

ARTUR CHOŁODY, MAGDALENA SZYSZKO

## **PATTERN COINS OF THE SECOND POLISH REPUBLIC AS A FORM OF ALTERNATIVE INVESTMENT\***

### **I. INTRODUCTION**

Growing interest in alternative forms of investment can be attributed to the search for non-standard investment opportunities following the financial crisis of 2008<sup>1</sup> and the increasing average wealth of market participants. Analysts dealing with luxury goods markets and investments associated with them indicate the steadily growing number of wealthy Poles, which in 2017 amounted to 1.1 million people. It is predicted that in 2020 up to 1.4 million wealthy people could be living in Poland.<sup>2</sup> Alternative investments are increasingly appearing in the offers of financial institutions and are promoted as an antidote to crises and low returns, as well as a method of portfolio diversification. The popularity of alternative investments is also confirmed by a significant rise in the number of scholarly studies devoted to this topic, which began in the middle of the 2000s and accelerated after the outbreak of the crisis.<sup>3</sup>

The research focus was chosen due to the rising interest not only in alternative investments in general, but also in collector coins as a particular form of such investment. However, this topic is not recognized or addressed in academic literature. The books on coins and collections appearing on the market are published by numismatists and auction houses. The few publications that treat coins as an investment opportunity provide information on the collector coins currently issued by the National Bank of Poland (NBP). At the same time, the numismatic market in Poland is both diverse enough and deep enough, in terms of the types of coins that can be treated as investments, that it now seems – in the opinion of the authors – possible to make a synthetic evaluation. Furthermore, the economic literature on this topic is currently insufficient, and this study contributes to the literature on emotional investments.

This article firstly aims to describe the collector coin market in Poland, with particular emphasis on factors affecting prices and, secondly, to analyse

---

\* Translation of the paper into English has been financed by the Minister of Science and Higher Education as part of agreement no. 848/P-DUN/2018. Translated by Stephen Dersley.

<sup>1</sup> Borowski (2010): 96.

<sup>2</sup> The authors of this study consider wealthy individuals to be those that have a gross monthly income of over PLN7.1 thousand. This threshold has been set arbitrarily. KPMG (2018).

<sup>3</sup> Zhang (2016): 3.

the prices of pattern coins from the interwar period of the twentieth century, and the rates of return on investment in them, during the years 1995–2017. The authors have used selected examples to illustrate the evolution of the market. At the same time, this research has a broader context: it is a preliminary investigation which will develop the tools necessary for a synthetic assessment of the collector coin market.

The research methodology is limited by the specificity of the analysed market: on the one hand, it is deep enough to allow for qualitative analyses, but on the other, its liquidity is not sufficient for using the tools of portfolio analysis. The authors used descriptive analysis to achieve the first goal – to describe market characteristics and factors affecting the prices of coins from a selected collection. The rates of return on coins are represented visually, along with the average rates of return on collections over the period considered.

The structure of the article corresponds to the research intentions of the authors. The first part of the study presents the basic features of alternative and emotional investments; the second briefly describes the numismatic market. The third part of the study considers collector coins as an investment, with particular emphasis on the factors affecting coin prices. The fourth and final part contains a description and analysis of the rates of return on the collection selected for the study.

## II. ALTERNATIVE INVESTMENTS

The concept of alternative investments covers a wide range of instruments other than traditional (classic) forms of investment (shares, bonds, bank deposits, real estate, classic investment funds).<sup>4</sup> Alternative instruments compete with traditional ones, offering a variety of investment strategies, different characteristics and often the prestige associated with their ownership.<sup>5</sup> Before the 2008 crisis, they were only targeted at institutional investors due to the high entry thresholds.<sup>6</sup>

Alternative investments can be divided into two areas, determined by the type of product offered. There are alternative financial investments (derivatives, hedge funds, private equity, structured products) and non-financial alternative investments.<sup>7</sup> Alternative non-financial investments include a broad and heterogeneous group of instruments including investments in goods and raw materials (e.g. energy resources and alternative energy sources, agricultural raw materials, non-ferrous metals etc.) and so-called emotional investments, which are mainly related to collector's items. The scope of the latter group is very diverse and is constantly expanding. It includes works of art, watches and clocks, antiques, metals and pre-

---

<sup>4</sup> Marcinkowska (2010): 112.

<sup>5</sup> Gabryelczyk (2009): 4.

<sup>6</sup> Pruchnicka-Grabias (2017): 15.

<sup>7</sup> Opolski, Potocki, Świst (2010): 160.

cious stones, jewellery, unique alcohols, photographs, stamps, cards or memorabilia associated with famous people. The group of emotional investments also includes investments in coins.

The conception of alternative investments presented above is the one most often cited in the literature. However, there is no precise definition of this type of investment. Hence the features or examples of alternative investments are listed, giving them the power of definition.

Emotional investments seem to elude the traditional definition of investment, according to which an investment is a sacrifice of current consumption for the sake of the future.<sup>8</sup> Buyers of collector's items are motivated by the desire to own a unique good, but not to make a profit from selling it at a certain time. Owners of collector's items generally avoid selling them, except in random situations. Table 1 presents a comparison of emotional investments and alternative investments (broadly understood).

**Table 1**

A Comparison of alternative and emotional investments

<b>Features of the alternative investment market</b>	<b>Alternative investments (broadly understood)</b>	<b>Emotional investments</b>
The object of investment	A wide group of financial and non-financial instruments; intangible and tangible investments (less often)	Various collector's items, the object of investment has a physical form
Investors	Institutional and individuals	Individual (as investor-collectors), institutional (profit motive, portfolio diversification)
Investment period	The market offers investment opportunities for various periods	Usually long-term investments
Market liquidity	Differentiated, depending on the form of investment	Low, but growing
Correlation of rates of return with the traditional market	Low / no correlation	There are not enough studies to unequivocally confirm the occurrence of correlations
Form of trading	Stock exchanges, OTC markets, most often special forms of trade organization	Auction turnover (traditional and internet auctions), other
Supervision of the market	It exists in selected cases	Not covered by a supervisory agency

Source: authors' own study.

<sup>8</sup> Jajuga, Jajuga (2015): 9.

The basic feature determining the attractiveness of alternative investments is the negative correlation of their rates of return with the profitability of traditional investment instruments (or possibly the fact of there being no correlation). This feature is used to optimize investment portfolios.

In the case of emotional investments, the correlation of rates of return with the traditional market is basically absent or negative. However, research has been carried out with small samples, which are not representative enough to draw conclusions about the existence of statistically significant relations between markets. The value of emotional investments is generally not related to events occurring on stock markets and is even less dependent on the economic situation. In addition to risk diversification, these investments offer the possibility of achieving high rates of return. Basically, the role of emotional investment is seen as complementary to other elements of the equity portfolio.

In addition to the obvious advantages of emotional investments, they also have disadvantages. These include limited market liquidity compared to traditional markets. Limited liquidity is associated with the smaller depth of such markets and with a specific trading system, usually auctions, the absence of continuous trading, or even the lack of any obligation to make the auction results public. Transactions on a collectibles market are not subject to the normal financial market supervision. Furthermore, entering this market without prior preparation or an expert intermediary is difficult.

Moreover, there are analyses in the literature that indicate the risks of choosing diversified portfolios based largely on alternative investments.<sup>9</sup> With alternative investments, just as with traditional investments, there are no unequivocal and consistently good recommendations as to the selection of assets and portfolio construction.

The emotional investment market, which is the focus of the analysis in this article, is not susceptible to standard economic analyses – at least to some extent. It is not comparable with many other market segments. Standard portfolio analysis becomes more difficult, if not impossible, due to the low frequency of transactions. Despite the growing popularity of emotional investments, market liquidity limits the possibility of using advanced quantitative research.

## II. NUMISMATICS AND THE NUMISMATIST MARKET IN POLAND

The term ‘numismatics’ covers many meanings; the word itself is derived from the Greek *nómisma*, denoting a coin, derived from *nomós* (‘right’ or ‘custom’). This name defines the task of money, a normative activity in a coin-using society.<sup>10</sup> Numismatics is even referred to as ‘the science of coins’,<sup>11</sup> although the use of the word ‘science’ in such a context seems too far-reaching.

---

<sup>9</sup> Similar conclusions were drawn by Platanakis, Sakkas, Sutcliffe (2018).

<sup>10</sup> Szymański (2004): 550.

<sup>11</sup> Fiedorow-Dawydow (1966): 19.

Numismatics has become rather an auxiliary discipline of history; one of the sources of knowledge about the past.

A more popular definition of numismatics refers to the collecting of ancient and modern coins and paper money.<sup>12</sup> This perspective is more suited to analysing the reasons for purchasing pattern coins from the interwar period in Poland – the issue investigated in this article. However, this definition does not encompass the non-collecting aspect – the investment aspect, which may be a motivation among coin collectors. Numismatics also often includes the collection of other objects, such as medals, tokens and badges, but their other primary functions should eliminate them from the subject matter of this research.

The oldest known Polish collections of coins date back to at least the fifteenth century. Significant collections belonged to Stefan von Heideburg, Maciej Karpig from Miechów, Stanisław Grzebski, Waclaw Kolar, Stanisław Różanek and the Polish monarchs: Jan Olbracht, Zygmunt I Stary, Władysław IV, Jan III Sobieski, Augustus II and Augustus III.<sup>13</sup>

It is necessary to mention that Poland's transition to the capitalist system also brought about a revolution in the field of numismatics. After 1989, there was a gradual professionalization of the numismatic market, combined with the active role of the NBP as a promoter and participant in coin trading. Among numismatists, new collectors emerged, for whom trade became a natural and integral part of their growing collections, and with them a new word appeared in the numismatic world: investment.

The early years of the 1990s marked the beginning of a new trend in the numismatic market. With the emergence of the market and capital, trading coins at stalls and in small antique shops began to evolve into trading through professional, specialist companies. In addition to sellers who had coins on offer, auctions appeared: large numismatic events were launched in the form of coin auctions, at which hundreds of items were sold at a time. The spread of auctioning enabled the collection of data on the market prices of collector coins and comparisons of changes over time.

The last stage in the development of coin trading in Poland was the transfer of part of the turnover to online auctions. After several years of intensive coin trading on the Allegro.pl portal, which took place contemporaneously with traditional auctions in auction houses, online auctions organized directly by auction houses became increasingly popular. The Allegro.pl portal significantly raised fees for coin trading due to frequent fraud attempts and the portal having to be involved in resolving disputes between transaction participants. This eventually caused trading on Allegro to freeze.<sup>14</sup> Recent years have also seen the emergence of new leaders of the Polish numismatic market – the position of Michał Niemczyk's Numismatic Antiquarian Bookshop is unquestionable, and the Numismatic Office of Damian Marciniak, the Numismatic

---

<sup>12</sup> Żabiński (1971): 6.

<sup>13</sup> Mikołajczyk (1998): 33.

<sup>14</sup> Marciniak (2017): 36.

Salon of Mateusz Wójcicki and the Warsaw Auction House are also growing rapidly. The Warsaw Numismatic Centre and the Polish Numismatic Society are still present on the market. Traditional auctions are less frequent, 6-8 of them are organized annually in total, by all auction houses, but the most magnificent specimens are usually displayed at them, and the auctions are accompanied by scholarly lectures or integration meetings. Due to the lower costs and easier organization, internet auctions take place about 15 times in a year.

### III. COLLECTOR COINS AS A FORM OF INVESTMENT

Collector coins are an interesting form of investment, since their purchase is made both under the influence of traditional motives (deferral of immediate consumption for the sake of greater future consumption) and as emotional investments. When compared to other forms of emotional investment, collector coins are distinguished by their ease of transport or storage. Hence, they tend to be hoarded in difficult times (wars, refugee crises). The analysis of collector coins as an investment identifies several specific features of the coins themselves that affect the market and the prices obtained on it. This is characteristic for many niche forms of investment, where greater importance is attached to the object of trading and its specific features than to the convenience and anonymity of transactions.

However, the most important factor influencing the price of a collector coin is its degree of rarity. This does not differ from standard market laws, in which lower supply increases the price of the good. Today, the scale of rarity developed by Emeryk Hutten-Czapski in the nineteenth century is still in use.<sup>15</sup> The scale refers to the number of preserved copies of a given coin, and since previously unknown specimens may come onto the market, the rarity evaluation of a single coin may change. This scale is used primarily for historical coins. When the volume of issuance is not known, the determination of rarity is always approximate.<sup>16</sup> The scale is shown in Table 2. The top row represents the coin rarity class, while the bottom row shows the disclosed number of coins.

**Table 2**

The Hutten-Czapski Scale of Coin Rarity

R*	R8	R7	R6	R5	R4	R3	R2	R1	R	–
1	2–3	4–6	7–25	26–	121–	601–	3,001–	15,001–	80,001–	above
				120	600	3,000	15,000	80,000	40,0000	40,0000

Source: Witkiewicz, Waśala (2009): 52.

<sup>15</sup> Emeryk Zachariasz Mikołaj Count Hutten-Czapski was a nineteenth-century numismatic collector and owner of a rich collection which was handed over to the city of Kraków after his death. He is the author of a work in the field of numismatics: Hutten-Czapski (1957).

<sup>16</sup> Pieńkowski (2006b).

The supply characteristics of collector coins, apart from the degree of rarity determined by the number of preserved coins known to exist, may also take into account 'coin availability'. This factor only applies to collector pieces issued today and is related to the fact that the availability of a coin from the issuer usually limits price increases, which occur only after this availability has been exhausted.<sup>17</sup>

The availability of coins from the issuer and the degree of rarity of historical coins does not exhaust the discussion on coin supply, however. Individual copies appear at auctions at significant intervals. There are mainly emotional investors operating on this market: similar to others collector markets, the supply side depends on specific factors which are referred to as 3D (death, divorce, debt).<sup>18</sup> Specimens are put up for sale as a result of random events; very often it is the collector's heirs that decide to sell, or people who need cash urgently. Buyers treating coins as a form of investment in the traditional sense also take part in trading, but they are in the minority. The supply of historical coins is also limited due to collectors' reluctance to dispose of their acquisitions.

In the case of collector coins, their condition is important, and this significantly affects the prices fetched at auctions, especially since widespread trading allows an increasing number of copies to be compared. Most often, a seven-grade scale is used to assess the condition of coins, which is shown in Table 3. Between the main degrees of the scale, intermediate grades are also used for greater accuracy, such as I–, II+, II– and so on.

Alongside its rarity, the condition of a coin has a great impact on its valuation; the differences in price between the first and third conditions can be considerable – as much as several dozen times the value. In the coin trade, specimens in worse condition than Condition IV are very rare. In recent years, 'grading', in other words the professional assessment of coin condition by specialized companies, has become more widespread. During this process the authenticity of the coin is confirmed, its condition is determined, and it is hermetically sealed in plastic packaging.<sup>19</sup> Two American companies are leading the way in such assessments: the Numismatic Guaranty Corporation (NGC) and Professional Coin Grading Service (PCGS). An attempt to create a Polish alternative to them has to be considered unsuccessful, due to the insufficient quality of the services provided, and the disproportionately rapid increase in the prices of such services. Grading companies use a 70-degree Sheldon scale to evaluate coins, though only 11 degrees are used to evaluate mint coin condition (I) – from MS 60 to MS 70.<sup>20</sup>

---

<sup>17</sup> Jagielnicki (2011): 81.

<sup>18</sup> Smith (2010).

<sup>19</sup> Witkiewicz (2008): 97.

<sup>20</sup> Witkiewicz, Waśala (2009): 102–104.

**Table 3**

The NBP Scale for assessing the degree of coin preservation

<b>Condition</b>	<b>Description</b>
I: Mint condition	Coins not used as a means of payment and not bearing traces of use. They have no defects, scratches or marks of cleaning
II: Perfect condition	Coins with slight damage caused by the mint during production, or due to transportation. Coins intended for circulation but withdrawn from circulation before characteristic abrasions or scratches appeared. The lustre on the coin should be visible
III: Very beautiful condition	Coins with slight traces of wear and tear due to circulation, slight abrasions on the upper surface of the relief, slight scratches, slight notches on the edge of the coin
IV: Beautiful condition	Coins with traces of wear and tear, but which do not affect the legibility of the drawing outlines; legends should be fully legible
V: Very good condition	Coins with a very high degree of wear. Single letters of the legend and some details of the image are illegible. The coin can still be identified, but some data can no longer be read. The date or part of it may not be legible. The mint mark may not be recognizable
VI: Good condition	Coins on which a large part of the image is not clear, and the legend is illegible; it is not possible to read the legend (apart from its outline). The coin can be determined on the basis of experience and comparison with the literature on the subject, as well as the weight, diameter, metal and the context of the finding (in the case of archaeological findings)
VII: Poor condition	Coins whose condition makes it impossible to identify them unambiguously

Source: Pieńkowski (2006b).

The assessment of a coin's condition is the result of subjective evaluations by experts, auction houses and collectors themselves. On the one hand, evaluations made by professional companies (the aforementioned grading) organize the criteria for assessing coin condition, yet on the other hand they often change their assessments from those previously provided. If one follows the ratings given for individual specimens, one can observe the sales of the same coin with three different descriptions of its state of preservation over the last 10–15 years. While deterioration in the condition of a coin can be considered normal, due to damage or improper storage, a significant improvement in its state of preservation is rather unlikely. Ambiguity in the assessment of the state of preservation also results from the fact that the Sheldon scale, for which Condition I is divided into 11 sub-conditions, is currently used to assess the state of coin preservation. This scale was originally developed in Western markets, while in Poland a seven-degree scale is used. Nowadays, the Sheldon scale is widely used for of graded coins, and the seven-degree scale is used for other coins. The manipulation of scales and conditions is also influenced by the desire on the part of collectors to possess coins with the best states of preservation.

Even within Condition I coins can vary in terms of their state of preservation. Of all the existing specimens, one coin is considered to be the most beautiful, sometimes only in a subjective sense. The highest possible rating, an exceptional patina, and the unique charm of a single specimen also often increase trading prices. The supply side – the auction houses – is aware of this situation and uses marketing tools to ensure that potential auctioneers are informed a coin has been awarded the highest rating, as graded by professional companies. However, experienced collectors treat such information as merely auxiliary: they attempt to make their own independent comparisons of as many existing specimens of a given coin as possible.

Determination of the scale of rarity, the state of preservation and, most importantly, the originality of a coin, makes it possible to estimate the price it will potentially fetch at auction. The valuation is also supported by the catalogues issued by the main auction houses and internet databases on which previous auctions are archived.

Another key element in the evaluation of numismatics is their provenance. The fact that a coin used to belong to a well-known collection increases interest in it. For numismatists, collecting coins means contact with history; the possession of a coin that once belonged to a recognized collector ennobles it and makes it possible to feel a bond with previous generations. Among the pattern coins of the interwar period, which are the subject of detailed analysis in this article, the most famous collections include the collections of Henryk Karolkiewicz, Włodzimierz Głuchowski and King Farouk I of Egypt. The appearance of coins from these collections at an auction usually creates a special atmosphere, and often their prices are higher than those of other coins being sold, even those in better condition.

The popularity of a given auction is also often based on a unique offer. Auction houses strive to outperform each other in ensuring that the coins used to advertise the auction are unique – often on the market for the first time, or not seen in decades. Collectors, even if they are unable to participate in an auction due to the stratospheric prices required by such numismatics, are particularly interested in them; they observe their progress and often bid for cheaper specimens. The overlapping times of several auctions can have a negative impact on the value of coins, as the collection of historical coins from a given era is limited. Furthermore, investors with more standard entry motives do not constitute a large group on this market.

As has been mentioned, analysis of the reasons for price movements of collector coins should not be limited to factors typical for traditional investment. In the case of collector coins, apart from such factors as the condition and the rarity of coins, the emotions of collectors play a key role. This is particularly true of traditional auctions, where bidders see each other and the bidding is accompanied by the solemnity of the moment, the knock of the hammer, and the congratulations offered to the winners by the auctioneer and other participants. Collecting is also a competition, a willingness to win, to possess a desired item, especially a unique one. Therefore, the prices bid during the auction are sometimes incommensurable with previous ratings, and result

simply from the bidding of emotional collectors who do not want to be beaten. However, the consideration of psychological factors such as these in economic and financial analyses of such a little-known market is a matter that will have to wait until the future.

#### IV. PATTERN COINS OF THE INTERWAR PERIOD ON THE NUMISMATIC MARKET

The market of historical coins is rich and diverse. In Poland, several sub-periods may be listed which form the basis for collections. Their classification can vary, since the historical division of monetary periods in Poland has been subject to varying nomenclature. Traditionally, they were divided according to the main type of money in circulation, thus into the dinar, groschen, ducat and thaler periods, and into metal and paper money.<sup>21</sup> A different perspective, closer to the contemporary numismatics, divides monetary periods into dinar, groschen and gold-thaler.<sup>22</sup> After the end of the latter period, the nomenclature was no longer associated with the name of money, but rather with the chronology of the historical process. Hence the next periods are the Partitions of Poland and the contemporary era. The transition between the periods did not take place at precise moments in time. Coins remained in circulation decades after they went out of official circulation.

Nowadays, auction houses and investors have adopted a different division of the periods according to which collections are built up. To put it simply, these are: the Middle Ages, the Kingdom of Poland from the sixteenth century, the Partitions of Poland, the interwar period of the twentieth century, the times of the People's Republic of Poland and the Third Republic of Poland. These are the main groups that collections belong to, but there are other distinct categories that form the basis for collections: the coins of the Warsaw Uprising, coins of the Free City of Gdańsk, occupation coins from World War I and World War II, coins from the ghetto in Łódź, or coins from countries historically connected with Poland. In this article, the period of the interwar period is particularly important, and within it: the pattern coins minted in that period.

After Poland regained its independence in 1918, there was an extremely complicated monetary system operating on its territory. The coins and notes of all the partitioning countries and special occupation issues were in circulation: issues of the Polish National Loan Fund, German roubles of the Eastern Bank, Eastern marks, German kopeks, Ukrainian hryvnias and karbovanets, Austrian crowns, Russian roubles and kopeks. The Polish mark was tempo-

---

<sup>21</sup> Szwagrzyk (1973): 9–10.

<sup>22</sup> Szymański 2004): 566.

rarily used, becoming a transitional currency for the introduction of a new Polish currency.<sup>23</sup>

The Decree of the Head of State of 5 February 1919 established the new currency – the ‘Lech’, which was to be divided into 100 ‘groszy’. This idea was quickly changed, because the law of 29 February 1919 introduced the final name of the new currency, the ‘złoty’, which was also divided into 100 ‘groszy’.<sup>24</sup> However, due to the ongoing hyperinflation, the introduction of the mark’s replacement was postponed. Polish marks were exchanged for zlotys at a rate of 1.8 million marks per zloty, and the exchange rate of the zloty was pegged to the Swiss franc.<sup>25</sup>

The first banknotes bearing the name ‘złoty’ were printed in 1919, although they only came into circulation five years later. The Polish state had a big problem with issuing coins due to the technological deficiencies of the national mint. The coins were therefore commissioned to foreign mints: The Royal British Mint, the Paris Mint, the Swiss Huguein Frères, the Vienna Mint, the Dutch State Mint, the Philadelphia Mint of the United States and the Brussels Mint. With time, mass production began at the Warsaw Mint.

An inseparable component of introducing new coins into circulation is that pattern coins are minted as proposed specimens. They are minted in order to check what the chosen design will actually look like.<sup>26</sup> However, the majority of the currently traded pattern coins of the interwar period (also known as pattern coins of the Second Republic) did not actually function as pattern coins. Some authors suggest that very few real pattern coins have survived and that, in fact, the pattern coins now collected were minted with collectors in mind from the outset.<sup>27</sup> It is hard not to agree with this statement – the pattern coins were minted in various metals and sold by the Numismatic Office for reasonable prices. A similar procedure in the production of pattern coins was followed during the period of the People’s Republic of Poland, and they were also minted for sale to collectors. Due to the fact that they did not fulfil the basic function that pattern coins are supposed to perform in the preparation process at the mint, they were even given the name of ‘collector pattern coins’.<sup>28</sup> There are coins in circulation that did indeed function as pattern coins, but they are not distinguished from the wide family of pattern coins of the Second Republic and this does not affect their price.

Approximately 250 types of pattern coins were minted in the interwar period, with an average edition of 50 copies. Usually the edition consisted of 100, but many coins were produced with just one copy or in an unknown number below 10. While the prices of modern coins largely depend on the edition, condition, aesthetics and value of the raw material,<sup>29</sup> the value of the raw

---

<sup>23</sup> Szwagrzyk (1973): 273.

<sup>24</sup> Chałupski (2008): 14.

<sup>25</sup> Morawski (2008): 96.

<sup>26</sup> Jagielnicki (2011): 81.

<sup>27</sup> Parchimowicz (2010): 62.

<sup>28</sup> Schmidt (1982): 20.

<sup>29</sup> Borowski, Chalupeczak (2010): 11.

material has no significance in determining the prices of the pattern coins of the Second Republic.

This research into collector coins as emotional investments started from an investigation of pattern coins of the interwar period because the vast majority of transactions in this category of coins take place at registered auctions conducted by professional auction houses, which means lists can be created on the basis of post-auction results.

A group of coins with similar features was selected for the empirical research, and the basic number of minted coins should be considered as ranging from 60 to 120 (rarity class R5). Such supply conditions mean that there are enough specimens of a given coin to appear at auctions relatively often.

As a result, it was possible to create a list of transactions featuring these coins in the years 1995–2017. Numismatics that had been involved in a minimum number of 8 transactions in this period were selected for analysis.

As was mentioned in Section III, an important aspect affecting the price of coins is their condition. Coins in Condition I or Condition I– were accepted for this research. According to numismatists, there are significant differences even between these states. As experience from recent years shows, coins described as Condition I– are sold at auctions as coins in Condition I. Due to the variability in subjective assessments of the state of preservation of coins, and the need for more extensive research material in the study, coins falling within Conditions I and I– are analysed together in the study.

The research sample included the 12 pattern coins of the interwar period presented in Table 4. Coin names are not usually formalized: coins often become associated with the informal names adopted in numismatic circles, which are based on key features of the coins, and then these names are used at auctions and in catalogues. In the case of pattern coins described as *marks*, it is not even certain what currency these coins were supposed to represent, since zloty banknotes were already being printed in 1919. It is generally accepted that both *Józef Piłsudski* from 1922 and *Woman with Ears of Corn* from 1923 are pattern coins of Polish marks. The assessment of the rates of return covers the years 1995–2017. However, the period is shorter for some coins. This is indicated in the last column of Table 4 and in each of the Graphs showing the prices fetched by coins (Graphs 1–12).

**Table 4**

Pattern coins included in the research sample

	Denomination	Issue year	Alloy	Name	Years covered in the analysis
1	100 marks	1922	copper	<i>Józef Piłsudski</i>	1995–2016
2	50 marks	1923	bronze	<i>Woman with Ears of Corn</i>	1999–2015
3	20 zloty	1924	bronze	<i>Monograms</i>	1995–2017

4	50 zloty	1924	copper	<i>Kneeling Knight</i>	1995–2017
5	5 zloty	1925	silver	<i>Constitution with Monograms</i>	1996–2014
6	10 zloty	1925	bronze	<i>Heads of Woman and Man</i>	1998–2017
7	100 zloty	1925	silver	<i>Large Copernicus</i>	1997–2017
8	5 zloty	1927	silver	<i>Nike</i>	1996–2015
9	2 zloty	1933	bronze	<i>Woman’s Head</i>	1997–2015
10	10 zloty	1933	silver with a lustre	<i>Jan III Sobieski</i>	1999–2017
11	10 zloty	1933	silver	<i>Romuald Traugutt</i>	1995–2016
12	10 zloty	1934	silver	<i>Clasps</i>	1995–2017

Source: the authors’ own study.

Changes in the prices of 12 coins, expressed in Polish zlotys, from the collection of pattern coins of the interwar period are presented in Graphs 1–12. The transaction prices of coins (not including transaction costs) which were used to make the Graphs, were downloaded from the Money for Nothing website: [www.m4n.pl](http://www.m4n.pl). The results from individual auctions of the examined collection can be found on the website. The data was confirmed using post-auction result lists. Transaction costs amount to around 12–15%, but they are negotiable when buying or selling a large batch of coins. In subsequent parts of the article, the average rates of return obtained by coin buyers compared to the base year of the analysis are also analysed. A summary of the results for the subperiods is provided in Table 5.

**Table 5**

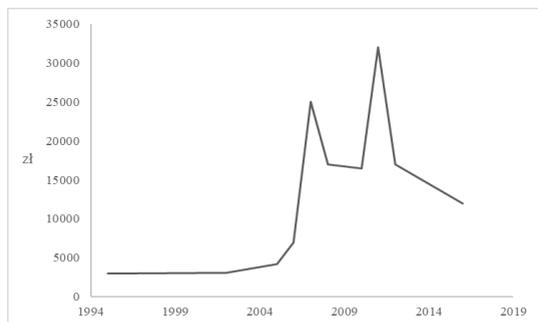
A synthetic assessment of the market, broken down into subperiods

Subperiod	Average price increase in relation to the base period	Description
1995–2003	69%	The beginnings of the market being adapted to realities of the market economy. Relatively small price increases over the period.
2004–2006	486%	A period of rapid increases in coin prices
2007–2011	1061%	Transaction prices break records. The development of the market of modern and historical collector coins.
2012–2015	686%	The market cools down. Most coins continue to show price increases.
2016–2017	787%	Slower price increases. Intensive professionalization of the Polish market.

Source: the authors’ own study.

**Graph 1**

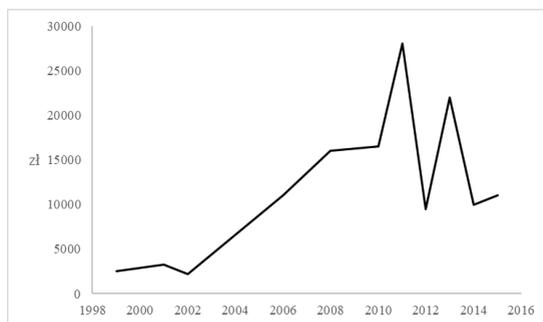
Changes in the price of the *Józef Piłsudski 100 mark coin* from 1922 (1995–2016)



Source: the authors' own study.

**Graph 2**

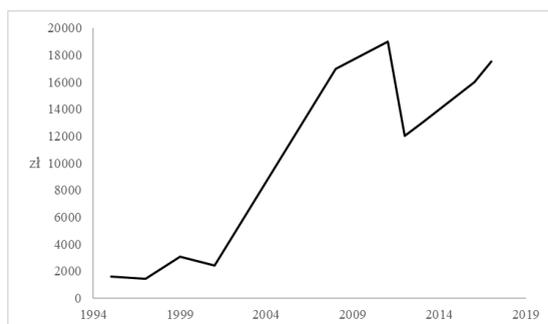
*The Woman with Ears of Corn* 50 mark coin from 1923 (1999–2015)



Source: the authors' own study.

**Graph 3**

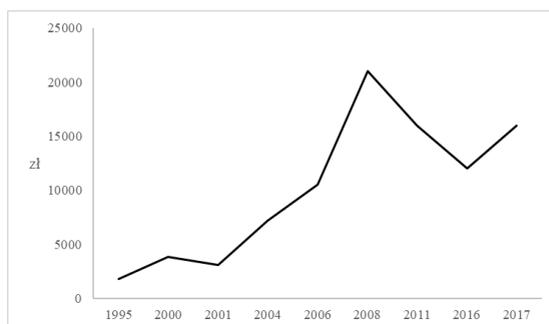
Changes in the price of the *Monograms 20 złoty coin* from 1924 (1995–2017)



Source: the authors' own study.

**Graph 4**

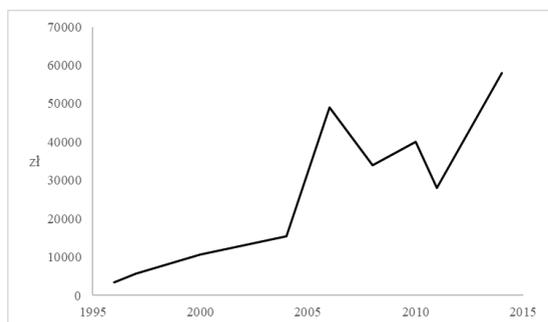
Changes in the price of the *Kneeling Knight 50 złoty coin* from 1924 (1995–2017)



Source: the authors' own study.

**Graph 5**

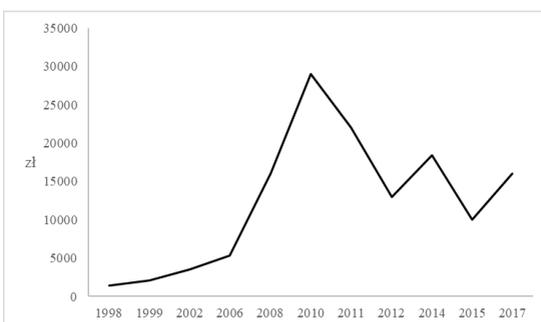
Changes in the price of the *Constitution with Monograms 5 złoty coin* from 1925 (1996–2014)



Source: the authors' own study.

**Graph 6**

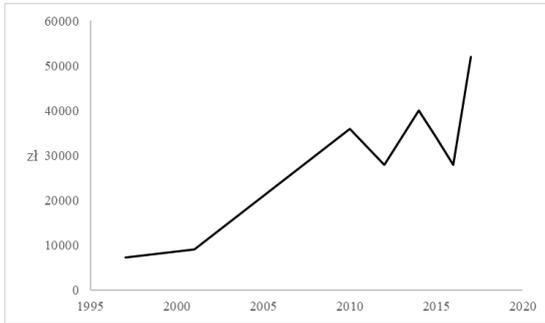
Changes in the price of *Heads of Woman and Man 10 złoty coin* from 1925 (1998–2017)



Source: the authors' own study.

**Graph 7**

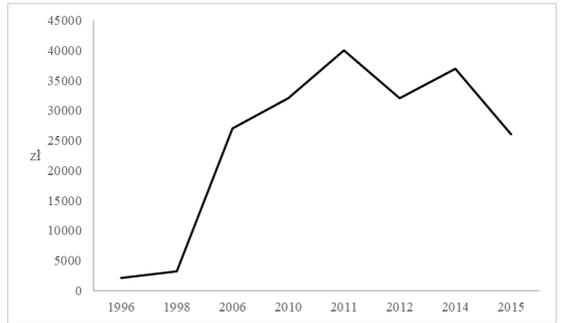
Changes in the price of the *Large Copernicus 100 zloty coin* from 1925 (1997–2017)



Source: the authors' own study.

**Graph 8**

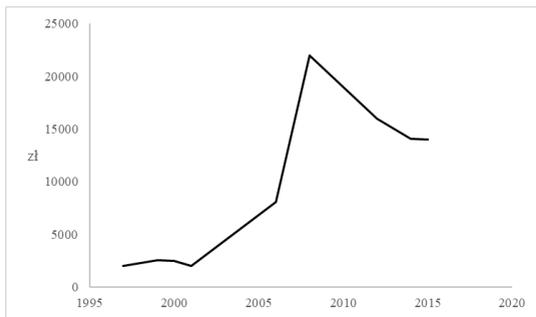
Changes in the price of the *Nike 5 zloty coin* from 1927 (1996–2015)



Source: the authors' own study.

**Graph 9**

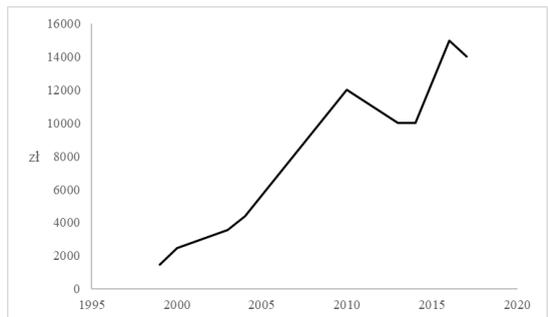
Changes in the price of the *Woman's Head 2 zloty coin* from 1933 (1997–2015)



Source: the authors' own study.

**Graph 10**

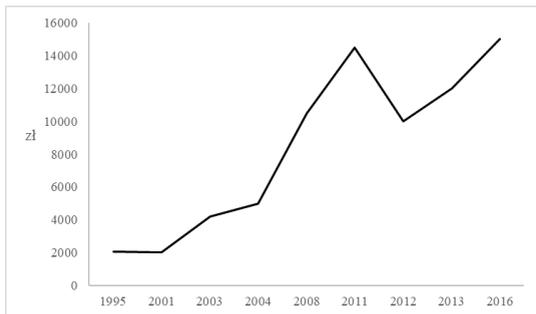
Changes in the price of the *Jan III Sobieski 10 zloty coin* from 1933 (1999–2017)



Source: the authors' own study.

**Graph 11**

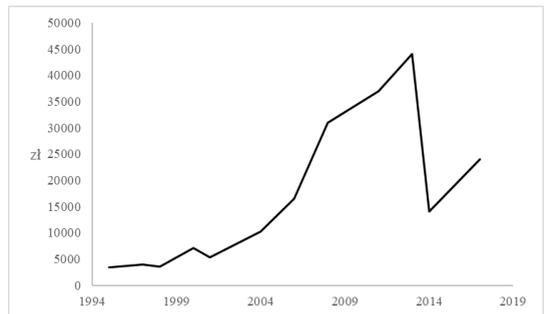
Changes in the price of the *Romuald Traugutt 10 zloty coin* from 1923 (1995–2016)



Source: the authors' own study.

**Graph 12**

Changes in the price of the *Clasps 10 zloty coin* from 1934 (1995–2017)



Source: the authors' own study.

Section IV describes the factors determining the prices of collector coins, such as their rarity, condition, provenance and behavioural factors (investors' emotions). Individual changes in coin prices may have nothing to do with the general market situation or trends in a given group. However, taking into account several dozen or – in the case of this study – more than 100 transactions, one can distinguish the general trends of price changes. They will be analysed in five subperiods distinguished on the basis of price trends and the phase of market development.

The second half of the 1990s and the turn of the century (the first subperiod of empirical analysis) shows a stable but relatively slow increase in coin prices. The price of *Monograms* in this subperiod increased by 91%, the *Kneeling Knight* by 72%, the *Constitution with Monograms* by 210%, *Heads of Woman and Man* by 154%, and *Large Copernicus* by 25%. One coin did not change price – *Head of a Woman*, and the price of another, *Romuald Traugutt*, fell by 3%. The average increase in the prices of coins surveyed was 69%. This period was the beginning of the professionalization of the Polish numismatic market; auction houses were established, and capital accumulation occurred in the country. However, price changes did not differ significantly from the increase in prices of other goods in this period.

The subperiod of 2004–2006 can be considered important for this segment of the numismatic market. At this time there was a significant increase in prices, this time for all the coins investigated. The prices of pattern coins increased as follows: *Józef Piłsudski* by 133%, *Woman with Ears of Corn* by 331%, *Kneeling Knight* by 483%, *Constitution with Monograms* by 1,310%, *Heads of Woman and Man* by 279%, *Nike* by 1,155%, *Woman's Head* by 405%, *Jan III Sobieski* by 204%, *Romuald Traugutt* by 144%, *Clasps* by 385%. Particularly noteworthy is the increase in the price of the *Constitution* coin during this period, it took 8 years to beat this record, and this was only due to the appearance of a numismatic item from the excellent collection of Włodzimierz Głuchowski. The average price increase in the studied group, from the beginning of the examined period to 2006, amounted to 483%. Two coins were not auctioned in 2004–2006. Even despite the developing disinflation, the coins started on the path of rapid price growth in real terms. The increases in numismatic values, previously calculated in tens of percent, were now described in hundreds of percent.

The next subperiod, that of 2007–2011, is the time of auction records and a huge increase in interest in numismatics in Poland. Universal access to the issues of NBP collector coins and their extensive media promotion attracted numerous hobbyists and investors to this topic. The total number of coin buyers in this period is estimated at 40,000.<sup>30</sup> Some collectors became interested in more valuable and rarer specimens. This widespread interest also significantly affected the market of pattern coins of the Second Republic. Some numismatic items fetched prices which have not been equalled since. At that time, the Warsaw Numismatic Center and the Antiquarian Bookstore of

<sup>30</sup> Jagielnicki (2011): 94.

Paweł Niemczyk (ANPN) also enjoyed great success with their auctions. The latter, with its modern approach, attracted a large group of foreign investors to Poland and promoted Polish auction houses around the world. The studied coins attained the following increases from the base price (the price from the beginning of the research period): *Józef Piłsudski* by 967%, *Woman with Ears of Corn* by 998%, *Monograms* by 1088%, *Kneeling Knight* by 1067%, *Constitution with Monograms* by 1059%, *Head of Woman and Man* by 1971%, *Large Copernicus* by 393%, *Nike* by 1761%, *Woman's Head* by 1100%, *Jan III Sobieski* by 728%, *Romuald Traugutt* by 607%, and *Clasps* by 988%. The average price increase was 1061% (the rate of return for 1995–2011). Only *Constitution with Monograms* did not achieve a record rating in comparison with previous years. Over 16 years, the pattern coins increased their value over a dozen times. Even real price increases, given the relatively low inflation rates at the time, are impressive.

After such significant price increases, the market for pattern coins of the interwar period 'cooled down'. In 2012–2015 – another subperiod distinguished in the study – some coins were sold at lower prices. Declines were observed: *Józef Piłsudski* by 47%, *Woman with Ears of Corn* by 61%, *Monograms* by 32%, *Head of Woman and Man* by 66%, *Nike* by 35%, *Head of Woman* by 36%, *Jan III Sobieski* by 17%, *Romuald Traugutt* by 17%. 8 out of 12 coins tested were sold at lower prices than in the previous period, while 2 were sold at higher prices: the *Constitution with Monograms* and *Large Copernicus*. However, the fall in prices in this subperiod did not cancel the profits that could have been reaped since the beginning of the examined period. The average rate of return in 1995–2015 was 686%.

In the years 2016–2017 there were slight price increases on average, making up for losses from previous years. In the case of 9 coins, prices increased, 2 coins had no rating, and the price of one was lower than at the previous auction. The average rate of return in 1995–2017 was 789% (covering all collector coins, including those only appearing in earlier subperiods). Recent auctions allow investors to be optimistic about future increases in the value of their collections. The professionalization of more auction houses will lead to the transfer of trade in Polish collector coins from foreign auction houses to the domestic market. Special auctions lasting several days are organized, combined with scientific lectures and collector meetings. Numismatics is becoming an object of interest for business media and alternative investment funds.

However, this market is sensitive to certain eventualities, due to the relatively low liquidity in comparison with traditional investment markets. If a large player enters the market, this can cause significant upset, as happened, in all likelihood, during the record bull market and the subsequent bear market.<sup>31</sup>

---

<sup>31</sup> It is speculated that in the years 2007–2011 one of the major Polish businessmen entered the market, whose purchase transactions and then the sale of coins significantly affected prices.

The market of pattern coins of the interwar period is obviously not an authoritative measure for all categories of collector coins, or even historical coins, on the market. Due to its specificity, it may be subject to rapid changes related not so much to general market trends as to the behaviour of individual players. Approximately 100 collector coins from the interwar period are traded annually – or 150 at the most. It is not easy to study trends regarding individual coins, as it often happens that the intervals between individual auctions at which they can be bought can last for several years. For the purposes of observation, it is best to adopt a perspective encompassing many years, as the authors attempted to do in this study.

## V. CONCLUSION

The article describes the collector coin market, especially the historical one. Emotional investments are made on this market. The factors that determine prices on this market and investors' choices cannot therefore be reduced to the standard way of analysing investments. In particular, the concept of building an investment portfolio containing this asset class may be questioned. Statistical data describing the market have a very low frequency, hence only the simplest analyses can be used.

To the best of the authors' knowledge, this is the first attempt to assess long-term rates of return on investment in historical coins that has appeared in Polish economic literature. However, this assessment is not complete: at the stage of sample selection, it was necessary to limit the analysis to selected items from the collections of pattern coins of the interwar period due to the limited frequency of transactions. Furthermore, the analysis does not cover investment risk. Despite such limitations, changes in the prices of the surveyed assets allows us to conclude that it is possible to achieve high rates of return in this market. Unlike traditional investments, the collector coin market experienced high price increases during the financial crisis. From the evolution of coin prices, one can conclude that these are demand and supply factors related to the development of the market itself (an increase in the number and professionalization of auction houses and online auctions in this particular numismatic segment, namely historical coins; an increase in the number of clients and the spread of investment in coins in general) that shaped its changes over time – rather than general economic factors. The market did not behave cyclically or – as was already mentioned – did not react to the crisis.

It should also be emphasized that there is no question of a wider opening of the market to investors. Making transactions on the historical coin market is the domain of expert investors. Many of them treat coins not as a form of capital investment, but as an emotional investment. Behavioural factors influence the results of individual transactions.

Artur Cholody  
WSB University, Poznań  
a.cholody@fns.com.pl  
<https://orcid.org/0000-0001-8362-1184>

Magdalena Szyszko  
WSB University, Poznań  
magdalena.szyszko@wsb.poznan.pl  
<https://orcid.org/0000-0002-5322-3334>

- Borowski, K. (2010). Zastosowanie rozwiązań bankowości inwestycyjnej w systemie aukcyjnym sprzedaży monet – Kolekcjoner, [in:] J. Szambelańczyk, M. Szyszko (ed.), *Problemy rynku finansowych usług inwestycyjnych dla klienta indywidualnego w Polsce*. Zeszyty Naukowe Wyższej Szkoły Bankowej w Poznaniu 30: 95–110.
- Borowski, K. (2016). *Rynek inwestycji alternatywnych: od inwestowania w metale i kamienie szlachetne do numizmatyki, skrypofiliistyki i falerystyki*. Warsaw: CeDeWu.
- Borowski, K., Chałupczak, K. (2010). Czynniki determinujące ceny monet kolekcjonerskich w Polsce, [in:] B. Filipiak (ed.), *Podmioty sektora finansów publicznych wobec ryzyka i niepewności*. Zeszyty Naukowe Wyższej Szkoły Bankowej w Poznaniu 26: 9–20.
- Chałupski, J. (2008). *Specjalizowany katalog monet polskich XX i XXI w. Part Two: II Rzeczpospolita Generalne Gubernatorstwo 1918–1945*. Sosnowiec: Wydawnictwo Jerzy Chałupski.
- Fiedorow-Dawydow, H. (1966). *Monety opowiadają o historii*. Warsaw: PWN.
- Gabryelczyk, K. (ed.) (2009). *Private asset and wealth management. Nowe instrumenty i usługi finansowe*. Warsaw: C.H. Beck.
- Hutten-Czapski, E. (1957). *Catalogue de la collection des medailles et monnaies polonaises. Volumes 1–5*. Graz: Akademische Druck- u. Verlagsanstalt.
- Jagielnicki, A. (2011). *Inwestycje alternatywne. Pierwsze kroki na rynku pozagieldowym*. Gliwice: Helion.
- Jajuga, K., Jajuga, T. (2015). *Inwestycje: instrumenty finansowe, ryzyko finansowe, inżynieria finansowa*. Warsaw: Wydawnictwa Naukowe PWN.
- KPMG (2018). *Rynek dóbr luksusowych w Polsce*. <<https://assets.kpmg.com/content/dam/kpmg/pl/pdf/2017/12/pl-Raport-KPMG-Rynek-dobr-luksusowych-w-Polsce-Edycja-2017.pdf>> [accessed 25 November 2018].
- Kurpiewski, J. (1988). *Zarys historii pieniądza polskiego*. Warsaw: Polskie Towarzystwo Archeologiczne i Numizmatyczne Komisja Numizmatyczna.
- Marciniak, D. (2017). Pożegnanie dobrej numizmatyki z Allegro. *Przegląd Numizmatyczny* 97: 34–37.
- Marcinkowska, M. (2010). Inwestycje w wino jako przykład inwestycji alternatywnych, [in:] J. Szambelańczyk, M. Szyszko (ed.), *Problemy rynku finansowych usług inwestycyjnych dla klienta indywidualnego w Polsce*. Zeszyty Naukowe Wyższej Szkoły Bankowej w Poznaniu 30: 111–127.
- Mikita, M., Pelka, W. (2009). *Rynki inwestycji alternatywnych*. Warsaw: Poltext.
- Mikołajczyk, A. (1988). *Monety stare i nowe*. Warsaw: Arkady.
- Morawski, W. (2008). *Od marki do złotego. Historia finansów Drugiej Rzeczypospolitej*. Warsaw: Wydawnictwa Naukowe PWN.
- Opolski, K., Potocki, T., Świst, T. (2010). *Wealth Management: bankowość dla bogatych*. Warsaw: CeDeWu.
- Parchimowicz, J. (2010). *Monety Rzeczypospolitej Polskiej 1919–1939*. Szczecin: Wydawnictwo Nefryt.
- Pieńkowski, R. (2006a). *Stopnie zachowania monet*. <<https://www.nbportal.pl/wiedza/numizmatyka/vademecum-kolekcjonera/stan-zachowania/stopnie-rzadkosci>> [accessed 10 November 2018].

- Pieńkowski, R. (2006b). Stan zachowania monet. <<https://www.nbportal.pl/wiedza/numizmatyka/vademecum-kolekcjonera/stan-zachowania/stan-zachowania-monet>> [accessed 10 November 2018].
- Platanakis, E., Sakkas, A., Sutcliffe, C. (2018). Harmful diversification: evidence from alternative investments. *The British Accounting Review*. In press. doi:10.1016/J.BAR.2018.08.003.
- Pruchnicka-Grabias, I. (ed.) (2017). *Inwestycje alternatywne*. Warsaw: CeDeWu.
- Schmidt, A. (1982). Próba oceny mennictwa PRL, [in:] B. Paszkiewicz (ed.), *Zagadnienia współczesnej numizmatyki polskiej*. Warsaw: Polskie Towarzystwo Archeologiczne i Numizmatyczne Komisja Numizmatyczna.
- Smith, R.M. (2010). The art of auctions: Christie's CEO Edward Dolman. *Newsweek*, 2.11.2010. <<https://www.newsweek.com/art-auctions-christies-ceo-edward-dolman-74999>> [accessed 12 November 2018].
- Szwagrzyk, A. (1973). *Pieniądz na ziemiach polskich X–XX w.* Wrocław: Zakład Narodowy im. Ossolińskich – Wydawnictwo.
- Szymański, J. (2004). *Nauki pomocnicze historii*. Warsaw: Wydawnictwa Naukowe PWN.
- Witkiewicz, T., Waśala, K. (2009). *Numizmatyka bez tajemnic*. Szczecin: Wydawnictwo Tomasz Witkiewicz.
- Witkiewicz, T. (2008). *Inwestowanie w monety*. Szczecin: Wydawnictwo Tomasz Witkiewicz.
- Zhang, Y. (2016). Alternative investments in emerging markets: a review and new trends. *Emerging Markets Review* 29(1):1–23.
- Żabiński, Z. (1971). *Zagadnienia prawne numizmatyki*. Warsaw: Polskie Towarzystwo Archeologiczne Komisja Numizmatyczna.

#### PATTERN COINS OF THE SECOND POLISH REPUBLIC AS A FORM OF ALTERNATIVE INVESTMENT

##### Summary

In this article we describe the pattern coins of the Second Polish Republic, which are a form of alternative (emotional) investment in historical coins. Our motivation to cover this subject is related to an increasing interest in non-standard forms of investment. Moreover, the literature does not provide valuable analysis of this issue. We decided to focus on one collection and follow the development of its market. The time period ranges from the mid-1990s and to the end of 2017. We distinguish five subperiods of analysis. The prices of coins were driven by different demand-side and supply-side factors in these subperiods. We explain the specifics of the coin market and the drivers of coin prices, also highlighting the difficulties that arise when examining this market.

Keywords: JEL codes: G11, G19; emotional investments; numismatics; rate of return