an investment-driven demand. However, there was also a substantial role of credit in fulfilling the demand, showing a consumption-oriented aspect.

The situation changed, however, with the increase in interest rates. In 2022, there was a 24.3% decrease in the number of notarial deeds related to property sales compared to 2021. This significant decline was influenced by rising prices as well as increasing financing costs. The real estate market in the years 2020–2022 responded very dynamically to external factors: the COVID-19 pandemic and the associated temporary stagnation, low interest rates, and later a reversal of the trend with a rise in financing costs (from the third quarter of 2021 onwards). The impact of the external environment on this market in terms of transaction volume is presented in Table 2.

**Table 2.** Number and value of real estate transactions in the years 2020–2022

Year	Number of transactions [pcs.]	Transaction value [in millions]
2020	510 312	145 146
2021	614 178	198 052
2022	489 971	175 163

Source: Author's own study based on (GUS, 2022).

The lower number of transactions in 2021 by 4%, coupled with a higher value by 20.6%, indicates a trend of rising property prices. In 2021, the average offer and transaction prices per square meter of apartments in both primary and secondary markets in Poland continued to exhibit an upward trend (NBP, 2022, p. 7). The price dynamics in 2021 accelerated towards the end of the year, reaching a double-digit increase compared to 2020.

In the fourth quarter of 2022, changes in both capitalization rates and rental yields for investment apartments were observed. This was largely due to shifts in demand in the rental housing segment, driven by a significant number of immigrants from Ukraine, as well as a rental price increase of approx. 21–26% (depending on the city) compared to the fourth quarter of 2021 (NBP, 2023a). It is worth emphasizing that while the demand for purchasing apartments decreased (due to high financing costs), this became the main driver of prices. In the first quarter of 2023, the number of rental properties increased, with investors seeking security for their capital in real estate and placing slightly less emphasis on attractive returns. Amid high inflation, real estate investment became a means of protecting against the devaluation of currency for many investors.

The average rental rates for apartments increased in comparison to the fourth quarter of 2022, contributing to the improved profitability of such investments. Starting from 2022, there was a decline in the interest of investment funds in acquiring rental apartments, which could be linked to legislative conditions introduced in Poland. These regulations concerned the prohibition of tax depreciation for apartments and property tax for values exceeding PLN 10 million (tax on shopping centers).

Crucial factors in the context of real estate investment between 2020 and 2023 include factors such as rental prices and external financing costs. Changes in these factors (in 4 of the largest cities in Poland) are presented in Table 3.

**Table 3.** Average rental price, and average apartment price in the years 2020–2023 (Q1) in Gdańsk, Kraków, Warsaw, and Wrocław

Year	Average rent price per square meter [PLN]	Average price of apartments in the secondary market per square meter [PLN]
Gdańsk		
2020	46	10 523
2021	54	11 444
2022	85	12 065
2023 (Q1)	61	12 233
Kraków		
2020	39	9 820
2021	44	11 416
2022	59	12 433
2023 (Q1)	57	12 649
Warsaw		
2020	49	11 893
2021	53	13 305
2022	66	13 501
2023 (Q1)	70	13 802
Wrocław		
2020	44	8 597
2021	51	9 327
2022	74	10 672
2023 (Q1)	70	10 978

Source: (NBP, 2021, 2022, 2023a, 2023b).

The dynamically changing macroeconomic situation in Poland since 2020 has been influencing investor behavior and demand in the real estate market. The year 2020 was characterized by historically low interest rates (Figure 6).

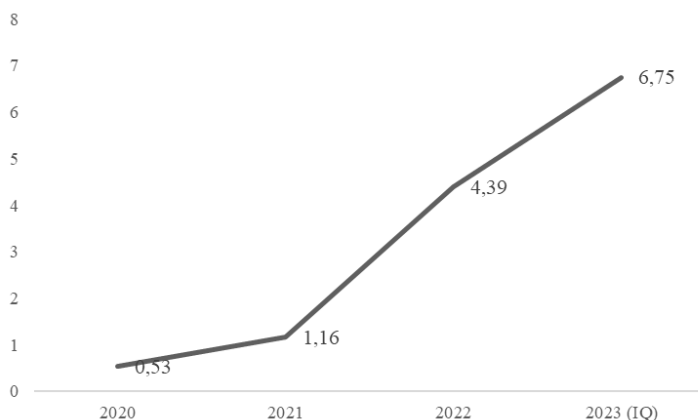


Figure 6. Interest rates in 2020–2023

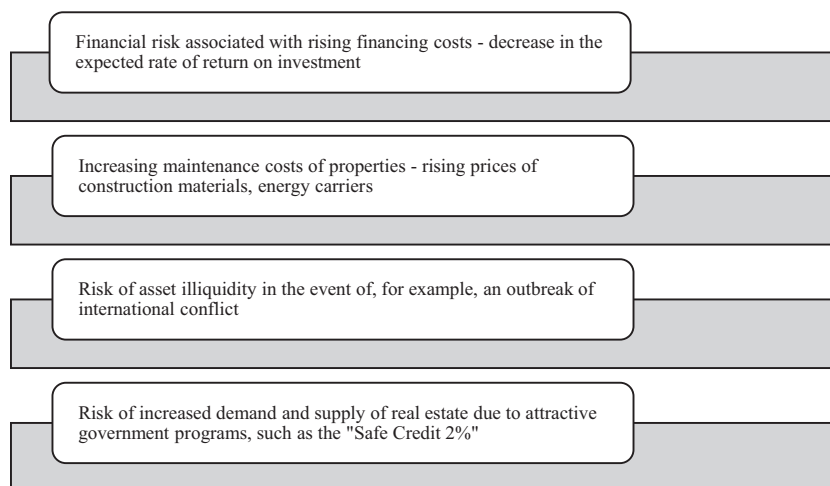
Source: (NBP, n.d.).

As they increased, housing prices also rose, which was partly driven by higher inflation (Antczak-Stępnia, 2015a, 2015b). Additionally, the influx of refugees into Poland in 2022 contributed to higher rental prices. The strong demand for housing, especially from individuals coming from the eastern border, became a significant factor influencing prices.

#### **The socio-economic situation and the risks associated with real estate investment from 2020 to 2023**

Dynamic socio-economic changes in the years 2020–2023 (Q1) were associated with risks in real estate investment, as illustrated in Figure 7. The major threats for investors during the analyzed period were primarily economic and political-legal factors.

The decrease in the expected investment return rate is associated with high costs of servicing the financing provided by the bank. To calculate the return on actually invested funds (in the case of using a loan), it is worthwhile to use the ROE (return on equity) indicator. This indicator is calculated as the ratio of annual rental income from the property to the invested capital multiplied by one hundred percent. Table 4 presents the investment return rates in residential properties for the period 2020–2023 (using the example of the city of Gdańsk).



**Figure 7.** Risks in real estate investment in the years 2020–2023

Source: Author's own study.

**Table 4.** Return on equity (in %) from residential property investment in Gdańsk for the years 2020–2023\*

	2020	2021	2022	2023 (Q1)
ROE from investment in an apartment LTV = 0%	3.28	2.73	3.23	3.6
ROE from investment in an apartment LTV = 50%	3	2.3	-1.48	-1.7
ROE from investment in an apartment LTV = 80%	2.2	-0.1	-15.63	-17.5

\*The value calculated for one of the four cities. The ROE values for the other cities: Kraków, Warsaw, Wrocław, will be at a similar level during the analyzed periods.

Source: Author's own study based on: (NBP, 2023b).

The increase in interest rates from an average level of 0.53 to 6.75% impacted the investment return, particularly in transactions where investors used borrowed capital (which constituted a larger portion than equity capital). Starting from the end of 2021, the increased use of financial leverage<sup>1</sup> in real estate (Stawecki, 2018) investment led to a negative return on equity. The change in loan costs from 2020 to 2023 (Q1) illustrates how macroeconomic factors influence the return rate. In Table 5, the correlations between the above-analyzed values are presented.

<sup>1</sup> Understood as the direct impact of capital structure: the cost of debt capital (interest on loans and borrowings), in relation to the efficiency of using equity capital, which is measured by the return on equity ratio.

**Table 5.** Pearson correlation between the number of transactions in the real estate market, ROE value and interest rate and average price of apartments in the secondary market per square meter in the years 2020–2023 (Q1)

	The number of transactions in the real estate market	ROE value
Interest rate	-0.50	-0.95
Average price of apartments in the secondary market per square meter	-0.04	-0.05

Source: Author's own study.

Based on the Pearson correlation (for the analyzed period), it can be observed that an increase in interest rates is very strongly correlated with the ROE value. The rise in interest rates leads to a decrease in return on invested capital (for real estate transactions financed with borrowed capital). At the same time, high-interest rates contribute to a decrease in the number of transactions in the real estate market, although this correlation is somewhat weaker than the first of the analyzed dependencies. The analyzed correlation between the average price of real estate per square meter and the number of transactions in the market from 2020 to 2023 showed a weaker (average) correlation coefficient than the relationship between interest rates and the number of transactions during the discussed period.

The risk is also associated with the risk of rising property maintenance costs, which also results in a decrease in investment return. Increasing prices of construction materials for maintaining properties designated for rent are factors that contribute to higher property maintenance expenses. The average year-on-year price change of construction materials at the beginning of 2021 was 1.8%, while by the beginning of 2022, it reached 22%, and by mid-2022, it reached a level of 34%.

The aggression of Russia towards Ukraine in early 2022 also slowed down decisions about purchasing real estate among Polish citizens. The uncertainty and concern about the unfolding situation did not encourage investments in such assets during the initial phases of the conflict on the eastern border. The low liquidity in times of armed conflicts or danger hinders the quick retrieval of invested funds from the investment. This is related to the indivisibility risk of real estate as an investment. However, it is worth noting that anxiety and negative sentiments in markets will always lead to a decline and fluctuations in prices such as stocks or bonds. The real estate market is not isolated in this regard, though the low liquidity of this type of investment highlights its distinct nature. It is also an asset type with a fixed location, unlike paintings, gold, or securities. Therefore, in the case of natural disasters and military conflicts, it complicates the protection of this investment type and increases the risk of damage and destruction.

Adapting supply to customer demand for this commodity usually requires time. Supply in this market cannot be quickly adjusted, unlike other goods. On the other hand, demand for real estate will pertain to the number of potential buyers or tenants seeking properties of a certain type at various prices, within a specific segment of the local market and at a given time, assuming other factors such as population, income level, expected future prices, and consumer preferences remain unchanged.

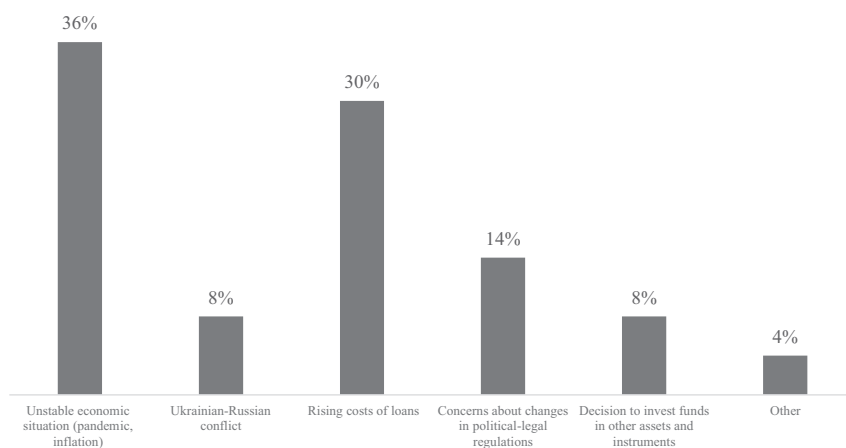
However, it is important to note that demand for this commodity will vary across different phases of the economic cycle.

### Results of own research

For the purpose of this study, an empirical investigation was prepared and conducted. The primary objective of the research was to identify factors contributing to the increase in risk associated with real estate investment in the years 2020–2023 (Q1). The study had a nationwide scope and was carried out in December 2023 and January 2024. It involved a sample of 250 individuals. A non-probabilistic (non-random) sampling technique, specifically purposive sampling, was employed for the study. The purposive sampling was based on the knowledge that respondents intended to purchase a second or subsequent property (for investment purposes) in the years 2020–2023 (Q1).

The research was conducted using a survey method, employing a questionnaire as the data collection tool. The questionnaire consisted of 7 questions related to respondents' willingness to purchase a property during the analyzed period, factors influencing the decision to refrain from property acquisition in the years 2020–2023 (Q1), and the method of financing the acquisition of real estate for investment purposes. Both single- and multiple-choice questions were included in the survey.

Out of all surveyed individuals, 89% indicated that they did not make a real estate purchase in the years 2020–2023 (Q1), while 11% reported making such a purchase during the mentioned period. When asked about the reasons for not completing an investment property transaction (despite initially expressing willingness to make

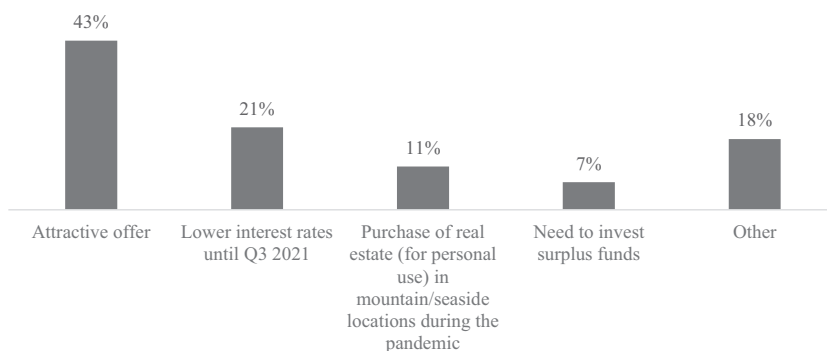


**Figure 8.** Factors influencing respondents' decision not to purchase investment properties in the years 2020–2023 (Q1)

Source: Author's own study.

such an investment), the respondents primarily pointed to the unstable economic situation related to the pandemic. Additionally, they mentioned the rising inflation (36%) and increasing financing costs (30%), as shown in Figure 8.

Among other responses, the most frequently cited reasons were the lack of suitable properties meeting expectations or a change in the way surplus funds were managed. Among the surveyed individuals who made an investment property purchase in the years 2020–2023 (Q1), 11% mainly indicated that an attractive offer was the key factor influencing their decision to make the purchase (Figure 9).



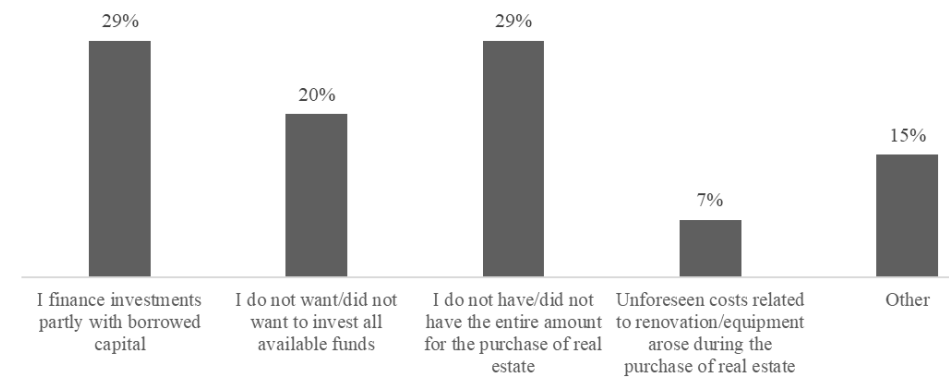
**Figure 9.** Factors that influenced respondents' decisions to purchase real estate in the years 2020–2023 (Q1)

Source: Author's own study.

Among the responses in the “other” category, participants indicated that they purchased real estate with the aim of investing funds received from an inheritance or from the sale of another property (which determined a quick transaction completion time). The majority of respondents (65%) utilized or planned to utilize external financing in the form of a loan for the purchase of investment property. 35% declared that they finalized or intended to finalize the purchase of investment property using their own funds. When asked about the reasons for using external financing for property acquisition, the respondents provided the following responses (Figure 10):

In the “other” category of responses, declarations were made about the intention to use a loan as an element of security in the transaction or to finalize the transaction with another investor who supported the purchase through a loan.

The conducted study reveals that during the period from 2020 to 2023 (1Q), the majority of investors expressing the intention to purchase real estate did not finalize transactions primarily due to concerns about: the unstable economic situation in the country, rising financing costs, the conflict in Eastern Europe, or fears of political-legal changes. These factors significantly influenced the risk associated with investing in real estate in the years 2020–2023 (Q1). Additionally, the vast majority of respondents finalized or planned to finalize the purchase of investment property with the involvement of a loan. Therefore, the rising interest rates from Q3 2021 did not favor the realization of the planned investment plans among the surveyed individuals.



**Figure 10.** The reasons for financing the purchase of investment properties with a loan by the surveyed individuals

Source: Author's own study.

## Conclusions

Economic, social, and legal aspects strongly influenced the real estate market, particularly evident during the period from 2020 to the first quarter of 2023. Therefore, real estate investments are dependent on factors such as financing costs, construction material expenses, government programs for property purchase subsidies, taxes and fees, as well as the country's demographic and migration situation. It is also important to highlight that the real estate market experiences an inflationary effect, where investors, with the rise in prices, exhibit increased demand to preserve their capital (Ziembicka, 2013; Żelazowski, 2017). On the other hand, investors also purchase real estate with the intention of selling it at a profit in the future, especially when supply is limited (speculative effect).

The dynamic macroeconomic situation also led to a change in consumer and tenant preferences, significantly impacting demand and supply. The years 2020–2023 (Q1) had a distinct specificity that highlighted the risks associated with real estate investments more prominently. This resulted in clear differences across various categories between real estate as investment assets and funds, securities, or other alternative investment methods. The situation in Poland from 2020 to 2023 (Q1) particularly drew the attention of investors allocating funds into real estate to risks such as financial risk, rising property maintenance costs, low asset liquidity, and the dependence of demand and supply growth on political decisions and legal solutions.

The conducted analysis of reports published by the Central Statistical Office and the National Bank of Poland revealed that economic, social, and legal factors affecting the real estate market limited its supply, thus, becoming a significant driver of pricing. Moreover, based on the analysis of secondary sources, the second hypothesis



can be confirmed, which suggested a negative rate of return on equity for real estate investments financed with external funding.

In the future, the real estate investment market may face further challenges. An increase in property purchase taxes will lead to a decrease in investment returns. Persistent high inflation and interest rates will result in negative returns on equity when leverage is employed. Additionally, limited housing supply will impact prices and standards.

In the near future, the real estate market will also be influenced by green solutions. Rising energy carrier prices shape people's expectations for more affordable and environmentally-friendly solutions in office spaces, warehouses, and residential properties. Energy efficiency may become another challenge for property investors in the face of an energy crisis. Properties offering ecological solutions attract a larger number of tenants and investors willing to pay higher prices.

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