

*Katarzyna Mamcarz\**

## INVESTMENT DEMAND ON THE BULLION MARKET

**Abstract.** Gold and silver are two precious metals which have been a part of human civilization for centuries. The demand for these metals has been present on more than one market, with the investment demand playing a special role. The goal of the article is to characterize the investment demand on the bullion market and to identify and evaluate the reasons for its development and dynamics of its structure. The understanding of these issues is fundamental to strategic investment decisions. The general characteristics of the bullion market is hereby followed by the analysis of the structure of its world demand and the related factors. The bullion demand for two basic products, i.e. bars and coins is subject to special analysis. Depending on the character of a given factor and availability of empirical data, the analysis relied on basic descriptive statistics, graphic charts and descriptive analysis. The completed analysis proves that there are material differences between the volume and structure of bullion demand and that the relations between the demand and price of both precious metals have not always reflected the tendencies defined in the literature.

**Keywords:** bullion market, bullion price, demand for jewellery products, industrial demand, investment demand, coins, bars

**JEL:** G11, G15

### 1. INTRODUCTION

The investment demand for bullion, just like in case of many other financial assets, is determined by many factors. They are varied and depend on buyers' motives. The investors who prefer precious metals, especially gold, rather than other assets and who resign therefore from the current income (e.g. dividends, interest, rent) are mainly motivated by: a) safety (hedging of assets against price, political and economic risk), b) pocketing of yield, c) greed (fascination with the metal being the symbol of power and wealth<sup>1</sup>). In case of a tangible investment in such metals, the investors looking for high rate of return participate directly in their price fluctuations, whereas safety constitutes their desired side effect. The long-term tangible investment should thus be a considerable part of any professional

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\* PhD, Assistant Professor, The Chair of Market Analyses, Maria Curie-Skłodowska University in Lublin, [katarzyna.mamcarz@poczta.umcs.lublin.pl](mailto:katarzyna.mamcarz@poczta.umcs.lublin.pl)

<sup>1</sup> This role of e.g. gold is adequately expressed by the proverb: "when gold talks, the world is silent" (Sieper 1991: 274).

portfolio. We hypothesize that in periods of instability on financial markets, investors concerned about the safety of their assets increase the interest in precious metals investments. This manifests as growing demand and prices of these metals, and unusual reactions to price changes are recorded, i.e. demand increases in times of rising prices. The aim of the article is to evaluate the investment demand on the bullion market, with a special focus on the inherent relations and determining factors.

## 2. GENERAL CHARACTERISTICS OF THE BULLION MARKET

Gold and silver, also referred to as “the gold of the poor”, are two most popular precious metals. The word gold (lat. *aurum* – Au) probably stems from the Indo-German word *ghel*, which means glittering or glistening, whereas the word silver (lat. *argentum* – Ag) stems from the Old Norse words meaning light, white, or bright. These precious metals have been related to human civilization for centuries. They had been discovered before any other metals. Their presence goes back to as early as 4000 years BC. They were initially used for jewellery production and then as a tender. Initially, silver was more valuable than gold for Egyptians, Greeks and Romans.

Gold is relatively rare in the natural environment. It is mainly acquired from gold mines, most frequently from ores, apart from nuggets, but it is often coupled with other metals (silver, lead, nickel, copper)<sup>2</sup>. Silver is 15–20 times more common in nature than gold, but it is rarely excavated in its “pure” form. 60% of acquired silver is a by-product in the production of copper, zinc, or lead and 15% of it is generated from the production of gold, whereas as little as 25% comes from the “pure” silver mines. (Bergold, Eller 2006: 56–57, 62). In addition to mining, the supply sources of gold and silver include: scrap, state sector and manufacturers’ *hedging*. The main elements of the market demand include: demand for jewellery products, investment demand, industrial demand and medicine sector, the demand of the state sector and the demand of gold manufacturers, the so-called *de-hedging*.

During the period under analysis, both surpluses and shortages were recorded on the bullion market for both metals (Fig. 1).

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<sup>2</sup>In this case many companies express the value of metals in a deposit as a gold equivalent, in the form of the so-called combined value. To this end, the volume of individual metals in a deposit must be determined. For example, a deposit consists of 500 k ton of copper (Cu) and 0.7 Moz (million ounces) of gold (Au) at ESD 3500 ton of copper and USD 900 /oz of gold. The value of copper amounts to 500 k ton x USD 3500/t = USD 1.75 bn. and the value of gold 700 k oz x USD 900 USD/oz = USD 0.63 bn. The combined value equals at the same time to USD 2.38 bn./ (USD 900/oz)= USD 2.64 m ounces of gold (Moz) – the gold equivalent (Nauckhoff 2011: 99).

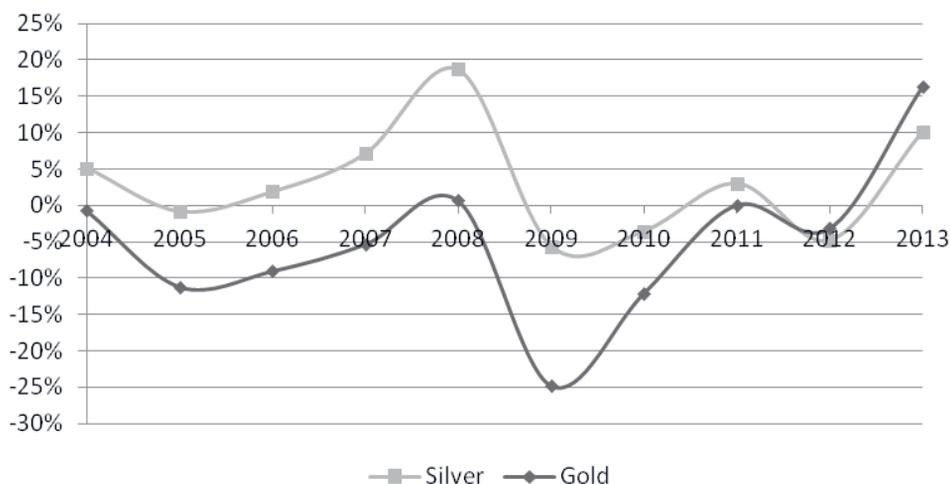


Fig. 1. The share of demand surplus (shortage) and the demand for gold and silver between 2004–2013

Description: surplus/shortage is the residual from combining all other Thomson Reuters GFMS data on gold supply/demand. As such, it captures the net physical impact of all transactions not covered by the other supply/demand variables.

Source: own materials based on: (*Gold Survey 2014: 8, World Silver Survey 2014: 8*).

The chart shows that apart from 2008, 2011 and 2013 there was a demand shortage on the gold market, i.e. the supply of offered gold did not have a sufficient number of buyers. At the beginning of the first decade of the current century, gold production reached a plateau on the level of ca. 2500 tons per annum, whereas in the mid-decade a temporary production drop was recorded. It was determined, on one hand, by the depletion of deposits, and on the other hand by insufficient investments in the 1990's caused by low prices. Nevertheless, we observe the shortage of demand. The growing demand for gold, notwithstanding the fluctuations during the individual years of this decade, contributed to increased prices throughout the whole decade. This was due to the launch of non-profitable mines and resulted in the continued growth of the mines' output from 2430 tons in 2008 up to 3022 tons in 2013 and in the higher demand for old gold scrap from 881.0 tons in 2004 to its highest level of 1726 tons in 2009 (*Gold Survey 2014: 8*). Consequently, the gold supply was still unable to find an adequate market response for a few years.

At the same time, there is most frequently a surplus of demand for silver or there are considerably lower shortages in comparison to gold. Although silver production during the period under analysis was growing all the time (from 19 085 tons in 2004 to 25 492 tons in 2013), still, it did not match the demand. Such a supply gap, which was reduced from 8102 tons in 2004 to 6211 in 2013, was not

fully covered by the supply from the other two sources, i.e. old silver scrap and state sector. Thus, despite the total growth of supply it was generally insufficient to cover the growing demand for silver (*World Silver Survey* 2014: 8).

### 3. INVESTMENT DEMAND AS A COMPONENT OF THE WORLD DEMAND

Both precious metals, but especially silver, are relatively scarce in nature and as metals they have their intrinsic value. At the same time they are, contrary to other high value raw materials, pretty homogenous and thus they may be easily separated and amalgamated. They are easy to transport, they cannot be artificially manufactured or replicated. They are highly resistant, optical and they have a magic power to attract. These features make these two precious metals popular and desired by investors. They are recommended to such investors who assume that they do not know the foreseeable future of the market and who believe that even if those metals' prices were subject to greater or smaller fluctuations, that would not make them poor.

The world demand for gold and for silver varied from each other, which was reflected in the prices of these metals, their different monetary role and their suitability for multiple applications (Table 1).

Table 1

The volume and structure of the world demand for gold and silver between 2004–2013

Years	Gold	Silver	Total	Gold	Silver	Total
	in tons			[%]		
2004	3836	28587	32423	11.83	88.17	100.00
2005	3665	29421	33086	11.08	88.92	100.00
2006	3634	29383	33017	11.01	88.99	100.00
2007	3776	30373	34149	11.06	88.94	100.00
2008	4042	33760	37802	10.69	89.31	100.00
2009	3290	27278	30568	10.76	89.24	100.00
2010	3915	32114	36029	10.87	89.13	100.00
2011	4513	33247	37760	11.95	88.05	100.00
2012	4354	31147	35501	12.26	87.74	100.00
2013	5005	34907	39912	12.54	87.46	100.00
Mean	4003	31022	35025	11.43	88.57	100.00
SD	473	2332	2748			
V	11.81%	7.52%	7.85%			

Source: own material based on: (*Gold Survey* 2014: 8, *World Silver Survey* 2014: 8).

The world demand for silver was considerably higher than for gold. The share of silver demand was in the range of 88.05% (2011) and 89.31% (2008). This demand was also more stable than that of gold ( $V=7.52\%$  versus  $11.81\%$ ). In terms of demand value for both precious metals the situation is reverse due to price differences between them; the gold demand is considerably higher than the silver demand. For example, in 2004 gold demand equalled to USD 50 463 m and silver demand to USD 6121 m, whereas in 2013 to USD 227 087 m and USD 26 699 m, respectively. In the first case, gold demand was eight, and in the second case it was almost nine times higher.

As has been already mentioned, the demand for the precious metals under analysis is present on more than one market (Table 2 and Table 3).

Table 2

The structure of world gold demand between 2004–2013

Years	Jewellery products [%]	Investment demand [%]	Industry and medicine [%]	State sector (net) [%]	De-hedging [%]	Total [%]
2004	68.27	9.41	10.90	–	11.42	100.00
2005	74.24	11.24	12.01	–	2.51	100.00
2006	63.35	11.75	12.96	–	11.94	100.00
2007	64.22	11.71	12.63	–	11.44	100.00
2008	57.05	22.64	11.48	–	8.83	100.00
2009	55.23	25.08	12.58	–	7.11	100.00
2010	51.95	31.39	11.98	1.97	2.71	100.00
2011	44.96	34.77	10.15	10.13	0.00	100.00
2012	45.89	31.17	9.53	12.49	0.92	100.00
2013	47.17	35.52	8.17	8.17	0.96	100.00

Source: own material based on: (*Gold Survey* 2014: 8).

The share of the individual gold demand types in the world demand is considerably diverse, with jewellery products constituting the greatest share of 44.96% in 2011 to 74.24% in 2004. In recent years, this share has been reduced by the investment demand. Since 2008 the second place has been held by the investment demand, followed by the industry and medicine sector demand, which was relatively stable, apart from the last two years of the analysed period. Net manufacturers' *de-hedging* refers to the purchases completed by gold mines in order to execute previously established contracts for fear of future drops in gold prices. Considerable fluctuations in this share were due to the mistaken gold price forecast of gold mines. The appearance of state sector demand in the last years

of the analysed period was caused by the change in the structure of investment portfolio of central banks, especially on the emerging markets, which happened at the expense of other assets. Gold is a material component of foreign currency reserves in the developed economies<sup>3</sup>.

Silver demand has a specific structure in comparison with gold demand. It is characterised mainly by a lower share of jewellery products and investment demand. This is due to the fact that gold is treated by investors as “money” and it is perceived as such by the majority of them (Morgan 2007: 29). This is true not only for investments in bars and coins, but also in jewellery products. Jewellery in many Asian countries, especially in India, is considered as an investment (Starr, Tran 2008: 416, 418). Thus, the share of these categories in gold demand structure is higher. At the same time, the investment profile of silver is worse and it has many applications in industry (e.g. computer, mobile, microwave components, electronics, tanning devices) and outside industry (photography, cutlery). This is the reason for the highest share of industry in the structure of silver demand. The demand for the aforementioned products will increase along with the growth of silver demand for such traditional applications (Morgan 2007: 29).

Table 3

The structure of world silver demand between 2004–2013

Years	Jewellery products [%]	Investment demand [%]	Silver cutlery [%]	Industry [%]	State sector net	De-hedging [%]	Total [%]
2004	20.36	5.77	7.41	66.25	–	0.22	100.00
2005	19.86	5.44	7.34	67.35	–	0.00	100.00
2006	18.63	5.16	6.69	68.30	–	1.23	100.00
2007	18.76	5.24	6.28	67.25	–	2.47	100.00
2008	16.42	17.29	5.48	60.01	–	0.80	100.00
2009	20.22	10.02	6.18	61.60	–	1.98	100.00
2010	18.46	14.15	5.09	62.30	–	0.00	100.00
2011	17.16	19.89	4.50	58.45	–	0.00	100.00
2012	18.11	13.91	4.45	58.83	–	4.69	100.00
2013	17.71	21.88	4.46	52.27	–	3.68	100.00

Source: own material based on: (*World Silver Survey* 2014: 8).

<sup>3</sup>In 2013 gold accounted for 70.2% (USA), 66.1% (Germany), 65.1% (Italy), 65.0% (France) and 51.2% (Holland) of foreign currency reserves (*Gold Survey* 2014: 61).

There is no doubt that the changes and reciprocal relations of the prices of both metals had a considerable influence on the volume and structure of the world demand (Table 4).

Table 4

The price of gold and silver and their reciprocal relations between 2004–2013

Years	Gold price (average annual in USD/oz)	Silver price (average annual in USD/oz)	Price relation: Gold/Silver
2004	409.17	6.66	61.44
2005	444.45	7.31	60.80
2006	603.77	11.55	52.27
2007	695.39	13.38	51.97
2008	871.96	14.99	58.17
2009	972.35	14.67	66.28
2010	1 224.52	20.19	60.65
2011	1 571.52	35.12	44.75
2012	1 668.98	31.15	53.58
2013	1 411.23	23.79	59.32
Mean	987.33	17.88	55.22
SD	437.81	9.11	48.05
V	44.34%	50.96%	87.02%

Source: own material based on: (*Gold Survey* 2014: 8, *World Silver Survey* 2014: 8).

It can be concluded based on the table 4 that the gold price increase is accompanied by the silver price increase. A decrease in prices of both metals took place only at the end of the analysed period; first for silver (2012), and later for gold (2013). During the analyzed period the increase of gold price was lower (by 244.90%) than that of silver (by 257.21%). The aforementioned value difference in gold and silver demand volume was reflected by the changes in the prices of both metals. The volatility of silver prices was higher than gold prices ( $V=50.96\%$  versus  $44.34\%$ ). The price changes of both metals demonstrated a considerable positive correlation ( $\rho=0.97$ ,  $R^2=0.932417$ ). The average price of one ounce of gold equalled the price of 55.22 ounces of silver, but the volatility ratio of the relations between both prices was relatively high ( $V=87.02\%$ ). The actual surplus of silver demand in comparison to gold demand resulted in a better appreciation of silver than gold<sup>4</sup>.

<sup>4</sup>The relations between gold and silver prices were set as early as 1600 BC as 1:13.33 and they remained almost unchanged for hundreds of years. In the 19th century, in the gold standard (the so-called bimetalism), in which this relation equaled to 1:15, the money in circulation was covered by

The relations between the changes in the demand for the individual products and the price of gold and silver are reflected by the correlation coefficient (Table 5).

Table 5

## Correlation coefficients

Demand	Gold	p-value	Silver	p-value
Jewellery products	-0.703906*	0.012	0.123586	0.367
Investment demand	0.9347726**	0.001	0.745204**	0.007
Industry and (medicine)	-0.221937	0.269	-0.214335	0.276

\*,\*\* significance level at 5%, 1%.

Source: own material based on: (*Gold Survey* 2014: 8; *World Silver Survey* 2014: 8, 23).

The correlation coefficients were both negative and positive, yet not all of them were significant. In compliance with the demand and supply law, negative correlation coefficients reflect typical investors' reactions to a price change (price increase – lower demand and *vice versa*). This was only true in three cases: jewellery products, industry and medicine (gold) and industry (silver). The unusual reactions of investors were also observed in three cases, in particular high positive and significant correlation coefficients were recorded in case of the investment demand for both gold and silver. The investors reacted with higher demand to the price increase which was predominant during the period under analysis. During the financial crisis the investors increased the share of safer assets – precious metals – in their investment portfolios.

#### 4. THE VOLUME AND STRUCTURE OF INVESTMENT DEMAND

Gold and silver are traded in their “pure” form, as well as in the form of alloys. The content of pure metal in the alloy, the so called assay of gold or silver is crucial from the perspective of investor's contribution to the price increase in the investment demand. The long history of gold and silver related to their monetary function,<sup>5</sup> has

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gold or silver. After the withdrawal of bimetallism and the introduction of the gold bullion standard by the end of the 19th century, silver gradually lost its monetary function (Bergold, Eller 2006: 62). It is believed that when the price relation is on the level of 1: 60 (60 ounces of silver per one ounce of gold) silver is still well valued in respect to gold. The historical average equals to 1:15, the minimum 1:3, the maximum 1:100. (Bergold, Eller 2006: 64).

<sup>5</sup> Money is mentioned for the first time in the Bible (Genesis 44,8). “Behold, the money that we found in the mouths of our sacks we brought back to you from the land of Canaan. How then could we steal silver or gold from your lord's house?” (Morgan 2007: 63 and 17).

resulted in these metals being available for investors in the form of bars and coins, whereas the volume and structure of this demand has been determined by many factors.

Bars are a recommended investment in terms of their high rate of return. Their investment advantages include relatively low manufacturing costs. The following rule is applicable here: the lower the weight of a bar, the higher the share of coinage cost in total costs and the higher the premium to pure metal value (Sieper, 1991: 278). In case of bars, investors should especially consider their weight. Big bars have a smaller difference between the purchase and sales price, and thus they are good for speculation. Small bars have a higher *spread* and in “difficult times” they may be used as a tender (Nauckhoff 2011: 170).

The division of coins into numismatic (semi-numismatic) and bullion coins is important in case of coins investments. The first category is the object of collection. Purchasers pay contractual (discretionary) prices which are considerably higher than the value of pure metal. In such coins the metal value has a secondary function as their collecting value is crucial. In case of experienced collectors a small black market may even develop. Such coins are not recommended for investments (Schwarze 2010: 134). Bullion coins (new or subsequent releases) are considered to be typical investment coins. Mints offer bullion coins with different nominal values which usually have a symbolic character and to some extent correspond to the lowest price guarantee. The price of bullion coins is directly determined by their metal content and the premium which is relatively low and which depends on coinage costs. They are traded on the market and an investor should be able to sell them at any time and in any place<sup>6</sup>.

The evaluation of the overall investment demand for gold and silver is based – to a considerable extent – on estimates. This is due to the fact that major number of the investments are executed on an extremely non-transparent over-the-counter market and additionally, the retail purchases cannot be adequately recorded. The data on the world gold and silver investment demand are presented in Table 6, and they are graphically presented together with the prices of both metals in Fig. 2 and Fig. 3.

The investment demand for tangible gold products increased during the analyzed period from 361 tons to 1778 tons, i.e. by 392.52%, and for silver products from 1648 tons to 7639 tons, i.e. by 363.53%. In the first case, the average annual demand equalled 932 tons, with a standard variation of 500 tons ( $V=53.63\%$ ), whereas in the second case 3806 tons, with the standard variation of 2198 tons ( $V=57.77\%$ ). It demonstrated considerable volatility, which was lower in case of gold.

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<sup>6</sup>Depending on the region of the world, there is a different level of approval for bullion gold coins. European investors worldwide accept many coins: the South African *Krügerrand*, American *Gold Eagle*, Canadian *Gold Maple Leaf*, Mexican *Libertad*, British *Britannia in Gold*, British *Gold Sovereign*, Australian *Kangaroo*, or the *Nugget*, the *Wiener Philharmoniker*, Russian Rubels. The Chinese Panda and Australian *Lunar* are also popular (Green 1993: 314; Sieper 1991: 279; Ostrowska 2011: 210).

Table 6

World gold and silver investment demand between 2004–2013 (in tons)

Years	Gold (in tons)			Silver (in tons)		
	Coins	Bars	Total	Coins	Bars	Total
2004	146	215	361	1 347	302	1 648
2005	148	263	411	1 253	348	1 602
2006	189	238	427	1 235	280	1 515
2007	204	238	442	1 235	358	1 592
2008	261	654	915	2 012	3 826	5 838
2009	289	536	825	2 432	302	2 734
2010	295	935	1 230	3 076	1 468	4 544
2011	327	1 242	1 569	3 484	3 129	6 613
2012	321	1 036	1 357	2 672	1 661	4 333
2013	401	1 377	1 778	3 686	3 953	7 639
Mean	258	673	932	2 243	1 563	3 806
SD	80	424	500	9 17	1 451	2 198
V	30.96%	62.92%	53.63%	40.86%	92.87%	57.77%

Source: own material based on: (*Gold Survey* 2014: 8; *World Silver Survey* 2014: 8, 23).

An increase in the purchase of gold bars and considerable variations in the demand for silver bars are visible in the second half of the analysed period without clear tendencies within these changes. The demand for gold bars was more stable than for silver bars ( $V=62.92\%$  versus  $V=92.87\%$ ), and its growth was lower (540.47% versus 1208.94%). This major growth in demand for bars can be explained by nothing else but panic. It certainly cannot be related to gold price, as the investors – apart from a few cases – reacted to rising prices with increased demand. A different situation was recorded in case of coins. The demand growth was similar (by 174.66% for golden coins and by 173.64% for silver coins). The golden coins demand, similarly to bars demand, demonstrated lower volatility than silver coins demand (30.96% versus 40.86%). In case of silver coins there were also some years when investors reacted to price increases with higher demand. This confirms not only a considerable investment popularity of golden coins, but also silver coins<sup>7</sup>.

<sup>7</sup> Between 2004–2013 the demand for golden coins increased e.g. in the USA by 89.4%, in Great Britain by 128.1%, in China by 615.1%, in South Africa by 660.0% (*Gold Survey* 2014: 31), whereas for silver coins: in the USA by 185.2%, in Great Britain by 320.0%, in China by 330.4% (*World Silver Survey* 2014: 23).

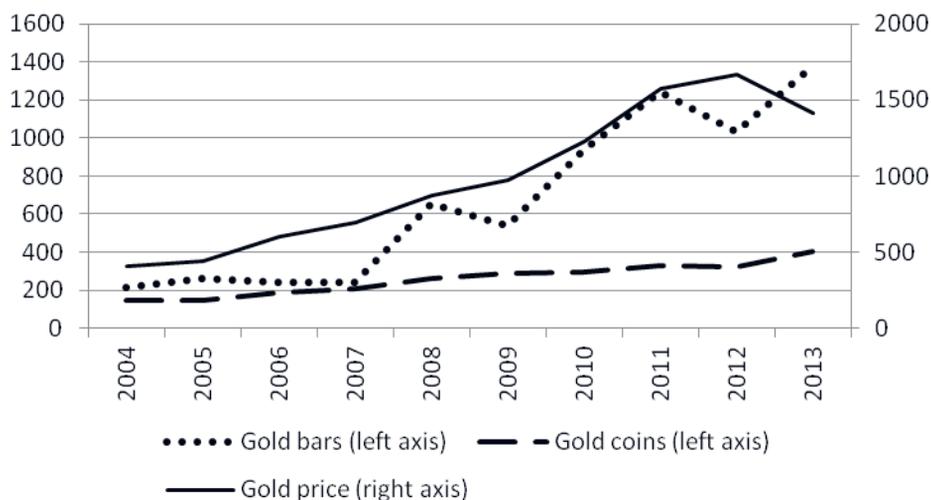


Fig. 2. Investment demand (in tons) and the average gold price (in USD/oz) between 2004–2013

Source: own material based on: (*Gold Survey 2014*: 8).

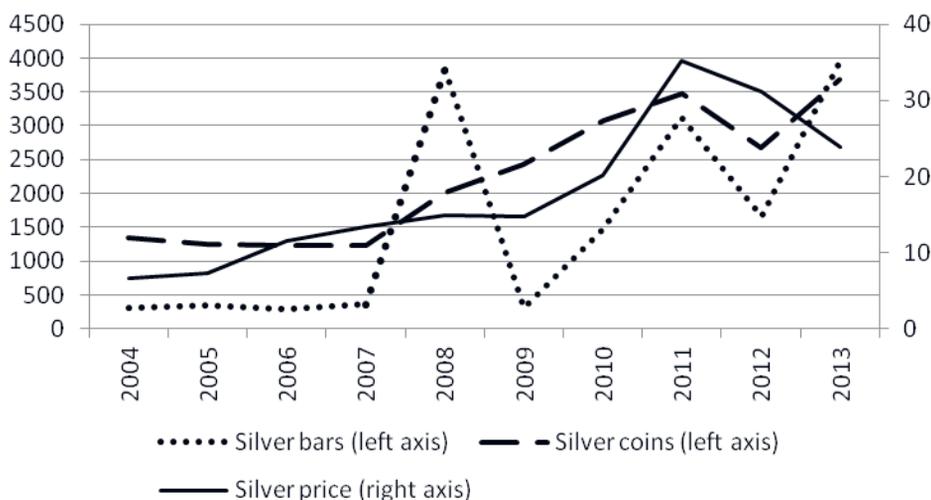


Fig. 3. Investment demand (in tons) and the average silver price (in USD/oz) between 2004–2013

Source: own material based on: (*World Silver Survey 2014*: 8, 23).

The increased demand being the reaction to higher prices of both products confirms that during and after a financial crisis investors were afraid for the safety of their assets invested in something different than precious metals. Abruptly growing prices attracted investors' attention and brought them to the market,

which resulted in higher demand and consequently even higher prices. These interrelationships are reflected by the values of correlation coefficients of demand and investment product prices (Table 7).

Relatively high, positive correlation coefficients showing, respectively, relationship between gold and silver demand and their price are significant. This confirms non-standard reactions of investors' demand to a price change. This was particularly applicable to gold in general as well as its investment products. In case of both precious metals, the relation of the correlation coefficients of bars and coins was reversed. Gold had higher correlation coefficients in case of bars, and silver, in case of coins.

Table 7

The correlations of demand and investment product prices of gold and silver between 2004–2013

Demand	gold price	R <sup>2</sup>	p-value
Coins	0.910617**	0.829223	0.001
Bars	0.930395**	0.865635	0.001
Total Gold	0.934823**	0.873894	0.001
Demand	silver price		
Coins	0.826396**	0.682931	0.002
Bars	0.606921*	0.368353	0.031
Total Silver	0.745204**	0.555329	0.007

\*,\*\* significance level at 5%, 1%.

Source: own material based on: (*Gold Survey* 2014: 8; *World Silver Survey* 2014: 8, 23).

The analyzed factors contributed to the differences in demand structure for investment products of both precious metals. Gold demand structure was dominated by bars (mean 72.29%), and coins (mean 58.94%) were predominant in the silver demand structure, notwithstanding two exceptions (2008 and 2013).

In conclusion, the demand increase and related higher investment product prices resulted from the deficiency of other assets and currencies categories demonstrated by the collapse of the whole financial system in 2008. In such situation, precious metals, and gold primarily, which have always been treated by investors as a “safe harbour” for tough times, have become a more attractive investment.

## 5. CONCLUSIONS

The specific character of demand on the gold and silver market was that both surpluses and shortages were recorded in case of both metals covered by this analysis. In case of gold, demand shortages were mostly noted, and in case of silver – demand surpluses. In the world demand structure measured by turnover volumes, silver had the greater share (88.57% *versus* 11.43%). The share of investment demand in the world demand structure was on average considerably higher in case of gold (22.47% *versus* 11.88%). Its level was determined by a number of economic, emotional and cultural factors, as well as the special role of gold and silver in economy and gold's varied applications within its monetary function.

Gold and silver prices and their reciprocal relations were a crucial factor determining the scale and structure of gold and silver investment demand. The price changes of both metals demonstrated a considerably high positive correlation ( $\rho=0.97$ ,  $R^2=0.932417$ ), and the volatility of silver prices was inconsiderably higher than gold prices (volatility ratio 50.96% *versus* 44.34%). During the analyzed period, silver was relatively well valued in comparison to gold (1:55.2), but the volatility ratio of such prices was considerably high ( $V = 87.02\%$ ). Bars had the greatest share in the investment demand structure of gold (mean 72.29%), and coins in case of silver (mean 58.94%). The correlation coefficients of demand and price of the analysed metals were positive and they were very high. This was especially true in case of gold in general, but also in case of its investment products. The attractiveness of such products which was growing by the end of the analysed period and was reflected in the demand growth and unusual reactions of investors to rising prices, was the consequence of the investors' fears concerning the safety of their assets kept in the investment products other than gold or silver, as well as the result of the on-going economic crisis. Our findings are consistent with formulated hypothesis. The increase of demand for gold undoubtedly led to changes in the structure of investment and capital allocation. As a result, enterprises had fewer opportunities to raise capital on the stock and bond markets which *negatively affected* the development of these markets and the economy.

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Katarzyna Mamcarz

## POPYT INWESTYCYJNY NA RYNKU ZŁOTA I SREBRA

**Streszczenie.** Złoto i srebro to metale szlachetne związane od dawna z kulturą ludzkiej cywilizacji. Popyt na nie występuje na więcej niż jednym rynku, a szczególne miejsce zajmuje popyt inwestycyjny. Celem artykułu jest scharakteryzowanie popytu inwestycyjnego na rynku złota i srebra oraz identyfikacja i ocena przyczyn jego rozwoju i zmian struktury. Znajomość tej problematyki ma istotne znaczenie dla wyboru kierunku inwestycji strategicznych. Po ogólnej charakterystyce rynku złota i srebra przeprowadzono analizę struktury i determinant popytu światowego. Szczegółnej analizie został poddany popyt na dwa podstawowe produkty popytu inwestycyjnego, tj. sztabki i monety. W analizie wykorzystano, w zależności od charakteru danego czynnika i dostępności danych empirycznych, podstawowe statystyki opisowe, wykresy graficzne oraz analizę opisową. Zaobserwowano istotne różnice między wielkością i strukturą popytu na złoto i srebro oraz, że charakter zależności między popytem i ceną obu metali szlachetnych nie zawsze odzwierciedlał znane z literatury prawidłowości.

**Słowa kluczowe:** rynek złota i srebra, cena złota i srebra, popyt na wyroby jubilerskie, popyt przemysłowy, popyt inwestycyjny, monety, sztabki