# European Polytechnic Institute, Ltd. in Kunovice 

Field of Study: Marketing and Management

# Analysis of current situation of extraction, demand, distribution and consumption, and prognosis of development of world market with gold 

(Bachelor Thesis)

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## Topic:

> Analysis of current situation of extraction, demand, distribution and consumption and prognosis of development of Word market with gold.

## A goal of the Final Work:

1. Theoretical basis - characteristics and importance of the commodity for world's economy
2. Distributors, which play an important role in commodity extraction.
3. Quantification and description of the world's extraction centers.
4. Prognosis of the future development of extraction and prices.

## Concept:

1. Theoretical basis.
2. World's extraction centers.
3. Brief description of the world's biggest firms dealing with extraction of this commodity.
4. Distribution routes in the world and in the Czech Republic.
5. Time sequence of the commodity in the world since 2000.
6. Time sequence of the price for commodity in the world since 2000.
7. The biggest consumers of commodity in the Word since 2000.
8. Prognosis of the future development of extraction and prices.
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Ing. Ladislav Obdrzalek
Kunovice, September 2010

I declare that this Bachelor thesis is the result of my own investigations and in the charge of Ing. Ladislav Obdrzalek, except where otherwise stated. Other sources are acknowledged by giving explicit references and a bibliography is appended.

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Kunovice, August 2011

Bibiana Borutova

## TABLE OF CONTENTS:

INTRODUCTION ..... 8
1 THEORETICAL BASIS ..... 10
1.1 HISTORY AND DEVELOPMENT OF GOLD ..... 10
1.1.1 Gold fields in Czech Republic ..... 12
1.1.2 Gold fields in Slovakia. ..... 13
1.1.3 Gold extraction in Klondike ..... 14
1.2 USAGE OF COMMODITY ..... 15
1.2.1 Jewelry sector ..... 15
1.2.2 Medicine sector. ..... 16
1.2.3 Industrial sector ..... 17
1.3 NOBLENESS AND SCARCITY OF PRECIOUS METAL ..... 18
1.3.1 Symbol of the success ..... 19
1.3.2 Beneficial entrepreneurship ..... 20
1.3.3 Wild extraction ..... 20
1.3.4 Demand for gold ..... 20
2 WORLD'S COUNTRIES PRODUCING GOLD ..... 22
2.1 WORLD'S EXTRACTION CENETRS ..... 22
2.1.1 China ..... 23
2.1.2 South Africa ..... 23
2.1.3 Australia ..... 24
2.1.4 USA ..... 24
2.1.5 Peru ..... 25
2.1.6 Canada ..... 26
2.1.7 Russia ..... 26
2.1.8 Indonesia ..... 27
3 THE WORLD'S BIGGEST COMPANIES ..... 28
3.1 WORLD'S COMPANIES AND GOLD EXTRACTION ..... 28
3.1.1 Barrick Gold Corporation ..... 28
3.1.2 Goldcorp ..... 29
3.1.3 Anglo Gold Ashanti ..... 30
3.1.4 Newmont Mining Corporation ..... 31
3.1.5 Kinross Gold Corporation ..... 32
3.1.6 Goldfields ..... 33
4 DISTRIBUTION ROUTES IN WORLD AND IN CZECH REPUBLIC ..... 35
5 TIME SEQUENCE OF COMMODITY EXTRACTION IN WORLD ..... 37
5.1 ACCELERATION OF INVESTMENT DEMAND FOR GOLD ..... 37
5.1.1 Artificial suppression of gold prices ..... 38
5.1.2 Gold market is very small in relation to stock market ..... 39
5.1.3 Elimination of FED audit ..... 39
6 TIME SEQUENCE OF THE PRICE FOR COMMODITY IN THE WORLD ..... 41
6.1 GOLD AND FACTORS AFEECTING ITS PRICE DEVELOPMENT ..... 41
6.1.1 Interest rates ..... 42
6.1.2 Monetary policy ..... 42
7 LARGEST CONSUMERS OF RAW MATERIAL IN WORLD SINCE 2000 ..... 43
7.1 CHARACTERISTICS OF COMMODITY ..... 46
7.1.1 Commodity stocks in Czech Republic ..... 47
7.1.2 Reason for commodity stock establishment ..... 47
7.1.3 Very first commodity stocks ..... 48
7.2 HOW TO INVEST IN PRECIOUS METALS ..... 49
7.2.1 Ducats ..... 49
7.2.2 Growth or fall ..... 50
7.2.3 Inflation is good for gold ..... 51
7.2.4 Investment demand ..... 51
7.2.5 Gold coin standard ..... 52
7.2.6 Investors ..... 53
8 PROGNOSIS OF FUTURE DEVELOPMENT OF EXTRACTION AND PRICES ..... 54
8.1 WORLD RESERVE CURRENCY ..... 54
8.1.1 Time bomb of derivatives ..... 54
8.1.2 Increase in gold supply ..... 55
8.1.3 Increasing of gold share in eastern central banks ..... 56
CONCLUSION ..... 60
ABSTRACT ..... 62
BIBLIOGRAPHY ..... 64
LIST OF ABBREVATION ..... 66
REFRENCES FOR FIGURES, GRAPHS ..... 67

## INTRODUCTION

This Bachelor thesis should provide wide market information, it identifies with the key industrial trends and it offers also business estimation. Presently, gold is much-demanded commodity whose price breaks the records. Since time immemorial, the gold is considered to be a symbol of wealth and this consideration holds valid up to this date. The gold always expressed the value which contrast cannot be devaluated and based on this fact, it met the repression from the side of populist governing authorities. Gold is an individual currency, which cannot be controlled, it has a much stronger political dimension, as it might seem. The fact that gold price begins to grow means that something is wrong and people run away from paper money.

Thus, gold has the function of the independent currency, which forces the countries to fiscal discipline and therefore everyone who issues uncovered paper money will seek to reduce the price of gold in order to get the impression that the currency maintains its value. Already before 6000 years was used as store of value and naturally, for it's richness becomes currency. After some time served gold stored in national bank as gold standard guarantee value by state issued fund currency. After second world war meaning of gold as exchange gradually sloped down and absolutly and fully had stopped to fill function in year 1971. In that time was fixed price of gold in level of 35,20 USD for troy ounce $(31,1035 \mathrm{~g})$.

For comparison. If we would like in theory get back to the gold standard and wanted to have gold covered physical all existing dollars (banknotes, coins), his price had to be nowadays approximatly 6000 USD/oz. A goal of this Bachelor Thesis is to explain the development of commodity - gold in the world. It should point out mainly to the perspectives and potential of the commodities in the future. The Bachelor Thesis will be divided into 8 chapters. In the first chapter I will deal with the theoretical background to this issue, and then the second chapter will introduce the countries of the world which deal with the commodity mining. The third chapter will describe the world's largest production centers - the world's countries, which are also the largest producers of this commodity.

In the fourth chapter, I will describe the distribution routes in the world and in Czech Republic. In the fifth chapter, I will focus on the time period sequence of commodity
extraction in the world, and its evolution over the past 10 years. The sixth chapter will cover the time series of commodities prices. The seventh chapter focuses on the biggest consumers of raw material in the world. Finally, the eighth chapter describes the prognosis for further development of extraction and prices.

## 1 THEORETICAL PART

### 1.1 History and development of gold



Figure No. 1: Gold and its shape
Reference: [1]

Gold (from Latin: aurum), symbol Au.
Atomic number: 79
Relative atomic weight: 196, 96655
Density: 19290 kg/m3
Melting point: 1064 Celsius degrees
Boiling point: 2856 Celsius degrees
Identification: GC, Gold (COMEX)
Contract size: 100 troy ounces 1 troy ounce $=31,1034807$ grams

$$
\text { 32, } 15 \text { troy ounces }=1 \text { kilogram }
$$

Margin: 2025 USD
Trading hours: (14.20-20.30 CET), electronic (22.00-14.00 CET)
Trade establishment: 1974

Kristof Kolumbus stated: " Gold is an story case. Get buy for it all gaieties of the world. Gold even open to our soul gate to the paradise .
*STABILITY: Gold and silver are scarce metals which cannot be devaluated in comparison with money. They still hold their own value and thereby provide protection against inflation.
*SECURITY: An industrial sector needs more silver and gold all the time. Fields are limited in supply, and the demand clearly exceeds annually produced amount.
*LIQUIDITY: Who owns gold, the one still has money. Gold and silver are international currencies and anytime they can be converted into cash.
*INDEPENDENCY: Gold and silver are independent from the States and currencies. Their value is mainly defined by the comparison of supply and demand.
*RESERVES: Scarce metals are like strong property reserve. What is good for the central banks cannot be bad for individual.

History of gold coils as sewing throughout the history of mankind. ${ }^{[1]}$ Even today gold is a symbol of wealth and power. Gold is noble yellow, stable and very malleable metal known since ancient times. It is electrically but also heat well conducted. Naturally, it occurs mostly in pure form. Gold is very rare element in the earth's crust. The average content is only 4 to 5 ppb (microgram / kg). Even in seawater, its concentration is very low, but nevertheless, thanks to high concentration of chloride ions, it is not completely omissible. In space, for one atom of gold there is around 300 billion hydrogen atoms. It occurs practically only as a pure metal in the rocks due to its inertness. Cube mineral creates slices and grains which are closed most frequently in quartz veins fillings.

The crystals are not abundant; often they are microscopically dispersed in gray veined quartz. It occurs in pure form or in alloy with silver (electrum). After the disturbance of the veins, it gets into the allusions where it is gold-washed. The world's richest deposits are in South Africa, the Urals, in Australia; pebbles of gold (nuggets, to kilogram) in Canada and Siberia. In the Czech Republic, gold-bearing veins are located in central part of Czech Republic (e.g. Clay, Ore), in Jeseniky (Zlate Hory) and in around Kasperske mountains. In Slovakia, very rich deposits are in Kremnica, but also in the western part of the Small Carpathians. ${ }^{[2]}$

[^1]Gold was one of the first metals with which a prehistoric man encountered. It was one of the first metals, which people learned to process, due to its malleability and softness. Initially, gold was very practical in usage. It was used especially for production of tools and household items. Also, it could be found on the Earth's surface. Gold gained special and mythical meaning. In Greek mythology, the movement of the Sun across the sky was explained as the journey of the God of Sun-Helios on a gold set-out. The beginning of mining and processing of gold dates back to 5-4 chiliad BC. The ancient Egypt is inseparably linked with gold. Mining and art processing of gold in Egypt during ancient times reached one of the world's peaks of the goldsmith's art and technical skills at all.

The most famous evidence of ancient Egyptian jewellery period is a treasure found in the tomb of Pharaoh Tutankhamen (14th century BC), which is one of the few foundations without any damage. Pharaoh was buried directly in the gold coffin and his face was covered with mask made of golden metal. Based on the fact that Tutankhamen was the quite unimportant emperor for that time period people and circumstances, it is easy to imagine how a gigantic amount of precious metals had to be accompanied by the most powerful pharaohs. It is believed that just robbing of the tombs of famous pharaohs in Egypt triggered inflation, caused economic disruption and has become one of the reasons why Egypt in the 1st chiliad BC lost its traditional great power status. There were just few people who got rich.

### 1.1.1 Gold fields in Czech Republic

Gold fields in the Czech Republic are located on the sixth of the territory. Gold was mined here since ancient times. Estimates of the total production ranges from 60 to 1000 tons in the course of history. The first gold boom took place partially in the Bronze Age (1800-700 BC). The first gold thing made from the Czech gold, which is around 3700 years old comes from archaeological research in Hradiste $u$ Vrsovic na Pisek. The second gold boom during the settlement of the Celts in the 2nd century BC, who made jewellery from gold, maybe even part of the armor, but mostly coins were minted, which appear today in the archaeological
research in Central Europe. Collection of gold in the Czech Republic has a very old tradition, which is subject to large fields of this metal.

The most important zone extends from the middle to the south-western part of the Czech Republic in length of about 100 km . (It starts with clay, runs through Stechovice, Novy Knin, Pisecko to the Sumava, and ends in the surroundings of Kasper Mountains. ${ }^{[3]}$ But, it also appears in below Blanik u Lounovice (mine Roudny), in the Krkonose (Cerny Dul), in Ceske Budejovice (Rudolf, Dobra Voda) as well as in Jeseniky (Zlate Hory). Just in the Czech Republic there are more than 700 towns, where the gold was panned or conquered. The certain sites have their peculiarities, which are given by the geological conditions. The first real expansion in gold mining in the territory of Czech Republic had been seen in the 2nd and 1st century BC, when the area was inhabited by Celts.

After Celts, Slavs from the 9th century progressively improved extraction technique from panning to mining. The first mining towns (Krasna Hora - golden royal crown of King Premysl Otakar II. Nick named the King of Iron and Gold). The third gold boom in the middle Ages, 12th-14th century AD, John of Luxembourg had minted coins since 1325. These coins were called florins with the function as the international mean of payment. Charles IV. bought Brandenburg for half a million gold coins, which came from the Czech gold. Similarly, the Czech crown for kings ( 1.5 kg of gold plate with strength of 1 mm ), which was produced on king's command, is formed from the same source. In modern history, except of incidental findings, mining was also at breakeven.

In 1968, mining was stopped in the last regular mine in Jilove. Since then, mainly exploratory work is in progress. History of mining in Kasper Mountains.

### 1.1.2 Gold fields in Slovakia

In brief, I shall specify only significant fields from which the gold, among other metals, was gaining from the east to the west of Slovakia: Zlata Bana, Zlata Idka, Poproc, Cucma (just in

[^2]the years 1932-38, 730 kg of gold were obtained), Dubrava, Magurka, Banska Stiavnica, Hodrusa (mine Rozalia), Kremnica, Pezinok.. ${ }^{[4]}$ Most of it was in Kremnica fields, approx. 35 000 kg , Banska Stiavnica and surroundings - 20000 kg , of Spissko - gemerske Rudohorie 4 000 kg , Low Tatras 2800 kg , 500 kg were obtained by gold washing, especially from the gravel of the river Danube. Currently, on the basis of favorable results of the search exploration, a gold field in Hodrusa in Banska Stiavnica is in preparation for extraction again, and investor and miner at the same time is the company called Slovak Mining Ltd. located in the Hodrusa.

From 1991 to 2003 this company obtained 3451 kg of gold from the ores. It is important to mention that extraction conditions are extremely difficult here, because mining takes place in great depth, with a complicated road and pretty bad layout and the course of gold-bearing veins, which rapidly increases the costs of mining. The second perspective field is the commonly known gold field in Kremnica - site Sturec. An investor from Canada has done extensive geological exploration here during the past ten years. Approximately 12 million tones of the ore containing $1,5-2,5$ grams per ton of gold and silver containing $15-25 \mathrm{~g} / \mathrm{t}$, have been verified. But, the representatives of the town Kremnica, together with surrounding villages are against exploitation of this deposit because of fear from harmful effects on the environment (civil association "Kremnica of gold").

Field should be extracted on the surface, by funnel pit with a large volume of necessary relocation of ore and surrounding rocks. This creates the new waste dumps. It is necessary to build a treatment plant to obtain the gold, which requires a chemical process, and it creates the ponds.

### 1.1.3 Gold extraction in Klondika

The gold in Klondike was and still is mined in the so-called Placers. It covers a site where gold or other precious minerals, are deposited in the sand or gravel in the beds of rivers and streams. The easiest way to get gold from placer is by gold washing. Practice uses the fact that

[^3]gold is 19-times heavier than water and is much harder than gravel and sand. During manual gold washing, a mixture, which is going to be washed, is put to a large metal pan and with a stream of water; lighter particles are continually washed away. Gold particles relative to their weight remain at the bottom of the pan. The same principle is also used for gold washing in the large open boxes at the bottom supported by the bars to achieve slow movement of gold particles to which the mixture which is going to be washed is added by shovels.

This method of obtaining gold in the Klondike was typical for an initial period of the Gold Rush. The gold was mined in Klondike even for the long time after the Gold Rush, also in recent years its mining has been renewed. However, it was not already about an individual gold washing, but about the industrial production by huge floating excavators, although the principle remains the same. The first excavator began to extract gold on the Yukon already in 1899, during the aftermath of the Gold Rush. Continually, 20 of them have been built up and they worked here until the end of the fifties of the 20th century.

### 1.2 Usage of commodity

### 1.2.1 Jewellery sector

The end of 19th and beginning of 20th century in the visual arts is associated with the styles called Art Nouveau. An unusual plant ornament characterizes the jewellery of this period with technical excellence in design. In addition to traditional materials, copper and steel, synthetic stones, glass paste and artificial materials were in common. In five show cases various time periods of jewellery sector of the $20^{\text {th }}$ century are presented, we can find here the samples from Art Noveau to the current machine production and individual studio work. In four show cases, original jewelry made from casting and glazed steel is exposed. In addition there are also imitations of precious stones from the end of $19^{\text {th }}$ and beginning of the $20^{\text {th }}$ century.
Alois Jirasek stated: "Who hanker for profit, ruin his house, who though hate graft, will live."

Samples of Jablonec kind of jewelry are presented from 50's of the $20^{\text {th }}$ century to the present. Jewellery industry plays a notable role in total demand for physical gold. In recent years,
demand for physical gold represented approximately from 60 to $70 \%$ of the total demand for physical gold. The largest importers of gold are countries like India, China and Turkey. Furthermore, very strong demand for gold is also observable in most developed economies in the world, where people bought jewellery as luxury goods. In countries such as India and Turkey gold takes a very significant position in the culture and so the demand for gold in these countries is also influenced by factors other than the issue of wealth. It is used mainly to manufacture jewelry in the form of alloys with silver, copper, zinc, palladium or nickel).

Admixtures of palladium and nickel make the alloy the most colored - so currently quite modern white gold is created. Gold content in jewellery alloys or purity is expressed in carat (pure gold is 24 carat). Also very thin gold cover on the surface of an ordinary metal can effectively protect it against corrosion. Gilding of metal materials is usually made by electrolytic deposition of gold on the certain metal, which is immersed in the gold bath and there is the negative voltage (acting as cathode). In addition, gilding increases the value of plated object, as an example we can mention various sports and casual medals, commemorative coins, jewelry and so on.

On non-metallic surfaces such as wood and stone, gold is applied mechanically, while using the fact that metallic gold can be hammered into extremely thin foil with a thickness of only several micrometers (from 1 gram of gold foil with area of $1 \mathrm{~m}^{2}$ can be produced). It is very interesting that these very thin foils seem to have light green color against the light. In this case, gold foil on the surface of gilded product has a function not only to protect, but also to be aesthetic (gilded statues, parts of certain buildings).

### 1.2.2 Medical sector

The oldest records on the use of gold for healing purposes come from Alexandria in Egypt. More than 5000 years ago, the Egyptians took the gold with a purpose to purify their minds, body and spirit. They believed that gold in the body works as a stimulant of power and increases vibrations on all levels. Alchemists living in Alexandria invented an "elixir" made of liquid gold. They believed that gold was a mystical metal, which represents the perfection
of things, and that the presence of gold in the body revitalizes, rejuvenates and heals many diseases and restores youth and perfect health. The Egyptians used gold also in dentistry 4500 years ago. Modern archeology has revealed remarkable cases of the gold usage far back in the past. Even now, gold is still considered an ideal material in dentistry. ${ }^{[5]}$

Every year, about 13 tons of gold is used in the manufacture of dental crowns, bridges and dentures. Gold is ideal for this purpose because it is not toxic, it is easily shapeable, it will not to wear off, corrode and it does not lose a luster. In medieval Europe very popular were pills covered by gold and "Gold Water." Alchemists added gold powder to drinks for "appeasement of sore limbs," which is one of the first signs of arthritis. At the time of the Renaissance, Paracelsus (1493-1541) who is considered the founder of modern pharmacology has created many successful cures from metallic minerals, including gold.

### 1.2.3 Industrial sector

The gold appears in small scale almost everywhere in the world. In every tone of the Earth's crust, gold portion is 5 mg in average. However, in some places, golden fields are large enough for mining to be beneficial. To keep the mine profitable, mineral has to contain from 2 to 10 grams of gold per one tone of the mineral depending on depth of mines and a way of mining. Minerals containing gold can be found in rocks often on the border of older and younger tectonic plate. Primary fields can be found in „green stones", old basaltic rocks, which were formed in the early period of creating the Earth. Gold had been releasing from the rocks in warm hydrothermal solutions for million years and were transferred through cracks and crevices in rocks of another type, where the cold solution deposited as the ore veins ${ }^{[6]}$

In geologically active places in the world, such as Yellowstone National Park in USA and in some parts of Andes, gold continues to be deposited in geothermal way. Geologists study these modern fields to find an answer to a question where to find initial, old fields.

[^4]
### 1.3 Nobility and scarcity of colored metal

If all the gold mined by now (about 158000 tones) were merged in one piece, it would create a cube by the edge of only 20 meters long. One troy ounce of 31.1 grams of gold can be carved into thin foil of size 9 square meters or into wire of 100 km long and weaker than a human hair. The most known gold objects are 6000 years old and they belonged to the features of tombs found in ancient cemetery at Varna in present Bulgaria. The gold art objects discovered in 280 graves are good evidence of high levels of craftsmanship and they include bracelets, pendants and earrings. Illustrations in Egyptian tombs prove that ancient Egyptians shaped the gold early in the beginning of the $3^{\text {rd }}$ chiliad BC .

It is also assumed that the beginnings of gold processing in China dates back to the Shang Dynasty in time of 4,000 years ago. The ancient nations used gold because of its beauty and durability. They used it in the manufacture of extremely valuable, cultic objects. For the Incas, who had found unsorted amounts of gold in the under-ground or over-ground sites, the gold symbolized "a sweat of the God of Sun". Incas did not use the money and so gold had any monetary value for them. Instead, they used it on the facades of buildings and for the manufacture of various objects. Incas believed that gold is a reflection of the brilliance of the God of Sun. Many ancient peoples used gold as mean of payment.


Graph No.1: Demand for gold according to industry in US dollars
Reference: [1]

Golden treasures and coins used to be the first what was usually taken by the conquerors in wartime. Many ancient gold objects have been preserved, often just as accessories of such tombs as at Varna.

### 1.3.1 Symbol of success

Although gold was shifted downward from leadership position of the precious metals by platinum, it still remained a synonym for luxury and social status. The most valuable is the Olympic gold medal, even though it is actually only gold gilded. A Nobel Prize Medal of 66 mm diameter, contained 200 grams of 23-carat gold by 1980 and today, it is made of 18-carat green gold gilded with 24-carat gold. Oscar statuettes, which are 34 cm high and administered by the Academy of Film Art and Science of the U.S., are gilded with 24 -carat gold. Golden Palm sold at the Cannes Film Festival is a cast from 24-carat gold attached to a piece of cut crystal.

The ancient Egyptians were the first who masterfully handled the art of gold forging into thin slices. The oldest preserved examples of gilded objects from the period around 3000 years BC are silver statuettes covered with gold slices. Since then, gold is used on surfaces of various kinds, including metal, wood, plaster, and the manufacture of sacred and valuable objects, including sculptures, paintings, picture frames and altarpieces. Thai Buddhists pasting small pieces of gold leafs for the Buddha statue as an expression of respect. The oldest golden Buddha in the land of temple Mahamuni in Myanmar (formerly Burma) for the period of one century he was wearing as many golden slices from faithful people as his statue became difficult to recognize.

Perhaps most notable example of using decorative gold is the three-storied Golden Pavilion in Kyoto due to its long walls and large ceilings, covered from top to bottom with gold leaves. Next examples are Spanish baroque churches of the colonial period in South America harboring Napoleon's tomb, which has a gilded dome. The traditional method of processing gold in gold slice is called goldbeating.

### 1.3.2 Beneficial entrepreneurship

Searchers say that gold is where you find it. They know that all theorems are useless when the person cannot watch, and therefore also in places where the gold is found, one must know where to look for. There are two important things, says British prospector Alf Henderson, who has already searched the whole world. You need running water, which has passed through the territory, where once a volcanic activity took place or where the crust is heated to high temperatures, so minerals were remodeled. We are talking about granite and schist. Gold is washed out of rocks by water. When water flow slows down, gold is deposited in the deep fissures. Key is to look in the corners of the rivers where the flow is slower and where the gold may settle or drain, where once upon a time the river could overflow. Alf's largest site was 16.5 ounces of gold (nearly 470 grams).

### 1.3.3 Wild extraction

Indigenous peoples conquering gold in their localities for centuries and consider it as their automatic right, therefore this extraction is associated with problems. A mercury compounds are often used to release gold from the rock and this process causes environmental pollution. Big companies adhere the strict regulations and laws covering the use of chemicals and ordering the removal of waste from gold mines.

### 1.3.4 Demand for gold

As regards the demand of formal sector for gold, it has been rather negative in recent years, gold stocks of central banks recorded rather modest decline on an annual basis. Central banks of many countries considered an auction of gold relative to other assets (foreign reserves) to be less effective. ${ }^{[7]}$ Greatest importance now has the gold for central banks of developing countries with a trade surplus. Countries such as China, India, Brazil, Russia and other

[^5]smaller economies try to reduce their dependence on major currencies (especially the USD) by purchasing gold. Thanks to a positive trade balance, which is the result of higher exports compared with imports, these countries accumulate foreign exchange reserves in state reserves.

## 2 WORLD'S COUNTRIES PRODUCING GOLD

### 2.1 World's mining centers



Figure No. 2: Map of the world's countries and extraction
Reference: [2]

While year 2009 total global production of gold came to approximatly 2350 tone. The first position in mining fit in place China, the second position was Australia, the third one fit in JAR and USA, fifth position filled in Russia and hex of the biggest producers concludes Peru. Specific particular countries were participate at the whole production continuation approach.

| Sequence | Country | Gold amount | Share of production |
| :---: | :---: | :---: | :---: |
| 1. | China | 300 t | 12,8 \% |
| 2. | Australia | 220 t | 9,4 \% |
| 3. | JAR, USA | 210 t | 8,9 \% |
| 5. | Russia | 185 t | 7,9\% |
| 6. | Peru | 182 t | 7,7 \% |

Table No. 1: Total global Gold production
Source: [1]

Nowadays cradle bearings are mostly grounded down. For all that today are mining primar bearings, where the gold is very gently dispersed in the vugh and metal is from vugh obtained
hydrometalurgic what might be relativly very challenging process, which from now on increase price of gold metal.

### 2.1.1

China

In 2007, China overtook South Africa and became the world's leading supplier of gold. Presently, China leads the world in gold mining output having higher production in 2007 at $12 \%$ through 2006 , producing 9.7 Moz ( 276 tons) according to GFMS. Production was usually enriched in the western areas of Shandong, Henan, Fujian and Liaoning. Recently, the western areas of Yunnan and Guizhou have seen sharp increase in their production of gold. Advantages in metallogenetic theory and research methods for Carlin type (Nevada) of gold which comes from American geologists, have been successfully applied on China. Over 100 types of stored Carlin gold events were intended to southwest and Central China.

Chinese Carlin type of safeguards is provided around the Precambrian Yangtze region of cratogen. Additional safeguards lie in the western Qinling area where many reefs are present. China has 650 tons of gold reserves and it plans to increase them to 3000 tons over five years.

### 2.1.2

South Africa

South Africa is now the second largest producer of gold. For the first time since 1905 this country has not been the largest one. Around $95 \%$ of gold mining in South Africa takes place underground, reaching a depth of about 3.8 km . A fall in ore reserves caused increasing of the depth of mining, staffing problems, power interruptions and rising production costs while the production was still declining.

Hou Huimin stated: "By reason of financial crise is changing the value of dollar very quick, it's possible that will loose it's caput of world reserve currency."

South Africa has vast reserves of gold ore, estimated at 40, 000 tons, and represents about $40 \%$ of world reserves. The main producer of gold in South Africa is site located near the Archean Witwatersrand tank. This tank has been drawn more than 100 years and produced more than 41,000 tons of gold. Unlike most of the world's largest custody of gold in the Witwatersrand (Wits) is an ancient deposit of gold-washing field with gold which is a major component of composition and rubble. Wits sedimentary basin belts over an arc of about 400 km through the Free State, North, West and Gauteng area.

### 2.1.3 <br> Australia

Gold is produced everywhere in Australia, but Western Australia is the largest country in gold production, around 155 tons of gold was produced in 2007, which makes just less than $2 / 3$ of the total country's production. New South Wales and Queensland are therefore relatively large producers with New South Wales, generated 35 tons in 2007 and Queensland generating 21 tons. Largest producer of Australia in 2007 was Telfer manipulation where 0.62 moz was produced. Telfer has been studied in Kalgoorlie where production was almost 0.61 moz and Moonlight Dam has produced 0.60 moz ( 18.7 tons). Similarity of the 2008 production figures were reported for the larger gold mines.

In terms of investigation, new gold minerals have been found across Australia and in the depths of lower recognized securities in constantly changing ways of mineralization. Ancient green rocks of Western Australia Yilgarn Craton remain a very popular destination but the real opportunities exist also in other areas.

### 2.1.4

## USA

Production of gold in the United States is mainly concentrating in states such as Nevada, Alaska, Utah and Colorado. There are also research and development sites in Arizona, California, Idaho, Montana, New Mexico, South Dakota, Utah and Washington. Nevada is the
leading state in production of gold and it is classified to be the fourth after China, South Africa and Australia in world production of gold. Mines in Nevada charged to almost $82 \%$ of domestic production in 2006. Almost all the gold in Nevada comes from the open mines and they are recovered with the means of cyanide extractions. One of the major gold operations in the U.S. is the Carlin mine in northeastern Nevada, which is a large producer of gold from large, low-quality stepped guarantees.

In Alaska, gold was produced near bearing mines, dozens of huge mine fields and numerous small mines, mostly in Alaska and the Western States. Many of the gold produced in Alaska was extracted from stored fields occurring along with many important rivers and sides. Main mining region was the Yukon River which crosses the central part of Alaska. Beach deposits a level of Nome kinds in the middle of attractive field of guarantees in Alaska.

### 2.1.5

## -•• Peru

Gold is covered as a product from concentrated polymetallic mines in Peru, which were rated to 2.6 tons in 2006. Large, medium and small producers provided a support in form of 187 tons, while the unknown number used by craftsmen in mines reported 15.8 tons. Fields produce gold mainly in Inka and Mariátegui areas, and in rivers and streams throughout the whole jungle. Inambari River and its tributaries describe the world-famous fields located in the south-east Andes. Yanacocha mine in the Andes in northern Peru is considered to be one of the largest and most advantageous ones in the world - it has produced over 7 trillion USD of the value of gold up to 2008 .

Yanacocha gold deposits are higher over temperature of deposited gold, with average values of silver. Yanacocha gold area is $10 \mathrm{~km} \times 4 \mathrm{~km}$ zone of altered rocks inside the territory of volcano, which extends through the entire length of Peru. Volcanic arc also hosts the Pierina and certainties of Lagoons of the North.

### 2.1.6 <br> -* Canada

Canada is one of the world's gold producers after South Africa, USA and Australia. It produced 140.529 kg of gold in 2003 from 330 gold mines, which showed more than $90 \%$ of production. Several gold mines in Canada have been closed due to low gold prices and depletion of ore. The remaining production came with gold-washing mines and basic metal products. Low gold prices and depletion of sources are responsible for the closure of nine mines in the past two years. At the end of 2002, just 30 mines remained in operation within Canada. In comparison, 10 years earlier there were more than 50 mines. Decrease in the number of operations represents the forecast for a few years with 8-10 other mines expecting closing of operations in 2005 when their economic reserves are exhausted.

Loss production resulting from these conclusions, does not expect crossing over 5 tons of gold and it could be balanced to obtain production and development in existing mines. Gold produced in Canada comes mainly from the gold mines, which show together about $92.5 \%$. The balance is produced in the base metal $6 \%$ and gold-washing $1.5 \%$ of mines. Almost $90 \%$ of Canadian gold mines operate underground where the productivity is relatively high, and keeps production costs among the lowest in the world.

### 2.1.7 <br> - Russia

Since 2000, the Russian gold production was in a progressive rise with 154 tons produced in 2001, 181 tons in 2002 and 182 tons in 2003. Russia has a changing part of only $14 \%$ of industrial gold mining by producers of gold (about 78 companies) $74 \%$ of Russian gold production. Russia employs approximately 400,000 people in the gold mining industry. In the USSR or individually, business part times of gold diggers produce almost half of Russian gold production. Canadian companies were the largest foreign investors in the Russian gold industry, since 1995 investment also fell nearly $90 \%$.

Canadian bema of gold, West Shield and High River gold mines belong to the main investors. With Cover of gold-washing field and Barrick valued by the development of giant Sukhoi Protocol of a golden ship in the Irkutsk region, which is estimated in the initial spending of 1.5 billion USD. In addition to possible base reserves of 43 Moz of Sukhoi, protocol PGM is also important.

### 2.1.8

## Indonesia

Indonesia was the seventh largest world producer of gold in 2003, producing 163 tons compared to 158 tons in $2002{ }^{[8]}$ Over $70 \%$ of Indonesia's production is generated as in the case of copper mining at Grasberg and Batu Hija, each of which reported the higher production year after year. Grasberg is the world's largest producer of gold and it extracted 98 tons in 2003, at $8 \%$ increase since 2002. The world famous group Grasberg mine is located in Tembagapura, Irian Jaya. This mine shows projected reserves valued at 2600 Mt escalated at $1.13 \%$ of copper, $1.05 \mathrm{~g} /$ ton of gold and $3.8 \mathrm{~g} /$ ton of silver. Metal mining in this area has long been the subject of questions about environmental pollution.

A daily production here is about 230000 tons of rubble, which negatively affect the river system of Aikwa and Arafura Sea, but also the quality of groundwater. It is estimated that nearly 130 km 2 of lowland areas along the river Aikwa is saturated with copper sediments and fishes in the river has almost disappeared. Reserves have doubled since 1995 in estimation. PT Freeport is the largest taxpayer in Indonesia and it has paid to the state approximately 1.3 billion USD since 1992.

[^6]
## 3 BIGGEST CORPORATIONS OF WORLD

### 3.1 WORLD'S COMPANIES AND GOLD EXTRACTION



Figure No. 4: View into depth of mining place
Reference: [4]

### 3.1.1



Barrick Gold Corporation.
Brookfield Place
TD Canada Trust Tower
161 Bay Street,Suite 3700
P.O.Box 212

Toronto,Canada M5J2S1
Phone: +1416861-9911
Fax: +1 416 861-2492
http://www.barrick.com/

President \& CEO - Mr. Aaron Regent
Barrick Gold Corporation was established in 1983 with headquarters in Toronto, Canada.

It is the largest gold mine in production and inventories. Barrick Gold Corporation is focused on production and gold mining, as well as associated activities such as mining and development. Barrick also produces copper and is involved in metal-developing project and
project dealing with nickel-development, located mainly in Africa and one metal-development project is located in Russia. Barrick Gold Corporation is known worldwide as one of the companies with the largest pure gold mines in the world. The company operates 25 gold mines with huge amounts of industrial gold. Furthermore, it deals also with water pipe project passing through Australia, North America, South America and Africa.

According to the 2009 report issued by a company in Germany, Barrick founded the 139.8 million ounces of evidence, probably gold reserves which is the largest amount of non-viable reserves in the whole industry. Barrick Gold has a goal to reach 7.6 to 8.0 million ounces of gold in 2010, for a total cash payment in total \$ 425 to $\$ 455$ per ounce. Barrick offers to investors exceptional investment funds to higher gold prices with the highest industrial production of 7.42 million ounces in 2009 and its major reserves 139.8 million ounces, in addition to 6.1 billion ounces of copper reserves and 1.06 billion ounces of hidden silver and gold reserves as on December 31, 2009.

### 3.1.2

## =GOLDCORP

## Goldcorp.

Park Place
Suite 3400-666 Burrard Street
Vancouver, B.C.V6C 2X8
Phone: (604) 696-3000
http://www.goldcorp.com/

President and a Chief Executive Officer of the corporation - Mr. Charles A. Jeannes Company was established in 1954 with headquarters in Vancouver, Canada.

It deals with discovering new gold deposits and mining, gold processing and things related hereto. Goldcorp Inc. is the leader in gold production, with an operating business in North, Central and South America. According to the annual report for 2009, issued by Goldcorp, "[Goldcorp] continues by the developmental leader among senior gold producers with production forecast to increase by 57 percent over the next five years." Growth company profile is unbeaten in the mining industry. An increase in the gold production to 2.42 million ounces of intensity is setting growth of our largest mines.

Company's assets consist of three mines for the gold mining located in Canada (Red Lake, Porcupine and Musselwhite), four mines to extract gold in the U.S. (Marigold, where it has 67 percent share, 40 percent share in South Arturo, and 100 percent share in Wharf and Imperial), one mine for gold and copper in Argentina (Alumbrera, where it has $37.5 \%$ share), four mines in Mexico (Los Filos, El Sauzal, where only gold is mined, and San Dimas and Nuka - gold and silver), one mine for gold and silver in Guatemala, 100 percent share in a gold project in Cerro Blanco in Guatemala, one in mine (gold) in Honduras and 40 percent share in the gold project which is in the development stage in the Pueblo Viejo in the Dominican Republic.

Reaching a record difference between the values of income due to a larger average value recognized in $\$ 978$ per ounce, but also to the total cash expenditures which deviate to $\$ 295$ per ounce per year from \$ 305 in 2008. Cash flow from operating activities recognized before changes in working circulation summarized over $\$ 1.2$ billion in 2009 while adjusted net earnings were $\$ 588.2$ million in 2009 comparable to the $\$ 397$ million in 2008.
3.1.3


Anglo Gold Ashanti.<br>76 Jeppe Street<br>Newtown<br>Johannesburg<br>South Africa 2001<br>Phone: +27 116376575<br>Fax: +27 866789751<br>http://www.anglogoldashanti.com

Executive Vice President - Mr. RL Lazare Ba, Hed, Dplr, Smp

The company Anglo Gold Ashanti was established in 26th April 2004 with headquarters in Johannesburg, South Africa.

Currently, it is the third largest global producer of gold in the world. Anglo Gold Limited was found in June 1998 with fixed interest gold mines of Anglo American. It is one of the world's leading companies with gold mines; it has 21 plants in 10 countries (Argentina, Australia, Brazil, Ghana, Guinea, Mali, Namibia, South Africa, Tanzania and the United States of America). Its ore reserves amounted in 31st December 2007 to 73.1 million ounces. The main product of the company is gold. Revenue also comes from the sale of silver and uranium oxide. Anglo Gold Ashanti sells its products on the world markets.

The company opens a pit mines in the deep stages and carries out the Brownfield's and Greenfields exploration, looking for minerals in groundwater of marketing initiative. Anglo gold production is summarized as 4.60 Moz , forming a $\$ 3.8$ billion in revenue. An assumption in 2009 was $\$ 1$ billion. Anglo Gold Ashanti produced 4.98 million ounces of gold, estimated to represent $7 \%$ of the world's production. Production was split between: South Africa (42\%), Ghana (11\%), Mali (8\%), Australia (9\%), Brazil (8\%), Tanzania (6\%), USA (5\%), Guinea (7\%), Argentina (3\%) and Namibia (1\%).

### 3.1.4



## Newmont Mining Corporation.

Corporate Headquarters
6363 South Fiddler's Green Circle
Suite800
Greenwood Village, CO 80111
Phone: 303.863.7414
Fax: 303.837.5837
http://www.newmont.com

President and Chief Executive Officer - Mr. Richard O'Brien.

Established in 1921 and officially traded in 1925.

Newmont is one of the world's largest producers of gold and only gold company involving S\&P 500 coefficient with property also 500 . Up to $31^{\text {st }}$ December 2007 Newmont had proven and probable gold reserves of 86.5 million ounces and the land area of approximately 110,550 km square. Company is active in gold mining industry around the globe, among the eight countries on five continents - including North America, South America, Australia, Asia and Africa. Newmont's largest benefits are found in the U.S., Australia, Peru, Indonesia, Ghana, Canada, New Zealand and Mexico.

The company spends around $\$ 4$ billion per annum for products and services and it has 15,000 suppliers worldwide. Therefore, maximum value should be achieved out of the supply chain. These expenses include bulk raw materials, contract services, mining equipment, manufacturing equipment, transportation and logistics. In the end of 2009, Newmont recognized with probability of gold reserves of 91.8 million equity ounces and grouping of the territorial position of approximately 39.000 square miles. According to Omar Jabara, Newmont group authority in 2010, "Equity gold production expects to increase slightly between 5.3 and 5.5 million ounces, primarily as a result of the ongoing 12-month increasing filling production of Boddingtons, as a partial offset in the lower production from Yanacocha and Nevada."

### 3.1.5



Kinross Gold Corporation
25 York Street, $17^{\text {th }}$ Floor
Toronto, ON M5J 2V5
Phone: 416-365-5123
Info: 1-866-561-3636
Fax: 416-363-6622
www.kinross.com

President and Chief Executive Officer - Mr. Tye W. Burt

Company was established in 1972 with headquarters in Toronto, State Canada.

Found in 1993, Kinross has grown rapidly to become one of the world's leading gold mining companies. Investigation of timeline for information is our key milestone. Kinross Gold Corporation is engaged in gold mining and associated activities, including exploring and acquiring gold-bearing territories, mining and ore processing and restoration of mining areas. Mining and processing activities in terms of gold occur in USA, Brazil, Chile and Russia. Among the mines in which Kinross owns 100\%, belong Fort Knox, Round Mountain, Paracas, La Coipa, maricunga and Kettle River.

Their highest revenue ever recorded is 2.24 million corresponding to gold equivalent in ounces and recording of 22 percent increase from the year 2008. They have created a record in turnout of $\$ 2.4$ billion, to 49 percent after the 2008.

### 3.1.6

## Goldfields



150 Helen Road Sandown
2196 Sandton Johannesburg
South Africa
Telephone: (+27)(11) 5629700
Fax: (+27)(11) 5629838
http://www.goldfields.co.za

President and Chief Executive Officier - Mr. Nicholas J Holland Company was established in 1968 with headquarters in Parktown, South Africa.

Gold Fields is one of the largest producers of gold with cost production of around 3.64 million ounces per year in eight operating mines in South Africa, Ghana, Australia and Peru ${ }^{[9]}$ It deals with exploration, extraction, processing and smelting of gold. Gold Fields also has extensive growth of pipeline with both the Greenfields and the surroundings, mining

[^7]exploration projects in various stages of development. It has 78 million ounces of gold from mineral reserves and mineral resources of 281 million ounces.

Gold Fields is listed on JSE Limited (primary listing), the New York Stock Exchange (NYSE), Dubai International Financial Exchange (DIFX), Euronext in Brussels (NYX) and Swiss Exchange (SWX). They can be proud of 5 million ounces of high quality gold mined during five years. The company owns the gold mines: Kloof, Beatrix, South Deep, Tarkwa, Damang, St Ives, Agnew and Cerro Corona. The Driefontein is a gold mine, which is located 70 km west of Johannesburg, near Carletonville in Gauteng province in South Africa, produced more than 100 million ounces of gold during its 50 years of existence.

[^8]
## 4 DISTRIBUTION ROUTES IN WORLD AND IN CZECH REPUBLIC

Gold price is affected by supply and demand. ${ }^{[10]}$ Unlike other precious metals, its industrial use is smaller, as well as its irreversible consumption and a majority of the extracted gold still exists in the form of castings, coins or jewellery. Around $19 \%$ of the world's reserves of gold is held by central banks as their gold reserves. Their sale is limited by various intergovernmental agreements. Some countries, lately China and Russia, announced its intention to increase its gold reserves. Very low interest rates caused that the standard instruments such as bonds, are not sufficient compensation against inflation risk. Moreover, some doubts on the ability of some governments to meet their obligations appear. All this, together with a general mistrust in the financial markets and the official currency, is causing pressure on increasing of the gold prices.

Today, the world market with gold is a combination of national and international markets, which are almost under any government control. Markets guarantee 24 -hour trading with precious metals. International gold markets are located in cities such as Zurich, Hong Kong, London, New York, and Dubai. There are strict requirements for market participants. Participants are usually large banks and specialized companies that have good reputation and credit standing. Range of possible transactions in the international market is wide. There are any taxes and customs control. Large transactions with precious metals are carried out 24 hours a day, resulting in a wide client base. All rules are created by market participants.

National markets with gold are markets of one or several countries, focusing mainly on local investments. They are divided into free and regulated markets. Free markets are mainly found in the most European markets in Milan, Paris, Amsterdam, and Frankfurt. Those regulated are represented mostly in the third world countries. Trades on the national markets are usually carried out with small tables and coins, and the payment shall be made in a local currency. Black markets are some markets in Asia. Their existence is associated with large government limits on gold transactions. Black markets are living in parallel with closed markets. Closed

[^9]market is a type of national market with a radical organization, where import and export of gold are prohibited and because of high taxes trading in precious metals, is not very beneficial. ${ }^{[11]}$

Most of the gold for market comes from producers of gold. They may be small plants or large corporations. The influence of companies to market depends on the amount of gold reserves. Impact of those approved for the market depends on the amount of gold. Gold is also connected with the industrial plants and factories producing jewelry, as well as companies which deal with refined gold (gold cleaning). National banks are the largest surgeons in the gold market. They make rules. It should be noted that active selling of gold is the ultimate goal, but demonstrates an active interest in the use of reserves. National banks have a large impact on the market environment, it became clear especially in the 90 the 20th Century. On the gold market are professional dealers and brokers specialized companies and commercial banks.

They are leaders, because almost all the gold is in their hands first. The largest number of operations with physical gold takes place in Zurich and London. First, the main part of trading with gold took place in London, where metals were imported from countries of the United Kingdom. Gold was transferred trough London to inland Europe and from there to the Middle East. Actual transactions of sale and purchase transactions carried out under the "spot" (position) are in progress is always two working days later than the business had been conducted. International market for current transactions is known as "spot market" or "positioning trade". Standard size of lot in the "spot" is 5,000 troy ounces (generally accepted measure of weight of precious metals, equal to 31.1034807 grams).

The aim of such operations is the formation of precious metals funds of lending agencies and also dealing with client requirements. The starting point for setting the prices of physical gold on the London market, Loco London ("Loco" means the place of supplies of iron. It is the most important condition for operations with precious metals). "Swap" operations - this term is often used in economic literature. With a focus on the gold market it can be explained as buying and selling of the metal and reverse operations carried out at the same time.

[^10]
## 5 TIME SEQUENCE OF COMMODITY EXTRACTION IN WORLD SINCE 2000

### 5.1 Acceleration of investment demand for gold

Demand for gold from the jewellery industry was a driver for growth of gold prices in the last ten years. However, this trend breaks and investment demand for gold takes a first place. Investors are beginning to realize the need for protection against monetary fictions of the central banks. They realize that central banks have chosen the path of monetary inflation as a way of dealing with balancing problems of banks and states' treasuries. Further upward movement of gold can therefore gather already more exponential character. Despite the increase in gold price from 252 USD per ounce in 1999 to 1200 USD, mining output continued to decline over the past decade. ${ }^{[12]}$ The same trend was also recorded in the 70's of the last century, when gold experiences astronomical trend from 35 USD per ounce to 850 USD.

Keep under all crisis situations, economic collaps, financial, bank or stock market break down, revolution, overturns, wars, currency reforms and limitations while at chiliad always truly and reliably certified only investment instrument. It is a king between metals, never ending, beautiful, fascinating, valuace, easy transported, indestructible and as only currency accomplished and accepted by all 194 coutrys of the world. It is certainly gold. ${ }^{[13]}$ Gold creat reserve, which represent certain currency in unsafe times, gold is instance in time of crise.
H. J. Bocker stated: "Without gold standard is not possible to prevent devaluation savings of inflation. Doesn't occur yet any safe facility to retain the value."

[^11]

Graph No. 2: World gold producers - gold in US dollars
Reference: [2]

### 5.1.1 Artificial suppression of gold prices

Still more and more key players in the financial world loudly express the opinion that the gold price has been constantly manipulated by governments, central banks and the financial sector over the last decade. Work of organization Gold Anti-Trust Action / GATA, http://www.gata.org/ brought a lot of evidences that are difficult to ignore, and they will make increasing of manipulation more difficult in the future. Long-term suppression of market prices is a strong factor supporting the increasing prospects of gold. If the gold holds trend with inflation since its peak in 1980, so we should have the gold price today around 2300

USD per ounce ${ }^{[14]}$ Gold is significantly understated due to any parameter of the development of amount of money and credits in circulation.

### 5.1.2 Gold market is very small in relation to stock market

The value of all the extracted gold is estimated at something around 6 trillion dollars. Market capitalization of all extractors of gold in the world is in estimates made by firm called Sprott Asset Management only slightly more than the market capitalization of the largest U.S. retail chain, Wall Mart. This indicates a potential increase in gold, if exodus of investors from unheeded global currencies increases. A high concentration of dollars in reserves of the Eastern central banks, mainly in Asia, in combination with low exposure to gold, predicts more aggressive purchases of the yellow metal from these destinations in the future. Everyone is aware of the risk caused by irresponsible management of the economy in USA.

Russia, as we have repeatedly written, clearly continues with the trend of accumulating gold reserves also after last year's $30 \%$ increase, China has also declared that trend publicly. India purchased 200 tons of gold from the International Monetary Fund last year so it does not require any comment.

### 5.1.3 Elimination of FED audit

U.S. has been a leader in an auction of gold for a long time, where official statistics show about 8,133 tons of gold held in reserves. ${ }^{[15]}$ It is, however, a leader in speculation about the real reserves, where several rarely discussed documents for example from an organization such as GATA talk about swaps of gold to foreign countries for handling its price, which should be accompanied by physical movement of gold. These are all unverified speculations, as from $50^{\text {th }}$, the FED could prevent any attempts leading to audit of its balances. Continuous fight of FED against the review of the actual conditions gives many reasons to distrust the credibility of accounted gold reserves.

[^12]

Graph No.3: Gold prices US dollars / ounce
Reference: [3]

| Year | Amount extracted (in tones) |
| :---: | :---: |
| 2000 | 2573 |
| 2001 | 2600 |
| 2002 | 2546 |
| 2003 | 2584 |
| 2004 | 2529 |
| 2005 | 2518 |
| 2006 | 2469 |
| 2007 | 2444 |
| 2008 | 2356 |
| 2009 | 2572 |
| 2010 | 2652 |

Table No. 2: Gold extraction development since 2000
Source: [2]

## 6 TIME SEQUENCE OF COMMODITY PRICES IN WORLD SINCE 2000

### 6.1 Gold and factors affecting its price development

Demand-supply factors - In the past, these factors played more important role in the commodity trading than it is currently. With innovations, which brought different types of derivates (especially derivates traded outside exchanges) they are becoming the demandsupply factors mainly almost unusable in short-term time period. Nevertheless, even these fundamentals belong to those which can be helpful in the trade, and therefore they should earn bigger attention. It is possible to follow for example the Annual Reports of mining companies and their plans for the coming years (for example plans on production), as well as plans for central banks and other market actors (gold buyers) on one side, as well as sellers of gold on the other side.


Graph No. 4: Gold price for past ten years in US dollars
Reference: [4]

Rapid economic growth in developing economies and their enormous potential under the increase in the price of gold, we can observe its influences also on the growth of developing economies (China, India, Brazil, and Russia). These economies, which have enormous potential due to their size and low cost of labor gradually, take larger and larger portions from the world's wealth, and in many cases, it is at the expense of the most developed economies in
the world. These economies have a high trade balance surplus and operate with a huge amount of foreign reserves (mostly USD) because of cheap labor, the influx of foreign investors and through a huge volume of exports (especially China). Fiscal incentives of governments and the increasing indebtedness of the world - among other factors, which help the gold price to grow, we can mention the increasing debt of the world. In a time of uncertainty, this will only increase the course record to be gold carat in this continuing trend. Gold as a safe asset would be its value to "worthless" paper money to gain power, which would be reflected in the amount denominated in the currencies of the world.

### 6.1.1 Interest rates

Another factor which influences the development of commodities prices and hence the gold in the current turbulent times, are interest rates. At the time of interest rates decreasing, the price of gold and other commodities tend to rise. ${ }^{[16]}$ Commodities are obtained mainly because of investors' interest in them as an alternative form of investment. With a falling interest rates, bonds' profitability decreases. In addition, banks tend to accept to decrease interest rates when economy experiences the problems, and thus shares also do not brings what one may expect. In such situations, commodities are a very popular alternative for placement of resources.

### 6.1.2 Monetary policy

With increase in monetary policy, inflationary pressures arise, and the direct consequence is a decrease in investor confidence in the value of paper money. In a time of rising amount of money in circulation, investors tend to go for gold, what automatically tends to lead to an increase in the price of gold in most cases. With reduction of the money in circulation an effect tend to be opposite and the price of gold tends to fall. Uncertainty is another factor, which tends to cause the movement of gold prices. At the time of unexpected events, these movements are very significant.

[^13]
## 7 LARGEST CONSUMERS OF RAW MATERIAL IN WORLD SINCE 2000

The popularity of gold and gold jewellery varies within different countries. In recent years, India has maintained a leading position in demand for gold. This is mainly caused due to the approach of the Indian people into gold. The demand here is affected mainly by the volatility of gold compared with other countries. The biggest part of demand comes from households in rural areas, where the traditional events are the main motive behind the purchase of jewellery - festivals and weddings. In local communities, gold is also seen as an important mean of savings.


Graph No. 5: Geographical presentation of gold consumption per ounce
Reference: [5]

Despite the fact that India imports the largest amounts of gold, the most jewellery is manufactured in the State itself and jewellery industry is an important exporter of Indian economy. That is why the gold price in the markets significantly affects the demand for gold. Sensitivity to changes is very high within the population, and therefore in times of rising prices of gold, demand for the metal is rapidly declining. Jewellery demand, at 111.6 tonnes, was down $42 \%$ on Q3 2008, while net retail investment demand, at 26 tonnes, recorded a decline of $67 \%$ over the same period. In fact, income growth generally has not kept up with the sharp rise in the gold price of the last year, and with the cost of living continuing to climb,
consumers have compromised by buying lower weights. Whereas consumers buying for a special occasion would in the past have had a target weight in mind, a rupee budget has now become more common. The high gold price has also seen a shift into gem set jewellery, costume and imitation jewellery.

Second place in the demand for gold in recent years belongs to Greater China. Until 2002, the prices of gold had been controlled and foreign companies had not had any access to the gold markets here. Sustainable high economic growth of the country together with the deregulation of the gold market in 2002 caused a sharp increase in demand for this commodity. Most of the gold is sold here in pure forms, namely 24 -carat gold, on the various festivals. ${ }^{[17]}$ In the Greater China region, consumer demand for gold of 128.6 tonnes was $10 \%$ higher than in Q3 2008, which was itself a very strong quarter. The jewellery component of demand increased $7 \%$ to 99.5 tonnes, while retail investment demand gained $23 \%$ to reach a historic high of 29.0 tonnes.

This quarter's strong result was driven solely by a rise in consumer off-take on the mainland, while consumers in Hong Kong and Taiwan were deterred by the soaring gold price in September, with Taiwan's weaker economic scenario further discouraging domestic demand. In Japan, total consumer demand totalled 3.2 tonnes in the third quarter, a significant improvement over the same period a year earlier, when dishoarding resulted in net negative demand to the tune of 1.0 tonne. The value measure of gold jewellery demand recorded a fall of $19 \%$, to $¥ 17.0$ bn from $¥ 21.1$ bn a year earlier. The high gold price discouraged Japanese consumers from spending on jewellery, while the precarious domestic economic environment, with anaemic growth and a weak labour market, also kept a lid on domestic demand.

Consumers have diverted some of their spending from jewellery into investment bars and coins. Thailand, similar to China, is country where consumers prefer to buy into a rising price. Trading volumes have also benefited from flows into Vietnam in response to import restrictions into that country. At 17.5 tonnes for the quarter, net retail investment enjoyed a strong recovery after two consecutive quarters of dishoarding, although this still marked a

[^14]modest $4 \%$ decline from year-earlier levels. The outlook for gold demand in East Asia is similar to that in many other parts of the non-western world, being largely price-dependent.

The third group is reserved for countries of the Middle East (especially Saudi Arabia, UAE and Egypt). This is an area of oil tycoons, who like to boast by gold jewellery or watches. This area is also includes Dubai, which is otherwise referred to as "City of Gold". During annual festivals here, gold jewellery of various designs can be bought and also varying purities of gold. In this area, the real gold is only of purity over 18 carats. The jewellery trade, most particularly in Dubai, is under pressure. As with many residents in the UAE, many jewellers had invested their profits in the property sector. Left with cashflow problems, jewellery retailers have been forced to liquidate inventories to meet margin calls and make repayments on gold loans.

Consumers in Egypt were also deterred by high average prices in the third quarter. The gold price stabilised somewhat in local currency terms in the second half of July and into August, and this stimulated demand to a degree, but budget pressures nevertheless continued to impact on demand. Other countries which have long placed high on the demand for gold include USA, Italy and Turkey. In the USA we observe a gradual fall in the market for gold jewelry in recent years, but on the other hand, increase in investments in gold. Gold jewellery demand in Italy continued to suffer the ill-effects of the weak domestic economy and sustained high gold prices. Although the decline in GDP is forecast to slow in the second half of the year and August saw feeble signs of recovery in consumption, consumer confidence was held back by a weak labour market.

This was reflected in the figures for third quarter jewellery demand, which show a $24 \%$ decline to 5.1 tonnes. While Italy is well known for high quality of gold jewellery, it is slowly losing markets in favour of producers from countries with lower production costs but it still remains the undisputed leader in fashion, design and quality of manufactured jewellery. On the other hand, Turkey in connection with the revival of its economy has become the fourth largest market and second largest jewellery exporter in the world. Turkish demand has suffered from the combination of a very sharp rise in the local gold price and severe weakness
in the local economy. Between the third quarter of 2008 and the third quarter of 2009, the TL gold price 17.8 tonnes.

### 7.1 Characteristics of commodity

A commodity is the kind of good which in foreign trade becomes the object of purchase or sale of imports or exports. Commodity in general terms means the good, subject to trade, item, usually a primary product such as wool, cotton, coffee, corn, copper, tin, coal etc. The use of this term is usually linked to collective goods and to foreign trade. In economic theories, under the word commodity we understand tangible goods or services, which are made through the production process (production). The most important player affecting the price of commodity in the global market is China. Growing demand for color metals and declining global stocks are the main causes of price growth this year. Some analysts predict this growing trend to continue in the future.

The price increase in basic types of metals supports mainly the expansion of the Chinese economy and rising standard of living of the population, while the global production volume of metals is growing only slightly. China currently consumes about $20 \%$ of the total world production of non-ferrous metals, whereas the local industrial production is growing in more than $15 \%$ annually. Commodity market is one of the most interesting and perspective markets. There is limited quantity of the commodities; what means that commodities hold a real value unlike paper money in a policy of fiscal and monetary expansion. ${ }^{[18]} \mathrm{A}$ lot of investors therefore focus on long-term purchases of commodities through ETFs (Exchange Traded Funds) or ETCs (Exchange Traded Commodities). In contrast, speculators are trying to use a larger volatility in commodities with CFD (Contract for Difference) trading or those with a larger capital trade directly in stock.

[^15]
### 7.1.1 Commodity stocks in Czech Republic

In the Czech Republic, current active stocks of commodities have a very short history. Similarly, to the case with the stock market, and exchange of goods, which now operate, commodity stock was created only after the revolution in 1989. In addition, Prague Stock Exchange has developed into a prosperous and well-functioning stock market during its existence and it has its place also on the European market. On the other hand the Commodity Stock in the Czech Republic doesn't reach such results that would cross also our borders in trading. Their scope is governed by a separate law in comparison with the stock market, which also follows a different legal status, and which also affected the development of different stocks.

This part of the paper will be devoted to the theory with an aim to make specifications of commodity stocks in Czech Republic clearer and more exactly, to make the development of stock markets and their regulation clearer. Furthermore, this part will deal with certain stocks, which currently operate with Czech Republic.

### 7.1.2 Reason for commodity stock establishment

Market of commodities trades with large amounts of money, therefore it was necessary to establish certain rules which would be binding for all traders in the stock and in this way it was aimed to avoid possible complications in concluding future contracts, to avoid failure to fulfill obligations under existing contracts, and to achieve protection for traders from potential tricks in these operations. The stock also provides the commodity delivery at an agreed quality and quantity. Other reasons were also to ensure a systematic and technical reinsurance of the business for as quick business conclusions as possible and to settle them up smoothly.

### 7.1.3 Very first commodity stocks

Although the discovery of commodity trade and its development can be attributed to Sumer, Chinese or Japanese, the history of modern futures trading began in Chicago, USA in the early 19th century. Chicago is located near the Great Lakes, near the vast farming areas. Therefore, this place became the key centre for transportation, distribution and trade with agricultural crops and livestock. In 1848 the first stock market was formed. It mediates trade with futures contracts of the Chicago Board of Trade (CBOT). It was traded with forward contracts for maize, but in 1865, standardized futures contracts were introduced, through which the trading continues up to this date.

In 1874 the Chicago Produce Exchange was formed, and in 1898 renamed to the Chicago Mercantile Exchange (CME). In 1972, division of International Monetary Market (IMM) was formed, as part of CME. IMM trades with foreign currencies such as: British pound, Canadian dollar, Euro, Japanese yen, Mexican peso and others. Under commodities we understand raw materials, natural resources and many other real things that surround us everywhere. Therefore, we classify them into groups of real assets. Commodity prices are made on the stock as well as off-board markets on the basis of supply and demand for a particular commodity. It is evident that the global commodity market is huge and therefore it deserved the title of one of the world's largest non-financial market.

Commodity market includes institutions where shareholders trade, sell and buy shares of primary needs, which are used in the manufacture process of other goods. Commodities are universal, what means the buyer can expect the same product from different sources. Commodities are typically sold as futures trades, which mean that a shareholder buys the commodities which are going to be produced. Agricultural products include crops and livestock used in food commodities industry. The agricultural commodities produced $29 \%$ according to the manufacturing indicator of June 30, 2010. Grains such as corn, rice and soya beans are included in the agricultural sector. Seeds are sold in excess and they can be stored for long period of time, in order to deal more flexibly and to meet the market demand.

### 7.2 How to invest to precious metals

Precious metals are a big attraction, and so you can find them as an underlying asset in many securities, you can speculate on whether they rise or fall within CFD (contract to compensate for the difference between opening and closing price), next you can buy the units in the funds except from ETF where the indicated commodities are as input, or we can buy them as traditional alloys, coins or wafers. The biggest specialist for commodities in the Czech Republic is a broker with securities called Colosseum. For smaller investors, his doors are closed. Initial capital of hundreds of thousands crowns is needed and for using of portfolio management by professional managers it is required to pay at least 900 thousand crowns.

Investors, who want to try trade in this market, may turn to other competitors that offer low initial capital. For example in X-Trade Brokers a minimum first deposit is 20 thousand crowns. With this investment you cannot expect that even with the financial tricks you will not earn enough per year to quit your job. If you belong to people who want to have precious metals before your eyes, your action will direct to a showroom of investment companies selling gold, silver or platinum in the form of coins and bricks. "Trading in futures contracts is attractive to investors, especially those interested in income and therefore, they are willing to undergo the risks involved.

Conservative investors who already have their proven way to earn money and who look for gold as a safe harbor prefer the purchase of physically allocated gold, which they take to a safe home, "the different approaches described by Paul Trtik from company called the Gold Coins Numismatics.

### 7.2.1 Ducats

It is strongly recommended to consider changing exchange course when purchasing precious metals, for example in case of gold we should consider crown against the euro or dollar and VAT - investment gold is tax free, but on the contrary, this is not the case of coins and medals
in fact ${ }^{[19]}$ Another important item in the price of precious metals is the so-called premium, which is an additional price for foreign exchange. Premium decreases with the weight and in case of gold it is beneficial to buy ingots of the minimum one troy ounce weight. In contrast with electronic trading of futures, the price of coins and medals is increased by their artistic value. Company called the Gold Coins for example mints Svatovaclavsky ducat in limited editions. The luxury version has a limited number of 500 units and in normal quality, Czech mint makes to 3000 pieces.
"We believe that this gold medal, commemorating the principal patron of Czech lands, will make happy not only professionals but also all those who just start with collection of coins and medals" says Jaroslav Tomanec from the Gold Coins. Svatovaclavske ducats were the first gold coins of Czechoslovakia. They were used in trade and like medals they did not have the nominal value. First Svatovaclavsky ducat edition met with great interest of the Czechoslovak public and the edition of the smallest - one ducat nominal was sold for four hundred thousand crowns during the years 1923-1939. In 1923, the Svatovaclavsky ducat was sold at market price 120 crowns and it was a favourite gift to a variety of opportunities.

Today the price of these historic coins ranges from 6000 CZK to 9000 CZK. Those rarest pieces can be obtained only in auctions. The limited editions of platinum or silver coins are also able to purchase.

### 7.2.2 Growth or fall

Looking at the situation of the world economy, it might seem that the crisis is slowly ending, and gold will not already reach 2,000 dollars per ounce. What obviously end, are those infinite series of articles on the topic of crisis in the daily newspapers - The Greek state budget irregularities are comparable to Latvia, if only does not write so much for them. According to Boris Tomciak, investment in gold and other precious metals is still very interesting. Risk of the future inflation, which has a positive impact on the price of precious metals, has increased because of extremely benevolent fiscal and monetary policy - debts of

[^16]States reach mammoth sizes. "Especially interest rates in Europe and the U.S. are still close to zero. Also the provision of huge loans to commercial banks continues.

Sooner or later, a very expansionary monetary and fiscal policy will be reflected in prices, and most likely it will also lead to inflation, "Boris Tomciak says. Inflation has been confirmed also by former FED chairman, Mr. Alan Greenspan, who said that the current highly expansionary monetary policy could cause a rapid increase in prices in the aftermath of recession.

### 7.2.3 Inflation is good for gold

States still fall into debts, which destabilize the whole financial market. As a result of the financial crisis, almost all countries lack the billions in income, what even worsen the situation. "The crisis definitely separated responsible from irresponsible ones. Countries that previously lived over normal condition and ignored fiscal discipline, they now experience serious problems. A long-term unfavorable prospect for the U.S. dollar, which is from a turn of one thousand years in increasing trend, helps to increase the prices of precious metals. The global production and availability of other deposits is very important for precious metals and gold in particular. The facts speak clearly - from the 2001 gold production is declining. Most average gold content in the tone of rock mined in 2000 was about 2 grams.

### 7.2.4 Investment demand

In recent years, gold has become extremely popular in terms of investment. Market innovations, which have made the gold available to the small investors, played a major role here. Currently, it is possible to invest into gold either directly or indirectly through various investment products, such as through commodity ETF funds, stocks of mining companies, or various derivatives such as bonds, futures contracts, CFD contracts, etc. In recent years, especially commodity ETF funds have gotten immense popularity among small investors, in which an investor acquires shares in those funds. It is an investment similar to an investment into shares fund, but the ETF share is traded on the stock market, and thus the investor has the
opportunity to freely trade with this share. Entry into and exit from the position is therefore as simple as in the case of shares, which is a major advantage for investors. At the same time a low capital intensity of such a form of investment is the advantage. The investor can better diversify his ease finances.

### 7.2.5 Gold coin standard

The gold standard has its roots in the use of gold as a mean of exchange, unit of account and store of value; this means the gold fulfils all the functions of money. ${ }^{[20}$ Despite the abovementioned functions of gold, in ancient human history, the gold standard as a legal institution was created in 1819, when the British Parliament passed the so-called Resumption act. This law received the name from the fact that British National Bank - Bank of England renewed its practices, i.e. exchange of English notes for gold according to demand at a predetermined fixed rate. This practice has been breached during the Napoleonic Wars (1793-1815). The law has created adequate conditions for an adoption of pure gold standard, because it cancelled a long-term restriction of exports of gold coins and "raw" gold from England. Later in the 19th century a gold standard was established in:

- Germany
- Japan
- Great Britain
- Other countries

At that time, Great Britain was the world's leading economic power and other countries hoped to achieve the same economic success as the UK. U.S. effectively participated in the gold standard as early as 1879 , during a civil war. The law on the gold standard in 1900 in U.S. formally sealed the relationship between the dollar and gold. On the basis of British position in international trade at that time and based on better level of development of financial institutes in the country compared with other countries, London, naturally became the centre

[^17]of the international financial system based on gold standard. The popularity of gold jewellery has persisted for millennia, and probably it will not change in the future.

When investors ignore supply and demand that's their risk. Nowhere else though running off emotions and other psychological influences to supply and demand so markedly as with gold. Commodity investor has to try look at the gold as the one of the commodity from all, their prices can increasing or falling down depending on supply and demand. ${ }^{[21]}$ Obtaining this perspective is also advisable look at the gold into his historical background, which is in USA so complicated. History show, that gold is not always the best investment.

### 7.2.6 Investors

The last group, which creates the demand for gold, is investors. There are still a lot of people willing to invest into gold. Many still consider this metal as a reliable store of value, and at time of recession or fear from high inflation, they purchase this commodity. People interested in investing into gold have several options. If they are interested only in speculative trading on the rise or fall in gold prices, the smartest way is to buy futures contracts on gold. Financial markets offer also other investment options such as bonds, warrants and other structural products based on gold. In these cases investor has only a proof of ownership, but he does not own any physical gold. In many areas of the world, however,


Figure No. 5: Investment gold Reference: [5] investors want to
physically own gold, in order to show for example their status.

Small investors buy gold bars, coins and medals in this way. Physical buying of gold has one significant disadvantage, which is the price. While the purchase of futures contracts or ETF shares includes relatively low trading fees, physical gold price even in relatively small amounts may be higher by $10-20 \%$ to current price of gold on the gold market.

[^18]
## 8 PROGNOSIS OF FUTURE DEVELOPMENT OF EXTRACTION AND PRICES

### 8.1 World reserve currency

The U.S. dollar is the world's reserve currency and hence is also the cornerstone of the monetary system. When look from any angle on the nature of handling with its internal value influenced by the U.S. government economy, we see that the U.S. has crossed the border towards return to a stable and credible currency. Uncovered monetary system is in fact secured only by the promises of the government of certain State, or group of States. Taking into consideration the 13 trillion dollar debt of the U.S. government and unfilled financial claims into health systems /Medicare, Medicaid/ and social supporting system which is worth 50 trillion U.S. dollars and $10 \%$ deficit on GDP, we can be sure that a degradation of the U.S. dollar will continue. Furthermore, most of the 50 U.S. states are in a direct or immediate threat of bankruptcy.

### 8.1.1 Time bomb of derivates

We still forget that the uncontrolled derivatives market stood behind the current collapse of the financial system since the crisis began. Stock derivatives have been repeatedly identified in front of governors by experts as a weapon of mass destruction, and time bombs. ${ }^{[22]}$ The most recent reform of the financial sector in the U.S. again has not constricted the use of derivatives to banks, which will continue to do a casino from the stock market for few billion dollars per year. The situation after the collapse of the Lehman Brothers is an example of what this segment can cause. Strong lobbying buried U.S. financial reform in few weeks. Failure to address the question of the use of derivatives extends the illusion of a stable financial system and undermines the global monetary system. Investment demand for gold is accelerating.

[^19]
### 8.1.2 Increase in gold supply

Despite the increase in gold price from 252 USD per ounce in 1999 and 1300 USD nowadays, mining output continued to decline over the past decade. The same trend was also recorded in 70 's of the last century, when the gold recorded astronomical trend from 35 USD per ounce to 850 USD. Aaron Regent, President of the largest mining company Barrick Gold, lamented about the possible peak of production of gold at the conference last year. More and more key players in the financial world express loudly the view that the gold price has been constantly manipulated by governments, central banks and the financial sector over the last decade. Work of organization called Gold Anti-Trust Action brought a lot of evidences which are difficult to ignore, and they will complain increasing of manipulation in the future. ${ }^{[23]}$

When I talk about inflation or deflation I'm talking about the expansion or contraction of the currency supply. The sympton of monetary inflation or deflation is rising or falling prices, which I will sometimes refer to as price inflation or price deflation. Regardless, one thing is for sure. With inflation everything gets more valuable except currency ${ }^{[24]}$

Long-term suppression of the market prices is a strong factor supporting the growth prospects of gold. If the gold held out the trend with inflation since its peak in 1980, so we would have the gold price around 2300 USD per ounce today. Gold is significantly understated due to any parameter of development of the amount of money and credit in circulation. Gold market is very small in comparison with the stock market. The value of all the extracted gold is estimated at something around $\$ 6$ trillion dollars. Market capitalization of all gold extractors in the world is in estimates of a firm Sprott Asset Management, only slightly more than the market capitalization of the largest U.S. retail chain, Wall Mart. This indicates a potential increase in gold, if an exodus of investors from uncovered foreign currencies will increase.

[^20]The largest part of the supply of gold on world markets is the extraction of raw materials. Until recently, we could see the continuous growth of gold mining, which was accompanied by a search for new deposits. Up to $50 \%$ of explorations of metals were just focused on finding new gold deposits. Currently, we observe the decline in annual gold mining. Moreover, since the end of 90 's of the $20^{\text {th }}$ century we note the decreasing trend in spending on finding new sites, which may result in a decline of gold mining in the near future.

### 8.1.3 Increasing in gold share in eastern central banks

High concentration of dollars in reserves of the Eastern central banks, mainly in Asia, in combination with low exposure to gold, predicts aggressive purchases of yellow metal from these destinations in the future. Everyone is aware of the risk concluding from the management irresponsibility of the USA. Russia, as we have repeatedly written, clearly continues with the trend of accumulating gold reserves also after last year's $30 \%$ increase, China has also declared that trend in public. India's last year purchase of 200 tons of gold from the International Monetary Fund does not require any comments. This reversal of the trend of public authorities will have a very strong effect on the interest of gold investors. Elimination of FED audit enhances mistrust in the declared quantities of gold.
U.S. has been a leader in the possession of gold for a long time and the official statistics show about 8,133 tons of gold held in reserves. It is, however, a leader in speculation about the actual reserves, where several - little discussed documents such as from the organization called GATA speak on swaps of gold to foreign countries for handling its price, which should be accompanied by physical movement of gold. These are all unconfirmed speculations, since the 50 's FED managed to prevent all attempts leading to audit of its balances. The continuing fight of FED against the review of the real state gives many reasons to distrust the credibility of the reported gold reserves. In human history, gold has been an important part of economic activity.

Commodity trading is never easy. It's not meant to be, but it can be fun and it certainly can be profitable when done well. But even the most experienced investors cannot keep up with the
changing markets as often and as well as they'd like because the very nature of the commodities market is to be confusing far more often than not. But amidst that seeming confusion, order can be found. It does not matter if you are trading gold, soybeans, or bonds a successful speculator has to keep an eye on what is happening in many markets around the world. ${ }^{[25]}$ At the same time, the speculator must be alert and mindful of his or her individual position in the market place.

Its importance declined during the $20^{\text {th }}$ century and may continue to shrink also in the future. Gold standard, which has had fixed exchange rates to the value of gold during the $19^{\text {th }}$ and early $20^{\text {th }}$ century, has been abandoned for a long time. Central banks which still owned over 30.000 tons in 2000, means over one quarter of all gold ever extracted, does not feel the little by lending precious metal to dealers. And so the selling began. Governments and investors have traditionally held gold as a hedge against inflation and to ensure safety in time of international crisis. But his role as a store of value has been tainted.

Between 1980 and 1990, the value of gold generally failed to keep pace with inflation. The liquidity of gold is also smaller than in foreign currency, so it is not so easy to use it for foreign exchange intervention to defend the currency against attack. Briefly, gold is no longer a monetary asset. In comparison with history of world, gold reserves are presently in the highest amount. They are estimated at 15 years of mining and about 38 thousand tones. But the question is, if this estimate is actual and trustworthy. Return in mining, and even on the poorer sites, is naturally increased by an introduction of new technologies as well as their productive resources, such as the organization improves, the use of computer technology and well-functioning logistics.

Greg Weldon stated: "Increase in interest rates leads to a rational credit and investment growth, to stabilized prices, stable functioning of the financial system, to balancing growth and improvement of the economic structure and promoting healthy, but rapidly developing economy

[^21]A special chapter belongs to the enormous prospects for mining in Russia. Until recently, most of the gold in this country was mined with alluvium suction dredgers, and therefore the transition to deep mining offers the great possibilities for the future. On the other hand, we must also mention the decrease in the average gold occurrence in the mined rocks. While in 2000, the average gold occurrence in one tone of mined rock was about 2 grams, last year this figure was only 1.2 grams. Discoveries of the new deposits are becoming smaller and according to estimations from mining companies, this negative trend will continue in the coming years. Also, the costs for extraction of this commodity have increased.


Sources: CEIC and Deutsche Bank CIB Research. "A-9" is Hong Kong, India, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan and Thailand.

Figure No. 6: Estimated development in extraction in Asia countries
Reference: [6]

According to the estimation by the U.S. Geological Survey, about one billion U.S. Dollars is currently needed for the opening of the underground mine. Ten years ago, about 100 million U.S. Dollars would be enough. These large initial costs do not allow smaller companies to start business in this area. It also supported by the fact that for example in $200843 \%$ of gold was extracted by the largest gold companies. At the turn of the millennium it was only $20 \%$.
[26] Last year is considered as a successful year for precious metals. Gold attributed almost $30 \%$. With such a huge percentage jumps, one may think that these metals, are too high and that soon we will see a bubble to blow out and that we should avoid it.

Increasing in prices of precious metals had 2 reasons: The first reason was a quantitative releasing, which had the desired effect. QE reduces the purchasing power of the dollar and lead to higher prices of gold and other precious metals. The second reason is the continuing demand for physical metals as substitutes for paper currency. We can't exclude that in 2011 we will experience an event similar to that of September 2008, so the bankruptcy of the investment bank. Instead of questions about liquidity need we will speak about the need for security and how to avoid risks.

The best way to do something like this is to hold precious metals in physical form. During the past 10 years gold was used "only" as a store of value. This means that if you have owned the gold in the past 10 years, you practically earned nothing. The dollar fell and gold only replaced the decline of the currency. But that changed in 2010. During many trade days when the dollar index had the growing tendency, the price of gold also increased. Diverting of the gold price development from dollar should not go unnoticed. The fact that gold is rising faster than the dollar is weakening, changes the precious metal from a store of value to the real creator of wealth.

Commodity investor has to undertake look for gold as one commodity from all, their price can increase or fall depending up supply and demand. ${ }^{27]}$ Gain to this perspective is also applicable have a look for gold to his historical backround, which is so complicated in USA. History shows, that gold is not always the best investment.

[^22]
## CONCLUSION

With the rising price of gold, which is observed in recent years, the profit margins of mining companies increase, and in my opinion, they will result in increased spending on finding new deposits. The higher gold prices enable the possibility of mining on the less accessible places, where the cost per 1 ounce is above already mentioned 400 USD. Therefore, I personally assume an increase in production of this commodity in the future, which may result again to decrease the price of gold in the long term.

The current crisis has important features. It does not only pass through an economic structure of various countries, but it also increases a recession. Therefore, buying of gold is considered to be one of the safest ways to preserve capital. Last year's valuation of gold exceeded 1000 USD. Prices of the other precious metals were close to their maximum prices. For the first time in the last 30 years, silver achieved the price of 21 USD per 1 ounce. Platinum and palladium climbed up on the price of 2273 USD and 582 USD respectively. This increase does not include the gold. Despite the decline in production and as a result of demand for gold among the companies, the gold keeps a very high price thanks to a speculation and operations to maintain the property.

There are other factors affecting price of gold E.g. the U.S. dollar and oil price. A movement in gold value has the opposite relationship with the movement of the dollar and a direct relationship with the dynamics of the value of oil. It is known that if the volatility of the currency market and the exchange rate of the dollar fall, gold is an alternative investment instrument. If the price of a barrel of oil rises, gold is a way of petrodollars saving.

If people expect to private gold market to accept government definitions of their currency and trade, their real gold for paper certificates representing an asserted value. What in the world is to prevent the seller of gold to change his price based on his personal view of a given currency and their monetary policies. The present peg of Yuan is great example of intentionally mispriced currency to support their vast export business and to collect foreign exchange currency. The gold market would respond to this by revaluing it themselves. When investors ignoring supply and demand it's their risk. Nowhere else though running off emotions a other psychological influnces to supply and demand so expressive as with gold.


#### Abstract

Bibiana BORUTOVA Project name: Analysis of current situation of extraction, demand, distribution and consumption and prognosis of development of Word market with gold. Bachelor thesis.

European Polytechnic Institute, Ltd. Kunovice<br>Supervisor: Ing. Ladislav Obdrzalek

Key words: Distribution, extraction, demand, consumption, market price development, commodity, gold, finances.

The subject of this work is to analyze the current situation of production, demand, distribution and consumption and subsequently the prognosis of development in the world gold market. From the original sources of miners, dealers, information resources of countries who take important positions in mining. I will try to quantify and describe the world centers of the production. At the end of the project will try to use a forecast of the further development of production and prices with a respect to development of economies of individual countries.

What happens when the price of gold exceeds the level, where the loss from uncovered positions of banks begin to grow to the extent that banks will be forced to buy up back their short positions It is clear that the declining reserves of central banks and the growing demand for gold will force the price to a level when there will not be possible to protect its current level.


## Bibliography

[1] STRUŽ, J. STUDÝNKA, B. J. Zlato Přiběh neobyčejného kovu. 1. vyd. Praha: Grada, 2005. 336 s. ISBN 80-247-0902-3
[2] BAKOŠ, F. CHOVAN, M. a kolektív. Zlato na Slovensku. 1. vyd. Bratislava: Slovenský skauting, 2004. 298 s. ISBN 808-91-3621-4
[3] CELIA, C. Přirodní bohatství Země, 1.vyd. Praha:
Reader's Digest, 2010. 160 s. ISBN 978-80-7406-088-5
[4] Historia zlata [online]. 2010 [cit. 2010-10-10]. Dostupné na www: http://www.zlatatehla.sk/zlato-a-trhy/historia-zlata
[5] Kašperské hory [online]. 2011 [cit. 2011-02-17]. Dostupné na www: http://www.zlatokop.cz/ckz/clanky/cesky/kasperske_hory/kasperske_hory.htm
[6] Paracelsus [online]. 2011 [cit. 2008-04-27]. Dostupné na www: http://www.alchemylab.com/paracelsus.htm
[7]Európska centrálna banka [online]. 2011 [cit. 2011-03-30]. Dostupné na www: http://europa.eu/institutions/financial/ecb/index_sk.htm
[8]Infomine [online]. 2011 [cit 2011-02-17]. Dostupné na www:
http://gold.infomine.com/countries
[9]Gold organization [online]. 2011[cit. 2011-03-02]. Dostupné na www: http://www.gold.org/
[10]Obchodovanie zlato [online]. 2011[cit. 2011-04-22]. Dostupné na www:
instaforex.sk/pre-zaciatocnikov/uzitocne-informacie/obchodovanie-zlata
[11]Investícia do zlata [online]. 2010 [cit. 2010-07-31]. Dostupné na www: goldshop.sk/sk/Investicia-do-zlata/Cena-zlata.alej
[12] BOCKER, H. J. Svoboda jménem zlato. 1. vyd. Praha: Austria Gold CZ, 2009. 152 s. ISBN 978-80-254-4979-0
[13]Investovanie zlato [online]. 2010 [cit. 2010- 08-02]. Dostupné na www: http://www.scribd.com/doc/35230489/Sprievodca-investovanim-do-zlata
[14]GATA [online]. 2011 [cit. 2011-02-04]. Dostupné na www:
http://www.gata.org/
[15]Trimbroker [online]. 2010 [cit. 2010-14-06]. Dostupné na www: http://openiazoch.zoznam.sk/info/zpravy/zprava.asp?NewsID=92869
[16]Trimbroker [online]. 2011 [cit. 2011-01-19]. Dostupné na www: http://www.trimbroker.com/
[17]WGC, Supply and demand [online]. 2007 [cit. 2009-04-26]. Dostupné na www: http://www.gold.org/
[18]Co jsou to komodity a jak to funguje [online]. 2004 [cit. 2009-03-17]. Dostupné na www: [http://www.financnik.cz/komodity/manual/komodity-jak-to-funguje.html](http://www.financnik.cz/komodity/manual/komodity-jak-to-funguje.html)
[19]Investični kovy [online]. 2010 [cit. 2010-05-06]. Dostupné na www: http://investicnikovy.cz/
[20]FinExpert.cz: Drahé kovy, nejvyšší čas investovat [online]. 2010 [cit. 2010-05-30]. Dostupné na www: http://finexpert.e15.cz/drahe-kovy-nejvyssi-cas-investovat
[21]ROGERS, J. Žhavé komodity: Jak můžete kdykoliv investovat se ziskem na světových trzích. Vyd. 1. Praha: Grada, 2008. s. 49 ISBN 978-80-247-2342-6
[22]Finweb [online]. 2010 [cit. 2010-06-21]. Dostupné na www:
http://finweb.hnonline.sk
[23] MALONEY, M. Rich Dad' s Advisors: Guide to Investing In Gold and Silver: Protect Your Financial Future. Business Plus, 2008. 240 p. ISBN 978-044651-0998
[24]Medzinárodný menový fond [online]. 2010 [cit. 2010-11-11]. Dostupné na www: http://www.nbs.sk/sk/o-narodnej-banke/medzinarodne-vztahy/mmf
[25] WELDON, T. G. Gold Trading boot camp. New Yersey: John Wiley \& Sons, Inc. Hoboken, 2007. 348 p. ISBN 13-978-0-471-72800-9
[26]Zlato - mýtus nebo realita? [online]. 2009 [cit. 2010-12-21]. Dostupné na www: http://www.xenetra.eu/view.php?cisloclanku=2006050005
[27] Nathan, K. L. Addison, W. Gold: The Once and Future Money, 1.edition Wiley, 2007. 447 p. ISBN 978-047004-7668

## List of abbreviation

AU - Aurum
PPB (UG/KG) - Parts ber billion
PRED. N. L. - Before christ
MM - Milimetre
G/T - Content of gold gram, ton
GC - Commodity chart
MOZ of gold - unit of measure for gold
GFMS - Gold fields mineral stock
IMM - International monetary market
CME - Chicago mercantile exchange
CBT - Chicago board of trade
GBP - British pound
COMEX - Commodity chart

## References for Figures Charts and Graphs

Figure No. 1: Gold and its shape
Figure No. 2: Map of the world's countries and extraction
Figure No. 3: Wild gold washing
Figure No. 4: View into depth of mining place
Figure No. 5: Investment gold
Figure No. 6: Estimated development in extraction in Asia coutnries

Table No. 1: Total global Gold production
Table No. 2: Gold extraction development since 2000

Graph No.1: Demand for gold according to industry in US dollars
Graph No. 2: World gold producers - gold in US dollars
Graph No.3: Gold prices US dollars / ounce
Graph No. 4: Gold price for past ten years in US dollars
Graph No. 5: Geographical presentation of gold consumption per ounce


[^0]:    According to Law No. 111/1998 Cod., §47b, para. 3, author agrees with publishing of this Paper in terms of this law and irrespective of the results from habitation.

[^1]:    ${ }^{1}$ Zlato [online]. 2011 [cit. 2010-07-09]. Retrieved from www:
    http://sk.wikipedia.org/wiki/Zlato
    ${ }^{2}$ STRUŽ, J.; STUDÝNKA, B. J.; Zlato: Přiběh neobyčejného kovu. 1.vyd. Praha:

[^2]:    ${ }^{3}$ Kašperské hory [online]. 2011 [cit. 2011-02-17]. Retrieved from www.
    http://www.zlatokop.cz/ckz/clanky/cesky/kasperske_hory/kasperske_hory.html

[^3]:    ${ }^{4}$ BAKOŠ, F.; CHOVAN, M.; a kolektív. Zlato na Slovensku. 1. vyd. Bratislava:
    Slovenský skauting, 2004. s. 80 ISBN 808-91-3621-4

[^4]:    ${ }^{5}$ Historia zlata [online]. 2010 [cit. 2010-10-10]. Retrieved from www:
    http://www.zlatatehla.sk/zlato-a-trhy/historia-zlata
    ${ }^{6}$ CELIA C; Přírodní bohatství Země. Praha: Vydavatelství Reader's Digest, 2010.
    ISBN 978-80-7406-088-5 Str. 94-104

[^5]:    ${ }^{7}$ Európska centrálna banka [online]. 2011 [cit. 2011-03-30]. Retrievered from www: http://europa.eu/institutions/financial/ecb/index_sk.htm

[^6]:    ${ }^{8}$ Infomine [online]. 2011 [cit. 2011-02-17]. Retrieved from www:
    http://gold.infomine.com/countries

[^7]:    ${ }^{9}$ Gold organization [online]. 2011 [cit. 2011-03-02]. Retrieved from www:
    http://www.gold.org/

[^8]:    Warren Buffet stated: "Gold is mined from underground in Africa or elsewhere. Then it is melted, we'll dig another hole, and hide it there and we will pay people to stand around and guard it. Gold is useless. Anyone who follows it from Mars would be scratching his head. "

[^9]:    ${ }^{10}$ Obchodovanie zlato [online]. 2011 [cit. 2011-04-22]. Retrieved from www: instaforex.sk/pre-zaciatocnikov/uzitocne-informacie/obchodovanie-zlata

[^10]:    ${ }^{11}$ Investicia do zlata [online]. 2010 [cit. 2010-07-31]. Retrieved from www:
    goldshop.sk/sk/Investicia-do-zlata/Cena-zlata.alej

[^11]:    ${ }^{12}$ Investovanie zlato [online]. 2010 [cit. 2010-08-02]. Retrieved from www: http://www.scribd.com/doc/35230489/Sprievodca-investovanim-do-zlata
    ${ }^{13}$ BOCKER, H. J. Svoboda jménem zlato. 1. vyd. Praha: Austria Gold CZ, 2009. 152 s. ISBN 978-80-254-4979-0

[^12]:    ${ }^{14}$ GATA [online]. 2011 [cit. 2011-02-04]. Retrieved from www: http://www.gata.org/
    ${ }^{15}$ Trim broker [online]. 2010 [cit. 2010-14-06]. Retrieved from www. http://openiazoch.zoznam.sk/info/zpravy/zprava.asp?NewsID=92869

[^13]:    ${ }^{16}$ Trimbroker [online]. 2011 [cit. 2011-01-19]. Retrieved from www:
    http://www.trimbroker.com/

[^14]:    ${ }^{17}$ WGC, Supply and demand [online]. 2007 [cit. 2009-04-26]. Retrieved from www: http://www.gold.org/

[^15]:    ${ }^{18}$ Co jsou to komodity a jak to funguje [online]. 2004 [cit. 2009-03-17]. Retrieved from www: [http://www.financnik.cz/komodity/manual/komodity-jak-to-funguje.html](http://www.financnik.cz/komodity/manual/komodity-jak-to-funguje.html)

[^16]:    ${ }^{19}$ Investiční kovy [online]. 2010 [cit. 2010-05-06]. Retrieved from www: http://investicnikovy.cz/

[^17]:    ${ }^{20}$ FinExpert.cz: Drahé kovy, nejvyšší čas investovat [online]. 2010 [cit. 2010-05-30]. Retrieved from www: http://finexpert.e15.cz/drahe-kovy-nejvyssi-cas-investovat

[^18]:    ${ }^{21}$ ROGERS, J. Žhavé komodity: Jak můžete kdykoliv investovat se ziskem na
    světových trzích. Vyd. 1. Praha: Grada, 2008. s. 49 ISBN 978-80-247-2342-6

[^19]:    ${ }^{22}$ Finweb [online]. 2010 [cit. 2010-06-21]. Retrieved from www:
    http://finweb.hnonline.sk

[^20]:    ${ }^{23}$ Medzinárodný menový fond [online]. 2010 [cit. 2010-11-11]. Retrieved from www:
    http://www.nbs.sk/sk/o-narodnej-banke/medzinarodne-vztahy/mmf
    ${ }^{24}$ MALONEY, M. Rich Dad's Advisors: Guide to Investing In Gold and Silver: Protect Your Financial Future. Business Plus, 2008. 240 p. ISBN 978-044651-0998

[^21]:    ${ }^{25}$ WELDON, T. G. Gold Trading boot camp. New Yersey: John Wiley \& Sons, Inc. Hoboken, 2007. 348 p. ISBN 13-978-0-471-72800-9

[^22]:    ${ }^{26}$ Zlato - mýtus nebo realita? [online]. 2009 [cit. 2010-12-21]. Retrieved from www:
    http://www.xenetra.eu/view.php?cisloclanku=2006050005
    ${ }^{27}$ Nathan, K. L. Addison, W. Gold: The Once and Future Money, 1.edition Wiley, 2007. 447 p. ISBN 978-047004-7668

