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ART AS A DIVERSIFICATION TOOL OF INVESTMENT PORTFOLIOS

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Abstract. The paper constitutes an argumentation of art investments as portfolio diversification tool, presents the analysis of the specifics and conception of investments in art. Moreover, it represents the structure of art market participants. Analysis of the statistical data reveals that the biggest art markets having long traditions of investing in art yield ground to emergent Eastern markets. The main objective of this paper is to investigate art as an investment tool for diversification of investment portfolio. In order to assess whether the investments in art can be used to diversify investment portfolio correlation regression analysis was made. For calculatin of optimal portfolios and finding efficient frontiers teaching material of C. W. Holden from Indiana University "Excel Modelling and Estimation in Investments" was used. The comparison of return and risk of the portfolios comprised with art investment are presented in the article.

Keywords: investment, art, Artprice Global Index, investment portfolio.

Jel classification: D14, G11, P45

1. Introduction

Investment in art becomes more and more popular all over the world. The art itself is appreciated not only for its aesthetic attraction but is valued as an investment. Investment in art is ascribable to alternative investments since it has a specific market and particular participants. According to art experts, risk of investment in art decreases only for investments in extremely expensive creations for a very long period, or if the investments (or existing investment portfolio) are diversified by different risk investment tools. In the later case, a decrease of the particular art investment is compensated by the growth of another one.

The volatility, irrationality and illiquidity of the art market make it incomparable with more conventional investments. Art is not only tangible investment. Sometimes it is treated as hobby, since investors in art have to enjoy in what they invest their money. Art, as well as gold, are classified as real estate and are appropriate tool to hedge against inflation. Experienced investors seek to invest in alternative investments some of their funds and more often art compose a small part of their investment portfolios in order to protect themselves from losses in the financial markets and to diversify their investment portfolios. Every year investment in art becomes more popular but Lithuania is still behind the world's largest art markets. There are not many opportunities to invest in art in Lithuania, but every year more and more people show their interest.

Although investing money in art is not as straightforward as investing in bonds or equities, the interest in this market increases. This alternative investment earns capital gains rather than dividends. Investment in art exists already four centuries (Makselienė 2007) and still growing developing new artistic directions in every century or decade and immediately attracts new investors. Investment in art has both: some typical features for all investments and a few unique features. Therefore, before investing, one should carefully study art market and all the subtleties should be found out.

Attempts to use art investment for optimization of investment portfolios returns were made in Lithuania by Raškinis and Zigmantienė (2008). They composed a series of investment portfolios: from two, three, four and one portfolio from five investment tools and each of them the authors try to diversify by art investment. In present article two types of investment portfolios were made. First three investment portfolios where created according time period (20, 10 and 5 years) including five investment tools each except art investments. And the final five portfolios include one investment – an art and another one varies in each portfolio.

2. Distinctiveness of the art investments

Investing in art is becoming fashionable among alternative investments. It is validated by recorded art creative prices paid at auctions, the establishment of new private funds of investments and creations of some tools, which help to analyse art market trends. Art creations become not only the collecting tool, but also as a real object for trade and monetary relations. Thus, investing in art or in the alternative investments – is purchase of art works (such as paintings, icons, antiques, antique furniture, *etc.*) with investment objectives, *i. e.* to maintain or increase the available capital (Postrigaj 2009).

History of investment in art dates back to the 17th century. Since the year dot the rich and famous old European families followed a simple strategy of capital formation: one-third of stocks, bonds and other securities, one third of real estate and one third of investments in art and precious metals, gemstones and *etc.* (Makselienė 2007).

The art market is characterized by high illiquidity, information asymmetric, high transaction costs, long transaction time and the absence of hedging mechanism (Ralevski 2008) (Fig. 1).

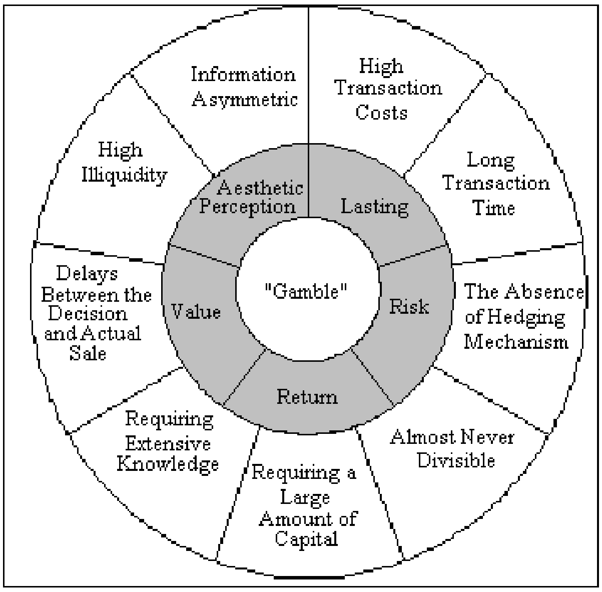

Fig.1. Main features of investment in artworks (Source: Jurevičienė, Savičenko 2011)

If we compare it with the stock or real estate markets, the art market is very inefficient, opaque, and its products are differentiated (Pesando, Shum 2007). Therefore, it can be said that the art market is fundamentally different from the financial markets and this potentially limits the strict applicability of well known financial techniques. Artworks are almost never divisible; there are delays between the decision to sell and actual sale. Investing in art typically requires extensive knowledge of art and the art world itself and a large amount of capital to acquire well-known artists' creation (Worthington, Higgs 2004). Instability, irrationality and illiquidity of investment in art make it practically incomparable to traditional investments (Mamarbachi *et al.* 2008). Thus, all major investments in the arts should be based on the mutual relationship between the artist and logistical support, *i. e.* based on economic, human and material resources (Isakovič 2011).

According to art experts (Raškinis *et al.* 2008; Makselienė 2007; Postrigaj 2009 *etc.*) one of the most important features of investment in art is the *lasting* of investments (Fig. 1). International art market consultants say that the optimal investment in art is the period from 5 to 10 years (Krasnov 2011). I. Vasilevskaja (2008) says that the acquisition art works and holding them for 3-5 years don't ensure whether the work can be profitably sold.

Investments have different degrees of risk and reliability. So, another important feature of investment in art is *risk* (Fig. 1). In this regard, there is no consensus. Art critic S. Makselienė argues that investing in art is a stable and easily overcomes the inflation and the shares' crisis (Skirkevičius 2008). However, there is the opposite opinion about art investment risk. A number of inefficiencies in the art market stress the fact that art remains a highly risky investment. Unlike other investments art investors cannot calculate the risk and return profile (Ralevski 2008). Buying a creation can be tricky because every painting, print or sculpture is unique. If people buy art as an investment they need to investigate the artist and his work before purchase. In other words, the risk should be assessed (Resnick 2010). At a time when the art in financial markets is considered an attractive investment, as earning more income than traditional investments, it is also a very risky investment (Mamarbachi *et al.* 2008). Investment in art is not only profitable but also very risky (Kancerevyčius 2009:27). In spite of the fact that investments in art are risky, unlike other investments, an investor in the art can calculate the values of risk and return (Ralevski 2008).

Thirdly, all investments are characterized by *return* (Fig. 1). Investments in art are profitable. Art market is sufficiently inert, and return on investment can be compared with investment in bonds rather than shares (*i. e.* lower profitability but higher guarantees) (Makselienė 2007). M. Ščerbenko notes that return of investment in art can range from 20 % to 300 %. Return may depend on a variety of reasons: one of them can be author's death; other reason can be media interest in a particular author's works (Vasilevskaja 2008).

Summarizing, it can be argued that investment in art is profitable, but they are mostly long term, so speculators in the market are not desirable.

Another specific feature of the art market is the *value* of investment (Fig. 1). It is difficult to determine the artwork's value and price. It requires experts' knowledge. And while auction prices represent, in part, a consensus opinion on the value of artworks, values in turn are determined by a complex and subjective set of beliefs based on past, present and future prices, individual savour and changing fashion (Worthington, Higgs 2004). Art market is very uncertain in terms of value of the goods. It could be paid a million or nothing for the same creative value of the work (Plečkaitis 2008). Before investing in artwork, the factors that determine its value must be taken into account: the cost of materials and creative aesthetic value, rarity and authenticity of the author's name and goodwill, sales history. It should be noted in particular the work place, the author's sales history, though without the index this is quite difficult to do (Kutkaitytė 2008). Yet, as with so much in art, image is a key element of value (Prickett 2004).

In addition, one more important feature of investment in art is an investments' *aesthetic perception* (Fig. 1). Investment in arts can be called both material and spiritual investment. Buying an artwork is only good if it provides aesthetic pleasure (Kudaras 2009).

Finally, investing in art is a gamble – not only on the quality of the artists and their work, but on fashions, taste and marketing.

3. Nature of art market participants

Each market has its own particular participants. The main participants of art market are: museums, galleries, auction houses, collectors, and, of course, the artists themselves (Fig. 2). The subject of investment in this market is artwork, but its price is determined by various market participants and their interests' intersection.

Besides, higher schools of fine art, art museums, *etc.* that acquires and stores works of different era's artists, as well as the culture media (art criticism) operate with the main contemporary art market participants. Art Education Organizations are indirectly involved in the process of creating an artwork, for promoting artists' creative skills. Museums and cultural media (art critics) are the expert units that validate and recognize the representative value of artworks, influencing rise of the demand in the market. The selling and buying of artworks is based on targeted cooperation between all market participants (Lubytė 2007).

Fig.2. Art market participants

Nevertheless, there are two major art sales tools in the world: galleries and auction houses. Their marketing tactics and goals are different, they complement each other. Usually galleries protect a particular group of artists, arrange their exhibitions. Gallery can and must identify potentially gifted artist, it has to help to make his or her name, as talent alone is not enough to become famous for an artists. Art galleries participate mainly in the form of artists' agents in the market. The art market is highly segmented and few large auction houses dominate, such as "Sotheby's" and "Christie's", where prices are affected not only the buyers or sellers, but experts and auction advisors too (Mikalajūnas 2008).

Another interesting trend of investment in the art market is the emergence of private art foundations (clubs), which founders have accumulated large amounts of capital. They include art in their alternative investment strategies. The desire to establish a club or a private foundation usually show friends or members of one family who wants to invest in any one sector or type of art. These clubs are managed by the owners themselves (Willet 2010).

Museums help to recognize not only the artist himself, but his particular artwork too. Museums activities are closely monitored by collectors and investors. Information on alternative art investments is now more accessible via media, publishing and dissemination of catalogues and price index series has increased the information flow available to both – buyersand sellers (Worthington, Higgs 2004).

Lithuanian art market is really still very far away from the world art market. While normally the main participants are art galleries and auction, in Lithuania there are only 44 galleries (*Lietu-*

vos…2012). Seven of them are members of Association of Independent Vilnius Art Galleries, which develops the idea of a contract with artists obligating them to introduce the artworks in the market. Auctions in Lithuania just started establishing and artworks are usually bought not at galleries, but privately. This prohibits formation of art market, which guarantees the liquidity of purchased creations (Makselienė 2007).

The world oldest auction houses "Sotheby's" was established in 1744, "Christie's" – in 1766. In Lithuania Art Market Agency (Vilnius auction house) was founded in 2007, and the main reason for its foundation was a trust that Lithuanian society is fully prepared to accept a normally functioning art market – with galleries, auctions, art exhibitions and other market participants. It is expected that in Lithuania either will operate a standard, transparent and credible artworks trading form (Makselienė 2008).

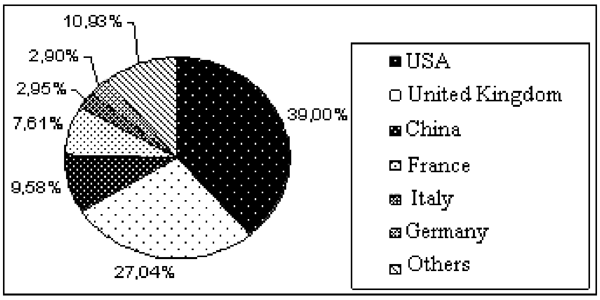

Fig.3. Fine art auction sales turnover, breakdown by country during 2003-2010, in percent (Source: Artprice 2003–2010)

Art markets of t he USA, United Kingdom and France have long traditions of investing. Nonetheless, new tendencies can be seen as art markets in such countries like China, Russia attract more and more investors. Fig. 4 shows, that in 2003-2009 the world's largest art market was the USA, the second largest art market was in the United Kingdom.

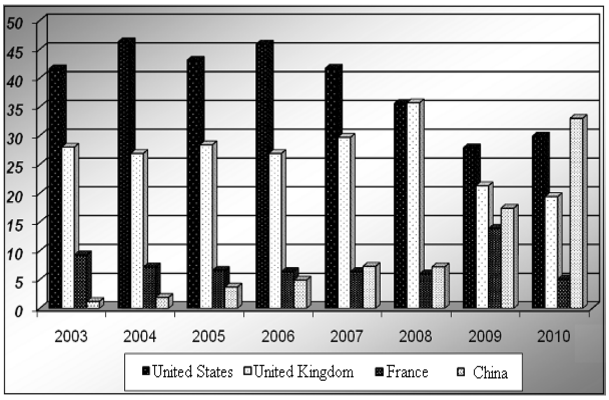

Fig.4. Changes of sales art market share during 2003–2010 in US, United Kingdom, China and France, in percent (Source: Artprice 2003–2010)

In 2010 China became the first one, the next was USA, the third UK and the forth France. In France artwork annual turnover decreased during 2003–2008 period, only in 2009 the sales pointedly increased but didn't reach the third place in the world, when China's part in the global art market has grown from 1.2 % in 2003 to 33 % in 2010.

The United States was the art market leader till 2008 with the most prestigious Sotheby's and Christie's auctions and with the most expensive works traded. In 2008 the two largest global art markets changed their positions according sales turnover rankings of global auction. New York was ousted from first place by London, making "Old Europe" the new art market centre (Fig. 4). In 2008 US art market revenues fell and the United Kingdom earned 271 million US dollars, more than in 2007 (Fig. 4). Thus, as the world's second

4. The world's largest and Lithuanian art markets

Art market is art works exchange place. The art market is hierarchical and can be characterized as a series of closely related markets. The lowest level sometimes referred to as the "primary" market covers unorganized individual creations supply by artists to galleries, local art fairs, collective exhibitions, small dealers, and private buyers. At the "secondary" level, in markets located mostly in the biggest art traded cities such as New York, London, Paris, and Tokyo – artists, dealers, public and private collectors present such creations that overcome the barrier of primary market. Finally, at the highest level – an international market exists in which the largest auction houses are the main players, notably Sotheby's and Christie's, and where the artists' works with the highest reputation are traded at prices that often are on the headlines (Campos *et al.* 2008).

At the beginning of the new millennium the USA and Europe dominance in the global art market weakened. Globalization and the economic growth contributed to the art market changes in Russia, India and China. China's and India's first art auction house showed amazing results in 2005.

After the global art market analysis during 2003–2010 it could be stated that the main players in the world art market were the United States, United Kingdom, China, France, Italy and Germany (Fig. 3). Other global art market countries are: The Netherlands, Sweden, Spain, Switzerland, Austria, Australia, Denmark, Belgium and Russia (Fig. 3).

and first in Europe, the UK art market is characterized by stable sales volume and as sufficiently developed.

The third-largest art market in the world was France till 2006. Even after the World War II France was the leading art market, as the environment was very conducive to Paris artists. Such famous artists' as Picasso, Matisse, and Kandinsky paintings particular from Paris were accessed for the global art market. Their works are called masterpieces. France is well known art market, but according to recent data it should be noted that since 2003 the relative weight in the world market share continued to decline from 7.2 % to 3.9 % (Fig. 4).

Since 2004 art professionals claimed that China in the future become a new and auspicious art market displaying France from the third place, because China's share in the art market grew rapidly in 2004-2009 period, rising from 1,9 to 17,4 percent (Fig. 4). Already in 2007 China became the third art market in the world, but in 2010 the China became art market leader. Nowadays global art market is characterized by readjustment of the market towards Asia.

Lithuanian art market is very young, though there is shortage of investment in art but it is steadily growing during last few years and can also be assessed as emerging one. Only a small part of Lithuanian population invests in art. This is due to the fact that it is not easy to grasp the subtleties of this market. Ordinary Lithuanians use to make money investing in securities or real estate. Moreover, in Lithuania there are no such a good conditions to invest in art as in the United States, United Kingdom, China or elsewhere.

A limited supply of artworks dominated in Lithuania. Lithuanian modern classical paintings retain the biggest price growth. Art experts believe that good art collection can still earn up to 20% return (Skirkevičius 2008).

Comparing the price of artworks of Lithuanian artists with their counterparts abroad, the Lithuanian artists' creations are really an excellent type of investment not only by actual price but also because of its possible increase. Lithuanian artists are supported by a small country and a distinctive art style, well-bought abroad (Kutkaitytė 2008).

Lithuanian Art Market Agency seeks to promote investment in art in Lithuania. This is the only auction in Lithuania, which organizes several sales per year. Lithuanian top ten auction sales are already late authors. Therefore, it can be claimed that the value of time for Lithuania's investment is very important (Kutkaitytė 2010).

According to S. Makselienė, Lithuania has a 4–6 important collectors, who make very happy galleries of their art works purchases. A significant collection of art works has Danguolė and Viktoras Butkus. They collect a private collection, including Modern Lithuanian art from the period 1960. The collection includes more than 1 500 works of famous Lithuanian artists (Makselienė 2011).

Summarizing the Lithuanian art market, it can be argued that professional investment in art market is still developing in Lithuania; only a very small part of the population tries to invest in art.

5. Portfolio optimization using art as one of the investment tools

In order to measure whether the investments in art can be used to diversify the investment portfolio there was performed correlation regression analysis. Art price Global Index (Artprice… 2011) as the dependent variable and S&P 500 index (Econstats… 2011) as the independent variable where used in this analysis. Correlation regression analysis showed that Art price Global Index weakly correlated with United States stock indices S&P 500, and analysis is statistically important. Thus, changes in the stock market don't affect the art market changes. Therefore scientists' claim, that art is an appropriate measure of portfolio diversification, can be confirmed.

In order to calculate the optimal portfolios and to draw the efficient frontiers C. W. Holden from Indiana University teaching material "Excel Modelling and Estimation in Investments" was used (Holden 2008). According to C. W. Holden material and "MS Excel" program two optimal portfolio computing models were created: from five and two tools of investment. In total 8 different investment portfolios (3 portfolios including five instruments and 5 portfolios each including two instruments) were prepared. Correlations between various investment tools, profitability (return) and risk (standard deviation) where estimated using mentioned above models and S&P, Bloomberg, NAREIT, NCREIF, Per Track, The Federal Reserve, Mei&Moses researches and Art price annual reports (Asset… 2009).

At the beginning of research there were composed investment portfolios from three identical structures, but different periods (*i. e.* 1900–2009, 2000–2009 and 2005–2009 periods) (Fig. 5).

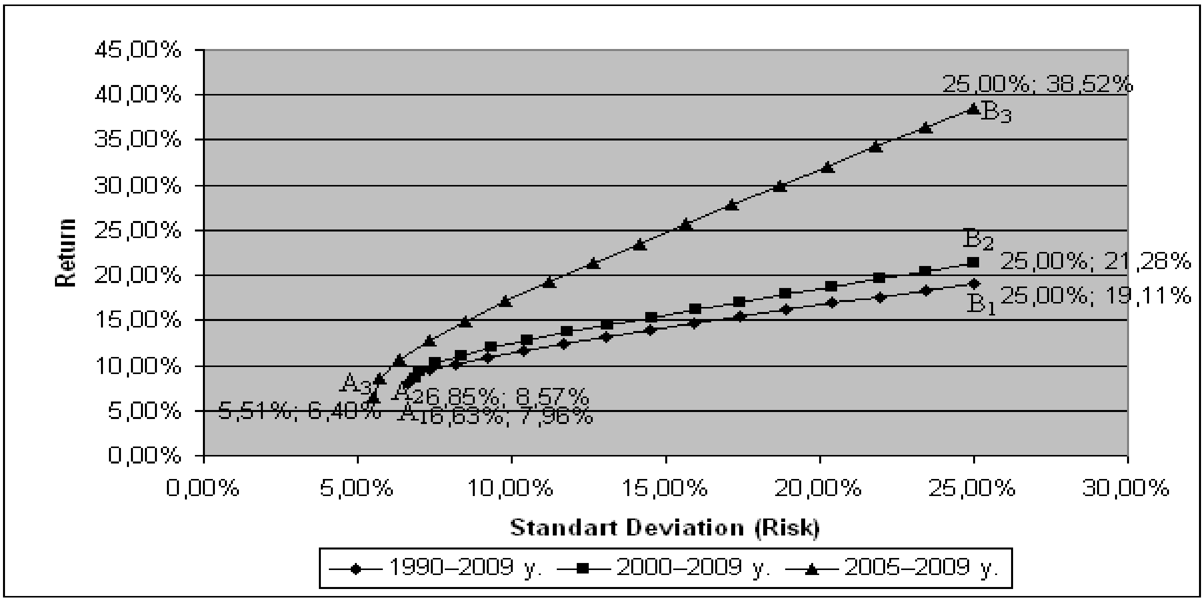

Fig.5. Efficient frontiers of investment portfolios of time periods 1990–2009, 2000–2009, 2005–2009, without art investments

Figure 5 shows, that the most beneficial investment portfolio for investor is the one composed from 2005–2009 period data that invested in U. S. Stocks, Gold, Real Estate, Risk-Free Bonds and T-Bills. Comparing with the other two portfolios, when the risk is 25 %, the portfolio of 2005–2009 time periods is the most profitable. The difference of return between 1990–2009, 2000–2009 periods' portfolios efficient frontiers is little and intersect at the point A2 (6.85 %, 8.57 %), which is the starting point of 2000–2009 period portfolio efficient frontier.

For further calculations were chosen investment portfolios, composed using 2005–2009 period data, because it is the most profitable and least risky portfolio. Five investment portfolios were composed from two investment tools, using the 2005–2009 year period data (Fig. 6) in order to compare the return and risk of different structure portfolios.

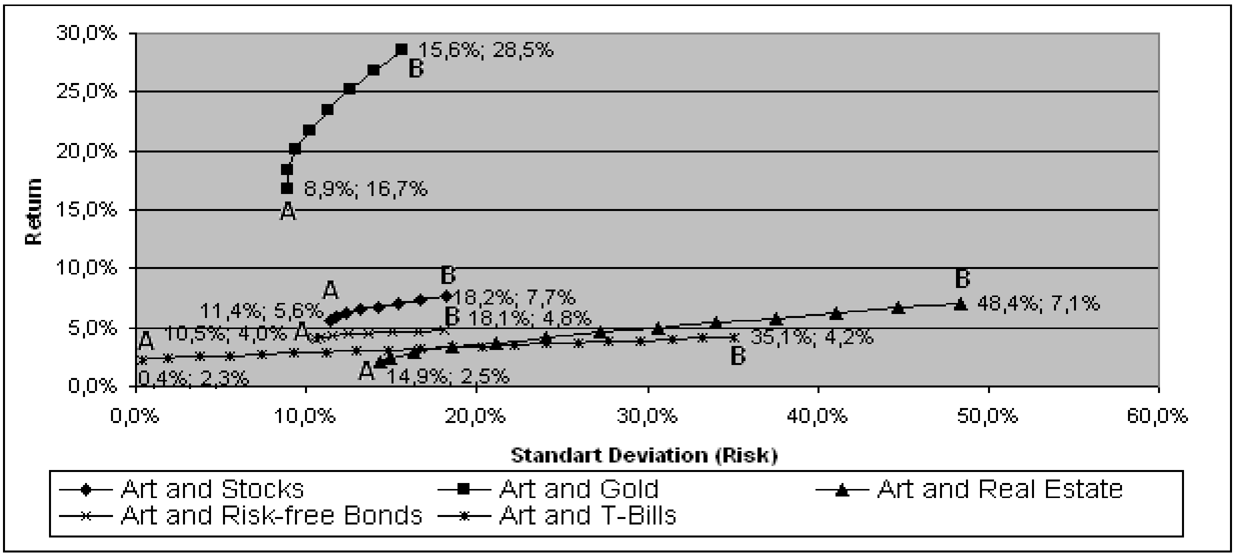

Fig.6. Efficient frontiers of optimal portfolios, composed from two investment tools including art

Figure 6 shows, how differ portfolios constructed by two investment tools, where one of them is art. Each portfolio return and risk is different, what is not visible in portfolios, composed from five investment tools. Efficient frontier of portfolio of art and gold is highest among all the rest. So this portfolio provides investors with the biggest return (28.5 %). The lowest portfolio profitability with the risk 14.3 % is composed by art and US Real Estate (2 %). This portfolio is the most risky, because the endpoint of its efficient frontier is farthest to the right side compared to other efficient frontiers of investment portfolios. Investment portfolio from art and US T-Bills is the lowest risk (0.4 %) and one of the least profitable (2.3 %).

Thus, it can be concluded that modelling portfolios, composed from two investment tools, including art investment as one of them, is very important correctly to chose the second tool, because presented calculations show that for similar portfolios, where the risk is the same, return can be very different.

6. Conclusions

Investment in art is referred as alternative investment. The main features of investment in artworks are: lasting, risk, return, value and the aesthetic perception. A number of inefficiencies in the art market stress the fact that art remains a highly risky investment, though according to some investors art can offer attractive returns (up to 20 %). The cost of materials and creative aesthetic value, rarity and authenticity of the author's name and goodwill, sales history – are basic elements of artworks' value. Moreover, investment in art has to provide visual pleasure.

The basic art market participants in the world there are museums, galleries, collectors and auctions. "Sotheby's" and "Christie's" auctions are the most important art market participants all over the world. In Lithuania the main art market participants are Art Market Agency and association of Independent Vilnius Art Galleries, which encourage interest for investing in art in Lithuania.

Analysis of the statistical data reveals that the biggest art markets – the USA, United Kingdom, having long traditions of investing in art – yield ground to new countries like China, Russia that are gaining more and more interest from investors. Lithuanian art market is very young and there is shortage of investments in art but it was steadily growing in the last few years and can also be assessed as emerging one. In Lithuania there are some difficulties to invest in art and only after tackling those problems Lithuanian art market will turn like other developed world art markets.

Correlation regression analysis showed that art can be used for diversification of investment portfolios. In order to calculate the optimal portfolios and to draw the efficient frontiers eight investment portfolios were composed. First three were constructed from the most popular among investors' instruments excluding art and were made for 20, 10 and 5 years. The most favourable investment portfolio for investor was in the period 2005–2009. The next five portfolios from two investment tools including art was constructed for mentioned most favourable period (2005–2009). Investment portfolio composed from art and gold is the most profitable for investor and portfolio from art and US T-Bills is the least risky. In conclusion, it could be stated that art as investment tool can be used to diversify investment portfolio.

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