SUMMARY

Since the 1970s there has been the efficient market hypothesis (EMH) functioning in the world of science, proposed by Eugene Fama. According to this hypothesis, prices of financial assets change at random, which prevents obtaining a return rate higher than the average market rate. However, one can find numerous papers that confirm the possibility of forecasting future return rates from historic values, which contradict EMH. In 2004, Andrew Lo proposed the adaptive market hypothesis (AMH), which coherently and logically combines the hypothesis of E. Fama and the possibility of achieving temporal return rates better than the market.

The adaptive market hypothesis proposed by A. Lo assumes the co-existence of efficiency and inefficiency. According to this hypothesis, market efficiency evolves over time, rejecting the traditional opinion that the market is either efficient or inefficient in a given time. Therefore, the efficiency of a return rate forecast for an investment may change from period to period, due to the changing conditions prevailing on the market. Based on the conducted studies, the author of AMH concluded that the growth of efficiency level on specific markets does not have to increase over time. What is more, he acknowledged that efficiency does not have to occur. Its level depends on the market players and the conditions prevailing on a given market at a specific time.

The purpose of this dissertation is to verify adaptive market hypothesis on the Polish financial market by its four segments: capital market, money market, foreign exchange market and derivatives market. An auxiliary task undertaken for this purpose is to verify the occurrence of linear and non-linear dependencies between the daily return rates from eighteen variables for a two-year rolling-window framework. To achieve this, the autocorrelation test and the BDS test were used. For the purpose presented in this manner, the following main research hypothesis of the dissertation was put forward: the Polish financial market shows the characteristics of an adaptive market. Two auxiliary hypotheses were also tested:

H1. Predictability of return rates on investing in a single financial instrument is variable over time.

H2. The degree of predictability of return returns on investment in a single financial instrument is linked to market conditions.

The structure of the work is based on five chapters, with the same structure of considerations (introduction to the issues, research purpose of the chapter, methods, summary). The first two chapters are of literary nature, symmetrical in terms of structure and method of

presentation. The first chapter is a description of the effective markets hypothesis that has been dominant on the financial market for decades. The main focus was placed on criticism of the scientific achievements in terms of the weakness of this theory in explaining contemporary processes occurring on the financial market. The second chapter begins with a brief description of the most common alternative hypotheses describing the functioning of financial markets. It focuses on the description of the adaptive markets hypothesis and presents the inspirations that led to its creation, assumptions, verification method and conclusions.

The next three chapters are empirical. The third chapter describes the Polish financial market in the context of the countries of the region and presents used statistical tools (autocorrelation test and BDS test) as well as the method of the conducted research. The fourth chapter presents the results of the study verifying adaptability of all selected variables and their interpretation in a division into the occurrence of linear and non-linear relationships for each analyzed segment. The last chapter presents the results of research verifying the link between the level of effectiveness of a given instrument and external market factors.

The conducted research allowed to verify two auxiliary hypotheses.

The first subsidiary hypothesis: predictability of return rates on investing in a single financial instrument is variable over time, has been verified positively. The obtained values of S and W statistics from the autocorrelation and BDS tests, interpreted together for a given financial instrument, indicated the occurrence of significant and insignificant periods of dependence between the daily return rates.

The second subsidiary hypothesis: the degree of predictability of return returns on investment in a single financial instrument is linked to market conditions, has also been verified positively. In many cases, there was an average reliance between the market conditions and the levels of dependency of the link between the return rates. For several cases, a high degree of reliance was also found.

On the basis of the verification of the auxiliary hypotheses, it was concluded that the main hypothesis, that the Polish financial market shows the characteristics of an adaptive market, was positively verified.

The conducted research confirmed the adaptive character of the Polish financial market. However, it should be stressed that the adaptability should not be determined for the whole market, but individually for its individual segments or even financial instruments. Periods of effectiveness and inefficiency appear with different frequency for specific assets. Investors should therefore consider each market independently, as the degree of predictability of return rates varies depending on the specific environmental conditions of the instrument. The overall

level of adaptability of most assets can only be affected by a global event, such as the financial crisis of 2007-2009 or the current outbreak of the COVID-19 pandemic. Their occurrence contributes to the emergence of investment opportunities.

The results presented in the dissertation are only an introduction to further analysis of the adaptability of the Polish financial market. However, it is worth noting that the hypothesis proposed by A. Lo opens new possibilities for further researchers. For example, questions arise about the tempo of return to effective periods, or the possibility of forecasting an approximate transition to inefficient periods. Con-firming the adaptation markets hypothesis also restores the sense of actively managing an investment portfolio.