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Investor's Decisions from the Perspective of Comparison among the Different of Commodity and Equity Market*

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Abstract: The results of the development of science and technology in the field of information technology, significantly affected the trading on the financial markets. Trading on world stock exchanges are essentially continuously. Time intervals of these trading are carried out by the microseconds. Information necessary to trade in financial and commodity exchanges are freely available to the general public. On the basis of the investment process, in addition to institutional investors in May, involved also small investors and population. In the article, deal with comparing the commodity and stock market. The comparison is processed from the point of view of performance of the stocks and commodity futures and correlation between them

Key words: commodity market; investors; futures; commodity index; volatility
JEL codes: G, G11

1. Introduction

The revolution in information technology has significantly changed the method and system of trading on all world stock exchanges. Trading on the stock exchange floor using the human voice, businessmen running around in colourful suits, waving arena cards, is becoming a thing of the past and is being replaced by computer systems. These processes take the form of receiving, processing, matching, negotiating and settling trades. At the same time there is regulation and supervision of the financial markets. The electronization of stock exchanges has thus dominated and closely linked stock markets around the world. It allows all-day 24-hour trading from anywhere in the world. We have also recorded the emergence of new financial products such as financial derivatives and ETF, and on the other hand it also enables the spreading of a pessimistic mood quickly.

2. Chicago Mercantile Exchange

Chicago Mercantile Exchange (CME) is the world's largest and most diverse exchange, trading with a wide range of commodity derivatives, futures contracts and options on interest rates of foreign currency, energy, agricultural commodities, indices, metals, and other alternative instruments such as weather and real estate. Since 2008, CME Group is the common operator of Chicago Mercantile Exchange (CME), Chicago Board of Trade

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(CBOT), the New York Mercantile Exchange (NYMEX) and its COMEX Division. Since 2000 there has been a large increase in trading volumes on the financial derivative exchanges. In the last ten years, global growth rate has increased over the previous year by 30% in 2003, by 9% in 2004, by 12.5% in 2005, by 19% in 2006, by 31% in 2007, by 14% in 2008 and by 0.12% in 2009 (CME Group, 2010).

Table 1 shows the evolution of the volume of trades on financial derivatives stock exchange in the past ten years.

Table 1 Development of the Volume of Trades on Financial Derivatives Stock Exchanges in the Past Ten Years

Global Total	2005	2006	2007	2008	2009
Futures	4,034,753,646	5,294,073,171	7,217,729,477	8,317,699,090	8,179,106,145
% change	15.56%	31.21%	36.34%	15.24%	-1.67%
Options	5,939,069,862	6,579,394,595	8,308,902,627	9,361,078,113	9,520,925,954
% change	10.53%	10.78%	26.29%	12.66%	1.71%
Total	9,973,823,508	11,873,467,766	15,526,632,104	17,678,777,203	17,700,032,099
% change	12.51%	19.05%	30.77%	13.86%	0.12%

Source: Available online at: http:// www.futuresindustry.org/volume-.asp.

Table 2 shows the twenty largest stock exchanges ordered by volume of trading futures.

Table 2 The Twenty Largest Stock Exchanges Ordered by Volume of Trading Futures

Top Exchanges-part 4- Futures-Only Exchanges				
Based on the number of futures traded and/or cleared in 2009				
Rank	Exchange	Jan-Dec2008	Jan-Dec2009	%Change
1	Chicago Mercantile Exchange	1,612,884,857	1,276,264,462	-20.9%
2	Eurex	1,231,646,824	928,766,700	-24.6%
3	NYSE Liffe	610,023,995	629,257,336	3.2%
4	Chicago Board of Trade	825,257,796	587,977,047	-28.8%
5	National Stock Exchange of India	439,616,060	583,175,127	32.7%
6	Russian Trading Systems Stock Exchange	191,981,604	454,465,573	136.7%
7	Shanghai Futures Exchange	140,263,185	434,864,068	210.0%
8	Dalian Commodity Exchange	319,159,693	416,782,261	30.6%
9	Multi Commodity Exchange of India	103,049,912	384,730,330	273.3%
10	New York Mercantile Exchange	338,434,758	362,426,620	7.1%
11	BM&F	323,770,173	289,551,236	-10.6%
12	Zhengzhou Commodity Exchange	222,557,134	227,112,521	2.0%
13	Korea Exchange	99,007,894	181,900,142	83.7%
14	ICE Futures Europe	152,322,268	164,741,412	8.2%
15	JSE South Africa	475,051,729	138,668,058	-70.8%
16	Osake Securities Exchange	131,028,334	130,690,652	-0.3%
17	London Metal Exchange	105,861,588	106,463,839	0.6%
18	Tokyo Financial Exchange	65,675,700	83,645,956	27.4%
19	ICE Futures U.S.	63,433,647	81,715,275	28.8%
20	Turkish Derivativs Exchange	54,472,835	79,431,343	45.8%

Source: Available online at: http://www.futuresindustry.org/volume-.asp.

3. Commodity and Equity Market

When we compare financial instruments, equities and commodities, we must state that commodities are still considered an unknown group of assets, although they have been stock traded for hundreds of years. This may be caused by the fact that the commodity futures are absolutely different from equities, bonds and other conventional assets. "The stock is a security representing a share in ownership of the joint stock company. The joint stock company issues shares to raise capital for its establishment or the development of its activities." (Svoboda M., 2005, p. 18)

The economic function of commodity futures is not as for corporate securities, to raise external resources for business investment, but rather commodity futures are derivative securities that allow firms to obtain security for their future outputs and inputs (Baran D., 2003).

3.1 Comparison of Return on Shares and Futures

For a comparison of share returns and commodity futures we used the study Fact and Fantasies about Commodity Futures of Yale International Center for Finance by the authors Gary B. Gorton and K. Geert Rouwenhorst. In this work the authors created a weighted average commodity profitability index for the period from June 1959 to March 2004, to compare commodities as investment assets. The authors chose as the source of data for this research the database Commodities Research Bureau, which included the daily prices of individual futures contracts. The authors added data from the London Metals Exchange to it. This index was then compared with the stock index S&P 500 Total Return Index (Stocks) and the index of Ibbotson Corporate Bond Total Return Index (Bonds).

In Figure 1 we can see that for the past 45 years the average annual return on investment in commodity futures has been comparable to shares, which were however of slightly higher volatility. Both shown assets however exceeded bonds in returns. This implies that the investments in commodities are not riskier than investments in real estate, stocks or bonds.

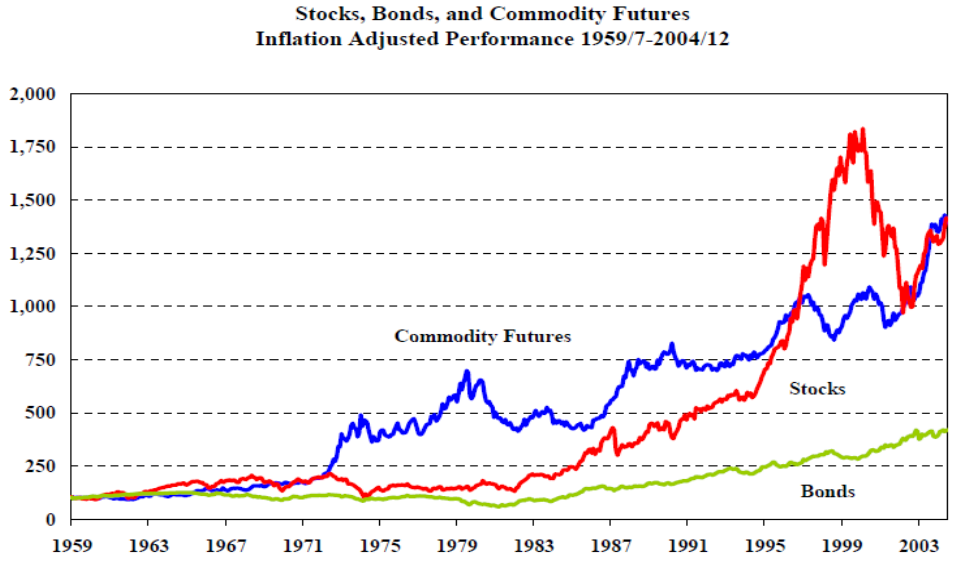

Figure 1 Comparison of Stock, Commodity and Bond Index

Source: Available online at: http://faculty.som.yale.edu/garygorton/published_papers.html.

3.2 The Correlation of Commodity Futures with Stocks

When we make the correlation of commodity futures and stocks we can state that the return on investments in commodities is negatively correlated with equity returns and bonds. The main reason is the fact that equities and commodities behave differently during the investment cycle.

Figure 2 shows the individual phases of the investment cycle.

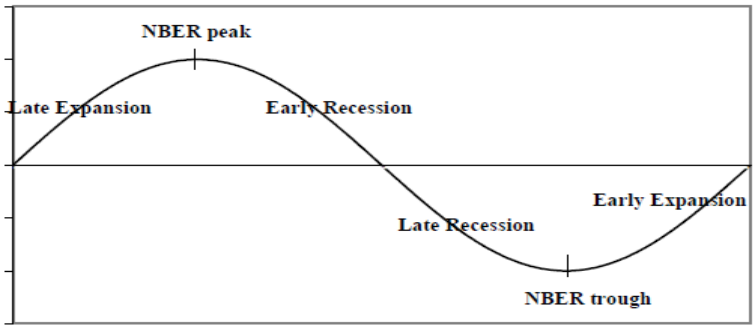

Figure 2 The Phases of the Investment Cycle

Figure 2 shows the individual phases of the investment cycle, divided into particular sections. Based on the study Fact and Fantasies about Commodity Futures, equities and commodities recorded during over 1959 to 2003 a similar return of 10.8% to 10.5%. Surprisingly, equities and commodities followed a similar trend also in the phase of expansion and recession. S&P 500 Total Return Index showed an average return of 13.29%, weighted commodity index showed a return of 11.84% in the expansion phase and in the recession phase, the average monthly returns of the S&P 500 Total Return Index of 0.51% and in the commodity index 1.05%. From this comparison, the investments in equities and commodities seem to be very similar. An important difference occurs in the situation where the different phases of economic cycle are divided into two parts. During the Early Recession phase, the stock return is negative -18.64%, on the other hand, the commodity futures return is positive +3.74%.

Table 3 shows the return of stocks, bonds and commodities in different phases of the investment cycle.

Table 3 Return of Stocks, Bonds and Commodities in Different Phases of the Investment Cycle

	Stocks	Bonds	Commodity Futures
Expansion	13.29%	6.74%	11.84%
early	16.30%	9.98%	6.76%
late	10.40%	3.63%	16.71%
Recession	0.51%	12.59%	1.05%
early	-18.64%	-3.88%	3.74%
late	19.69%	29.07%	-1.63%

Source: Available online at: http://faculty.som.yale.edu/garygorton/published_papers.html.

The theory of the stated cycles is also confirmed by the study The Inflation Cycle of 2002 to 2015 by the authors Barry Bannister and Paul Forward (U.S. business cycles 2011), who have created an analysis of growth equity and commodity markets since 1880. It results from this analysis that over the past one hundred and thirty years, equities and commodities in the USA alternate in leading the market on average every eighteen years (18-year cycles), which also corresponds to deflationary and inflationary cycles. Commodities thus can be considered as one of the few asset classes which positively correlate with inflation. In Figure 3 of the growth

equity and commodity markets we see growing lines representing declining inflation where equity return exceeds commodity returns. Falling lines indicate rising commodity prices. Simultaneously, the inflation rises and commodity returns exceed equity returns. For the past 130 years, three bull commodity markets shifted on the market, each lasted on average eighteen years. The first bull period was in 1906-1920, the second in 1933-1948 and the third in 1968-1982. We can thus state that at present we are in the fourth commodity growth trend. If we accept the theory of repeating history, the recent growth trend should last to 2014 or 2020.

Figure 3 shows an analysis of growth equity and commodity markets in the USA since 1880.

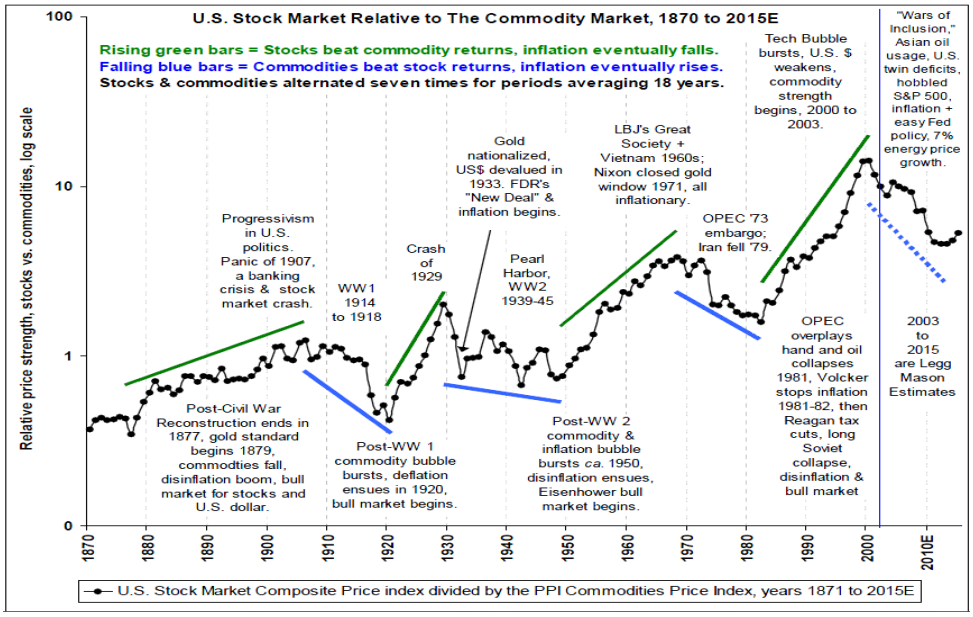

Figure 3 Analysis of Growth Equity and Commodity Markets in the USA since 1880

Source: Available online at: http://www.rcgai.com/articles/InflationPressures.pdf.

Figure 4 shows development of inflation since 1880.

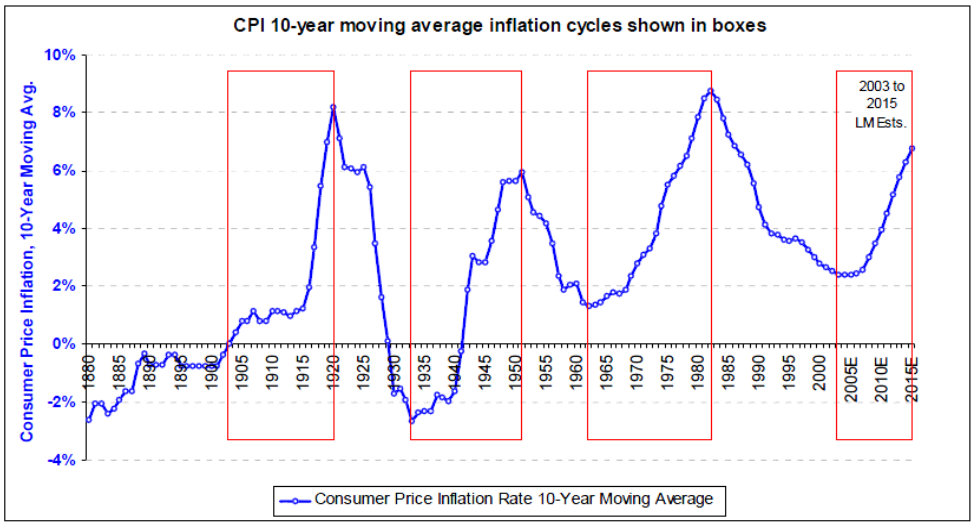

Figure 4 Development of Inflation since 1880

Source: Available online at: http://www.rcgai.com/articles/InflationPressures.pdf.

Figure 5 shows development of the S&P index.

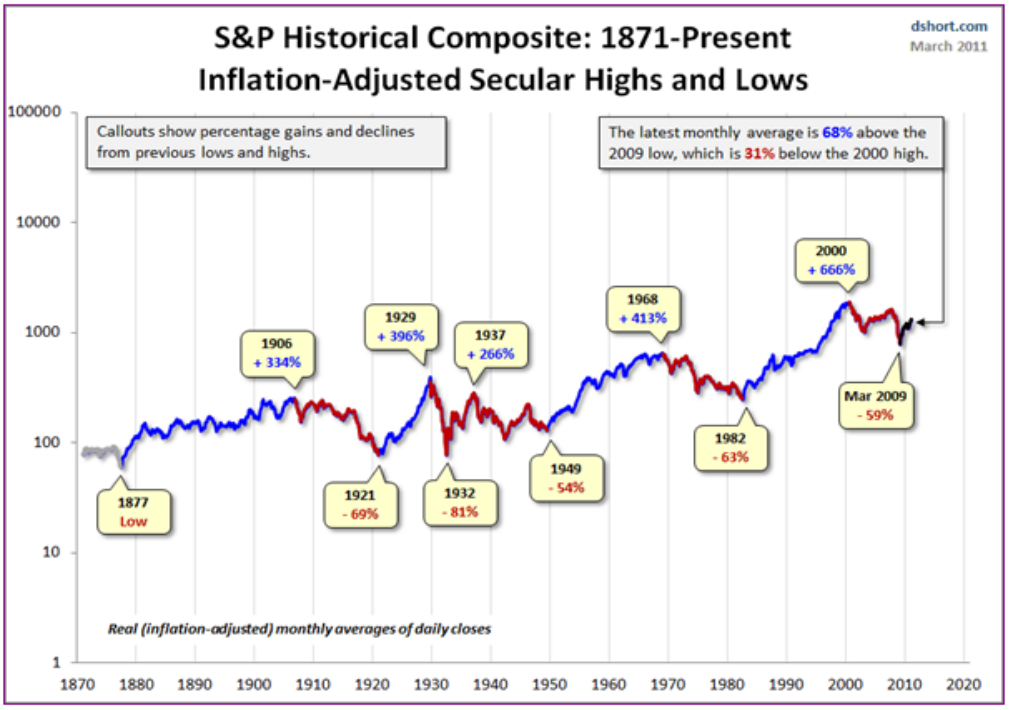

Figure 5 Development Indexu S&P 500

Source: Available online at: http://dshort.com/articles/SP-Composite-secular-bull-bear-markets.html.

Table 4 shows the correlation of individual assets and inflation in the period 1959-2003.

Table 4 Correlation and Inflation in 1959-2003

	Stocks	Bonds	Commodity Futures
Monthly	-0.15*	-0.12*	0.01
Quarterly	-0.19*	-0.22*	0.14
1-year	-0.19	-0.32*	0.29*
5-year	-0.25	-0.22	0.45*

Source: Available in WWW: <http://faculty.som.yale.edu/garygorton/published_papers.html.

From the interpretation of Figures 3, 4 and 5, and Table 4 it is clear that stocks and bonds negatively correlate with inflation. This implies that commodities are thus good protection against inflation. With rising inflation, stock and bond returns fall and vice versa, and commodity futures always positively correlate with inflation. In connection with this, with rising inflation, commodity futures returns rise. We can state that inflation thus positively influences commodities in all fields.

Based on the interpretation, in Figure 6 is shown the correlation of stocks, bonds and commodity futures with inflation in terms of time horizons.

If we look at the penultimate commodity boom over 1968-1982, it is clear that commodity prices experienced rapid growth. Many of the commodity prices reached their historic price maximums in this period. But after every boom comes a decline-failure and this period was no exception. To distinguish individual cycles we use the investment bubble graph, see Figure 8. In Figures 6 and 7 for the prices of gold and oil there is a

commodity bubble in the 80s, followed by a rapid fall of commodity prices. Figure 7 shows the comparison of gold and oil prices, Housing Index and the Nasdaq stock index in 1980.

Correlation with Inflation
Overlapping return data 1959/7-2004/3

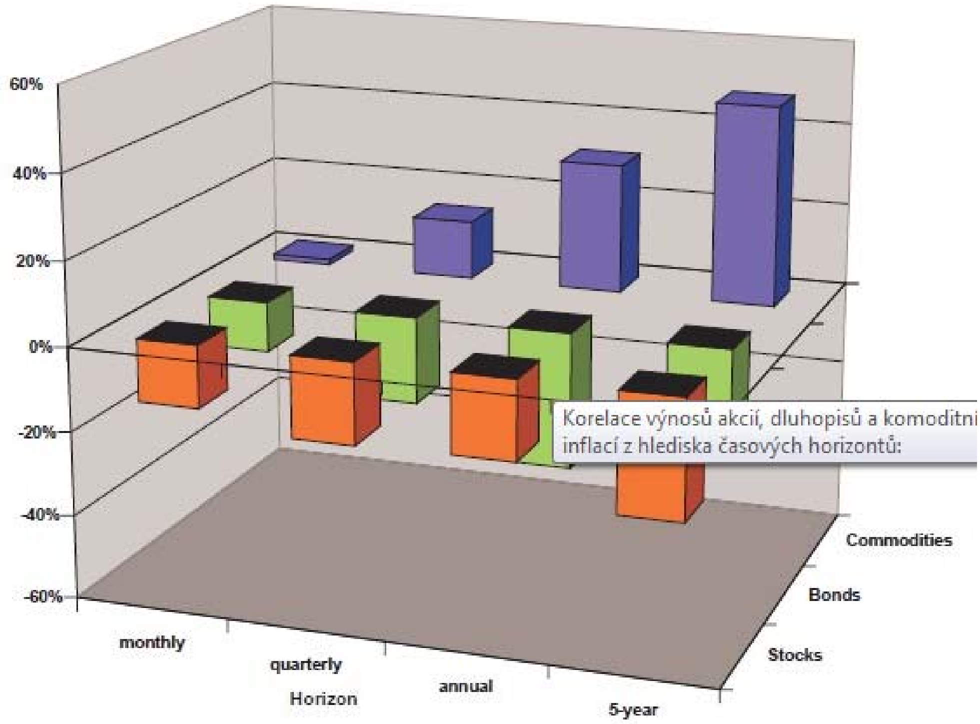

Figure 6 Correlation of Stocks, Bonds and Commodity Futures with Inflation in Terms of Time Horizons
Source: Available online at: http://www. marketoperation.com/index.php?option=com_contentview=articleid=12Itemid=19eec86572714ce954078ce954078c219351033410=5a548b23da5e0357abe09528ce1c01a5.

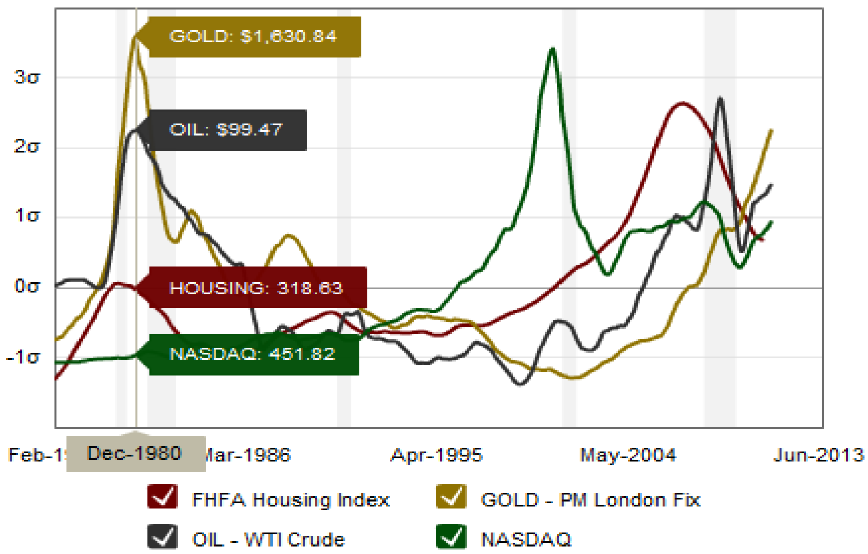

Figure 7 Comparison of Gold and Oil Prices, Housing Index and the Nasdaq Stock Index in 1980
Source: Available online at: http://www.thumbcharts.com/series/us-business-cycle-graphs-1913-2011.

Figure 8 shows the comparison of gold and oil prices, Housing Index and the Nasdaq stock index in 2000.

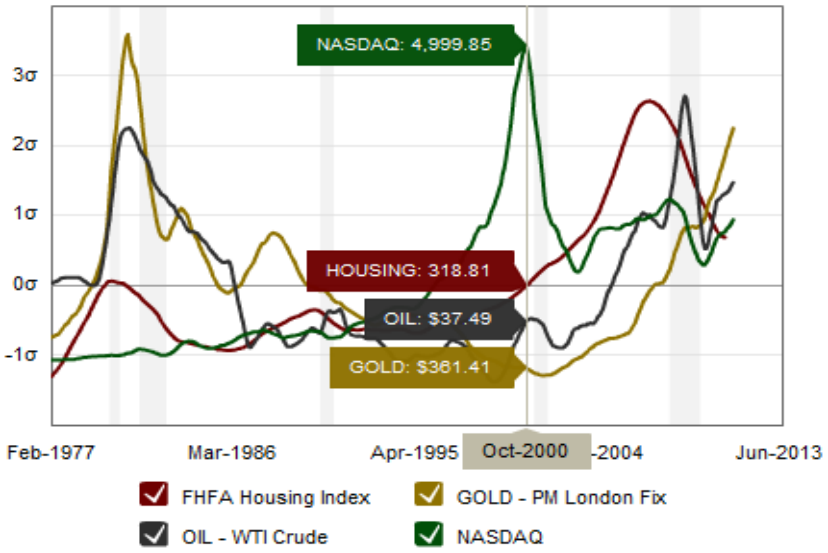

Figure 8 Comparison of Gold and Oil Prices, Housing Index and the Nasdaq Stock Index in 2000

Source: Available online at: http://www.thumbcharts.com/series/us-business-cycle-graphs-1913-2011.

Figure 9 shows the interpretation of investment bubbles comparison.

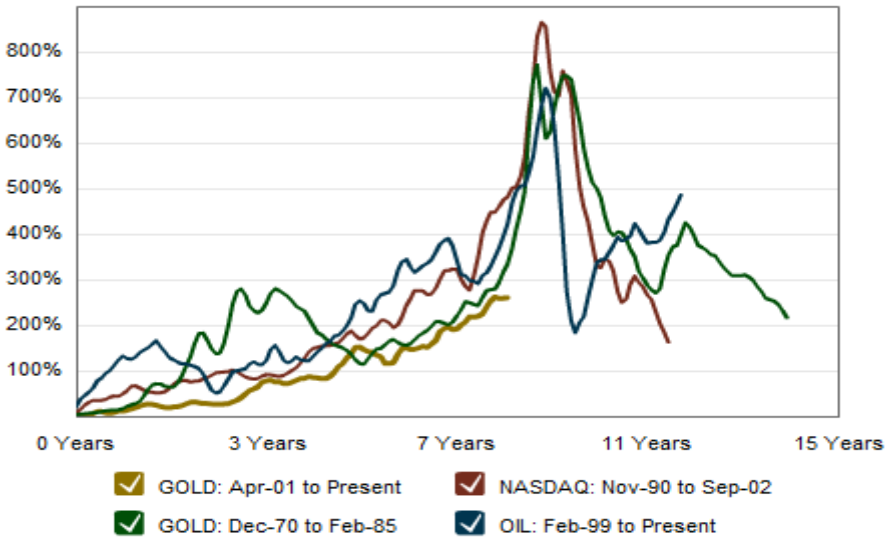

Figure 9 Comparison of Investment Bubbles

Source: Available online at: http://www.thumbcharts.com/series/us-business-cycle-graphs-1913-2011.

All these theories are also confirmed by the behaviour of gold precious metal. Figure 9 shows the performance of gold since July 2002 against three of the biggest bubbles in the past 40 years. When we make an analysis of the process of the previous bubbles, we can see strong but steady growth in the first seven to eight years, before they got into a hyper-growth phase lasting about eighteen to twenty-four months. According to the interpretation in Figure 9, in the current boom under the condition of repeating bubbles the price of gold could reach USD 3,000/ounce.

4. Conclusion

The results of technical developments in the information technology area have significantly influenced trading on financial markets. Trade on world stock exchanges is performed continuously, and individual trades in micro-second time intervals. Information about trading on stock exchanges as well as off-exchange markets and price movements is available to the general public. The preconditions for participation in the investment process are thus met for institutional investors, as well as for small investors and citizens. In the article I analysed the history of trading with commodities, stocks and bonds. From the processed analysis, I submit generalizations and development assessment suggestions in individual segments of the financial market.

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