PRACTICE BRIEFING
The real estate investment of insurance companies in Poland

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Abstract

Purpose – The purpose of this paper is to identify possible reasons for insurance companies' scant interest in real estate as investment asset in Poland. The authors attempt to determine the impact of real estate investment on insurance companies' profitability.

Design/methodology/approach – After collecting the aggregated data about insurance companies' financial results for the period 2000-2008 the authors analyzed the relationship between real estate investment and profitability indicators such as return on assets (ROA), return on equity (ROE) and return on sales (ROS). This approach reflected the shareholders' point-of-view. Subsequently, the same kind of analysis was carried out to investigate the impact of real estate investments on the insurance companies' return on technical activity (RTA) and return on investment activity (RIA). These indicators are meant to assess business performance from the point-of-view of insured persons.

Findings – The analysis revealed some negative correlations: real estate investments may reduce the profitability of insurance companies. If this is true, the unwillingness of insurance companies to purchase property would not be surprising. Yet, this conclusion should be accepted with caution.

Research limitations/implications – Due to the short study period and changes in legal classification of investment categories, the available data were very imperfect and the study results may not be perceived as undisputable, hence, it is felt that further research is needed.

Originality/value – The paper is original, as previously no such research has been conducted in Poland.

Keywords Real estate, Insurance companies, Investments, Profit, Poland

Paper type Research paper

1. Introduction

Insurance companies in Western Europe are important investors in the real estate market, which follows from the nature of their business. According to insurance theory, investment should be safe, liquid and profitable. It is mostly life insurance companies that invest in the real estate market, as they are primarily interested in long-term investments and, unlike property insurers, do not require high liquidity. They invest in the real estate via different ways – directly and indirectly, to derive an income flow from commercial real estate or granting mortgage loans to obtain profits from interests, purchasing units in real estate investment funds (REIT and other legal forms) and purchasing Mortgage Backed Securities.

2. Insurance companies in Poland – business foundations

Insurance companies operated in the time of the People's Republic of Poland, but following the political and economic transition, new market principles evolved and there emerged life insurance companies. The rules of functioning of insurance companies in Poland are regulated in the Insurance Activity Act[1]. Basically, insurance company business comprises technical-insurance activity and investing. While technical-insurance activity constitutes the core business, the investment policy is pursued through designing a portfolio pursuant to the principles of safety, liquidity and profitability.

The investment activity of insurance companies in Poland is regulated by the legislator, who imposes restrictions including the directions of financial investment, determines maximal quotas of particular types of investments in the portfolio, and appoints a supervisory authority for insurance companies (Czerwińska, 2003, p. 62).

The analysis of investment activity of insurance companies demonstrates that they did not pursue a specialized investment policy in the real estate market. In the years 2000-2008 real estate was of marginal importance in the portfolios of insurance companies (see Table 1). Insurers regarded real estate primarily in terms of "headquarters" and the related prestige, and not as investment, which is clearly noticeable in the data for 2002-2003[2].

Type of company	2000	2001	2002	2003	2004	2005	2006	2007	2008
Insurance companies in general	2.49	2.30	0.67	0.55	1.78	1.51	1.29	1.12	1.30
Life insurance companies	1.36	1.40	0.53	0.40	0.75	0.69	0.61	0.61	0.72
Property insurance companies and those dealing in other personal coverage	3.90	3.48	0.83	0.75	2.74	2.40	2.00	1.63	2.01

Source: Own work based on: State Insurance Supervision Authority (2000); Commission for Insurance and Pension Funds Supervision (2001-2005); Financial Supervision Authority (2006-2008)

Table I.
Share of real estate in the assets of insurance companies in the years 2000-2008 (state as of end of year)

3. The impact of real estate investment on profitability indicators

The attempt to explain the low popularity of real estate among investment decision makers of insurance companies was based on analysis of companies' past performance indicators. The impact of real estate investment on profitability was examined from the both perspectives:

During the study, the following main research hypothesis was formulated: real estate investments enhance the profitability of insurance companies. Moreover, four supporting hypotheses were proposed: real estate improves return on assets and equity; increased return on sales leads to higher real estate investments; increased return on technical activity is accompanied by insurance companies' increased commitment to investments in the real estate market; and increased return on investments is connected to greater real estate investments.

Year	Type of company	2000	2001	2002	2003	2004	2005	2006	2007	2008
Real estate in general	I	231.13	303.98	142.12	126.38	227.01	228.83	226.69	248.78	396.12
	II	534.68	584.2	164.04	162.2	791.41	728.42	704.27	667.56	908.02
Buildings and construction structures	I	205.62	197.78	56.72	50.78	140.46	142.57	138.89	136.07	261.23
	II	277.67	360.63	75.58	79.74	582.29	565.65	568.9	560.36	779.85
Land development projects, also in progress	I	17.78	17.95	0	0	9.64	9.42	12.72	23.65	33
	II	222.14	181.42	31.23	24.93	89.98	32.29	15.05	17.44	23.36
Land	I	7.73	88.25	85.4	75.6	76.91	76.84	75.08	89.05	101.89
	II	36.87	42.15	57.23	57.53	119.14	130.48	120.32	89.75	104.85

Notes: I – life insurance companies; II – property and other insurance companies
Source: Own work based on: State Insurance Supervision Authority (2000); Commission for Insurance and Pension Funds Supervision (2001-2005); Financial Supervision Authority (2006-2008)

Table II.
Investments of insurance companies in the real estate market in the years 2000-2008 (PLN million, as of 31 December each year)

Data

The authors used aggregate data provided in the Bulletin of the State Insurance Supervision Authority "Results of the Insurance Sector in 2000", Yearbooks of Insurance and Pension Funds 2001-2005 published by the Commission for Insurance and Pension Funds Supervision, and the Insurance Market Annual Bulletins for the years 2006-2008 published by the Financial Supervision Authority. Real estate investment levels were determined as a proportion of the total assets of insurance companies. The study was conducted in the years 2000-2008. The data were aggregated in accordance with the methodology applied in financial statements; hence, insurance companies were first examined in general and then separated into life insurers and other personal insurance/property insurance companies. Real estate investments were also subdivided. First, aggregated data were used and then data for investments in buildings, land, land development projects and projects in progress were explored.

Due to the short study period and legal changes with respect to the manner of reporting real estate, the available data can be hardly deemed perfect, of which the authors are fully aware. However, the changes in accountancy rules present an insurmountable barrier, so the question was whether to attempt analysis of the available indicators or shelf the project. Importantly, the study results may not be perceived as undisputable.

Methodology

The study was divided into two stages. The first one included analysis of Pearson's correlation coefficients. Student's *t*-test with significance levels of 0.01, 0.05 and 0.1 was applied to assess the reliability of results. While the first significance level gives a relatively high degree of certainty, the last significance level requires a cautious interpretation.

The next stage involved linear regression analysis to determine the strength and quality of relationships between performance indicators and real estate investment levels.

Results

Table III provides results of Pearson's correlation analysis between profitability indicators and the share of particular real estate types in company assets.

The analysis provides quite surprising results. The vast majority of significant correlations are negative, which means that increasing coefficients imply decreasing real estate investments. When embarking on the study, the authors anticipated quite the opposite relationships. Examination of correlations of the RIA indicator is considerably different in that it provides no clear answers: even though the correlation coefficients are positive and comply with the author's expectations, none of them is significant.

Table IV presents the results of linear regression analysis. This examination was conducted for all the instances, but the results presented include only significant correlations between the dependent and independent variables.

Table IV presents results of regression for successive variants of the model. The regression line is predominantly downward-sloping, which is hardly surprising given the analysis of correlation coefficients. A positive correlation is observed only between return on equity and land investment for other personal insurance and property insurance companies, at the relatively liberal significance level of 0.1. In all other statistically significant cases the regression line is characterized by negative

Indicators	Real estate	Land	Buildings	Land development
Insurance companies in general				
ROS	− 0.453	0.009	− 0.266	− 0.705[*]
ROE	− 0.400	0.081	− 0.225	− 0.659[**]
ROA	− 0.403	− 0.043	− 0.200	− 0.675[*]
RTA	− 0.508	− 0.169	− 0.306	− 0.727[*]
RIA	0.291	0.475	0.118	0.408
Life insurance companies				
ROS	− 0.757[*]	− 0.260	− 0.698[*]	− 0.586[**]
ROE	− 0.729[*]	− 0.434	− 0.629[**]	− 0.453
ROA	− 0.737[*]	− 0.417	− 0.641[**]	− 0.477
RTA	− 0.783[*]	− 0.394	− 0.688[*]	− 0.576
RIA	0.340	0.294	0.273	0.145
Other personal insurance and property insurance companies				
ROS	− 0.142	0.342	0.247	− 0.654[**]
ROE	− 0.051	0.596[**]	0.209	− 0.482
ROA	− 0.100	0.434	0.269	− 0.620[**]
RTA	− 0.227	0.313	0.169	− 0.713[*]
RIA	0.198	0.051	− 0.003	0.373

Notes: [**]Correlation is significant at 0.1 (two-way); [*]Correlation is significant at 0.05 (two-way)
Source: Own work

Table III.
Pearson's correlation for $n = 9$ observations from 2000 to 2008

Dependent variable	Predictors	Non-standardized coefficients		t	R-square	Standard error in estimation
Model		B	Standard error			
Insurance companies in general						
	Constant	0.004	0.001	3.600*		
Land development	ROS	−0.029	0.011	−2.631**	0.497	0.00166
	Constant	0.202	0.020	10.081*		
ROE	Land development	−18.096	7.807	−2.318***	0.434	0.04829
	Constant	0.047	0.006	8.026*		
ROA	Land development	−5.555	2.293	−2.422**	0.378	0.01418
	Constant	0.004	0.001	3.938*		
Land development	RTA	−0.031	0.011	−2.802**	0.529	0.00161
Life insurance companies						
	Constant	0.011	0.002	5.888*		
Real estate	ROS	−0.056	0.018	−3.068**	0.574	0.00230
	Constant	0.008	0.002	4.377*		
Buildings	ROS	−0.047	0.018	−2.580**	0.487	0.00230
	Constant	0.001	0.000	3.261**		
Land development	ROS	−0.004	0.002	−1.916***	0.250	0.00025
	Constant	0.340	0.049	6.902*		
ROE	Real estate	−21.642	7.692	−2.814**	0.464	0.07167
	Constant	0.294	0.044	6.621*		
ROE	Buildings	−20.489	9.573	−2.140***	0.396	0.08134
	Constant	0.048	0.007	6.918*		
ROA	Real estate	−3.100	1.075	−2.883**	0.543	0.01002
	Constant	0.041	0.006	6.621*		
ROA	Buildings	−2.957	1.339	−2.208***	0.410	0.01138
	Constant	0.012	0.002	5.992*		
Real estate	RTA	−0.058	0.017	−3.329**	0.613	0.00219
	Constant	0.008	0.002	4.120*		
Buildings	RTA	−0.046	0.018	−2.510**	0.474	0.00233
Other personal insurance and property insurance companies						
	Constant	0.008	0.002	3.279**		
Land development	ROS	−0.041	0.018	−2.287***	0.428	0.00358
	Constant	0.061	0.048	1.292		
ROE	Land	34.716	17.684	1.963***	0.355	0.04401
	Constant	0.063	0.009	6.704*		
ROA	Land development	−3.789	1.814	−2.088***	0.384	0.02271
	Constant	0.005	0.001	3.755*		
Land development	RTA	−0.060	0.022	−2.694**	0.509	0.00332

Notes: *B is significant at 0.01 (two-way); **B is significant at 0.05 (two-way); ***B is significant at 0.1 (two-way)
Source: Own work

Table IV.
Results of regression analysis with $n = 9$ observations from 2000 to 2008 for significantly correlated pairs of coefficients

inclination. The fit of the model to linear equation is not satisfactory in any of the cases. The highest R-square coefficient amounts to 0.613. It is necessary to stress, however, that the authors were mainly interested in the nature of the relationship and not in the exact model describing it.

In the vast majority of statistically significant cases, the proposed research hypotheses were refuted. However, due to the quality and volume of data, the conclusions should be deemed questionable and by no means final. Should the decreasing profitability trend with respect to both the investor and the insured be observed in longer historical series, this would answer the question of the insurance companies' lack of interest in real estate investment. Moreover, the fact that despite the increased return on sales and return on technical activity the insurance companies show a declining interest in real estate may prove that it is not a lack of capital that hinders such investments. While drawing final conclusions, it should be remembered that land investments boost return on equity, although the statistical parameters in this case are not very good. Thus, the results are ambiguous.

Summary
Insurance companies, and in particular life insurers, are some of the institutional investors that could be interested in real estate investments for a number of reasons. While this is the case in the developed countries, in Poland real estate constitutes 0.7 percent of the investment portfolios of life insurers and 2 percent of those of property and personal insurers (2008).

The study does not provide an exhaustive answer, but only indicates that for insurance companies in Poland, real estate investments are not necessarily profitable. A number of factors can be responsible for this result, such as: an underdeveloped market or a too short period of time to prove the effectiveness of property investment as compared to other investments, such as securities.

These conclusions demonstrate that further study should be conducted to obtain a comprehensive description of the phenomena observed. According to the authors, one of the next steps should be investigation of the same relationships lagged one, two and three periods. However, much data are necessary to conduct such examinations.

Notes

1. Act dated as of 22 May 2003 on insurance activity, Journal of Laws. No 124, Item 1151 as amended.

2. The changes in legislation reformulated the investment categories; insurance companies were forbidden to recognize property used for their own needs as investment, this regulation remained effective during the period 2002-2003. On 1 January 2004, a new act introduced new regulations concerning the investment portfolios of insurance companies; referring to the real estate the previous rules were introduced and the use of real estate was of no account. The maximal quotas for property investment, investment certificates of trusts investing solely in real estate, and mortgage loans were specified at level of 25 percent of the technical-insurance reserves.

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