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# The ratio gold and silver : price, production and reserves

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Here is the second article on the subject of the ratio gold and silver. He allows to measure the report between the gold and the silver according to different methods. After a historic approach on the ratio in 19th century and a comparison of the production of the silver with the copper, the lead, the cobalt, the zinc, the nickel, this article has a much more concrete approach. The first part explains the beginners that is the ratio gold and silver. The second part gives various types of ratio and the last part is a possible interpretation of these ratios. The subject of this series of articles is to find the good report between the gold and the silver, because the current report of 60 is a temporary abnormality of the market. This is very interesting for investors because the gold is in a long-term bullish market and because the silver usually follows the gold in its increase. He moreover has to catch up his delay on the gold.

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### Explanation of the ratio

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- Here are some explanations on the ratio price now and silver.

For example, with one ounce of gold in 400 dollars and one ounce of silver 6.5 dollars:

$$400/6.5 = 61$$

The ratio is 61 what means that the gold is 61 times as expensive as the silver, or that we have 61 kilograms of silver for a kilogram of gold.

- Some examples :

For a ratio of 60 with one ounce of gold in \$400, it gives one ounce of silver to \$6.6.

For a ratio of 30 with one ounce of gold in \$400, it gives one ounce of silver to \$13.3.

For a ratio of 15 with one ounce of gold in \$400, it gives one ounce of silver to \$26.

For a ratio of 7 with one ounce of gold in \$400 it gives one ounce of silver to \$57.

For a ratio of 60 with one ounce of gold in \$600, it gives one ounce of silver to \$10.

For a ratio of 30 with one ounce of gold in \$600, it gives one ounce of silver to \$20.

For a ratio of 15 with one ounce of gold in \$600, it gives one ounce of silver to \$40

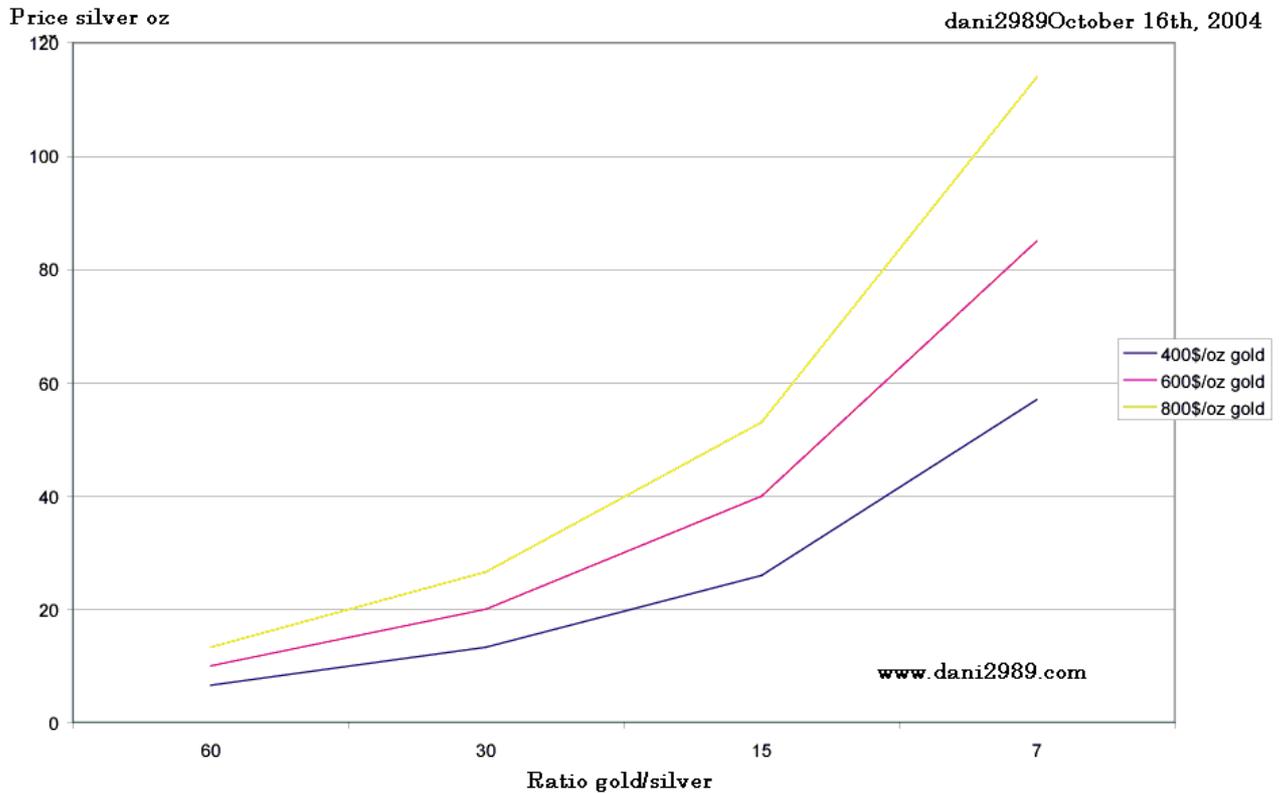
For a ratio of 7 with one ounce of gold in \$600, it gives one ounce of silver to \$85.

For a ratio of 60 with one ounce of gold in \$800, it gives one ounce of silver to \$13.3.

For a ratio of 30 with one ounce of gold in \$800, it gives one ounce of silver to \$26.6.

For a ratio of 15 with one ounce of gold in \$800, it gives one ounce of silver to \$53.3

For a ratio of 7 with one ounce of gold in \$800, it gives one ounce of silver to \$114.2.



- This report evolved in the time with higher one above 90 in 1940, then in 1991; and of the lowest below 20 in 1920 and in 1969. The same ratio was 15 during two hundred years, from 1680 till 1870 and 10 at the beginning of the 16th century.

## Ratios

- The ratio reserves in basement (figures 2000).  
There are 77 000 tons of gold reserves under ground.  
There are 420 000 tons of money in reserve under ground.

$$420\ 000\ \text{tons} / 77\ 000\ \text{thunder} = 5.45$$

The ratio of the available reserves in basement is 5.45, this means that the gold is 5.45 times as rare as the silver.

- The ratio production ( 2002 ).

The production of silver is 20 000 tons in 2002.

The golden production is 2 550 tons in 2002.

$$20\ 000 / 2550 = 7.84$$

The ratio of the production in 2002 is 7.84, this means that the silver is produced 7.84 times more than the gold.

- The gold and the already produced silver.

It is very difficult to know the total quantity of silver which was produced since the beginning of the human exploitation. I thus used the total of the production of gold and silver from 1900 till 2003.

Silver production 1900-2003: 929 312 tons

Production 1900-2003 Gold: 121 546 tons

$$929\ 312 / 121\ 546 = 7.64$$

The ratio gold and silver produced from 1900 till 2003 is 7.64, this figure is very close to the ratio of production of 2002, and indicates a certain constancy in the report of the production gold / silver for a century (in some sorts it means making an average of the annual ratio of production over the century).

- Production costs.

Production costs for the silver are \$5 the ounce and of \$300 the ounce for the gold.

$$300 / 5 = 60$$

The ratio between the production cost of the silver and the gold is 60. The 5-dollar production cost for the silver and 300 dollars for the gold are round figures (I am interested in any information about this subject of the production costs of the gold and the silver at the world level or local, thank you in advance).

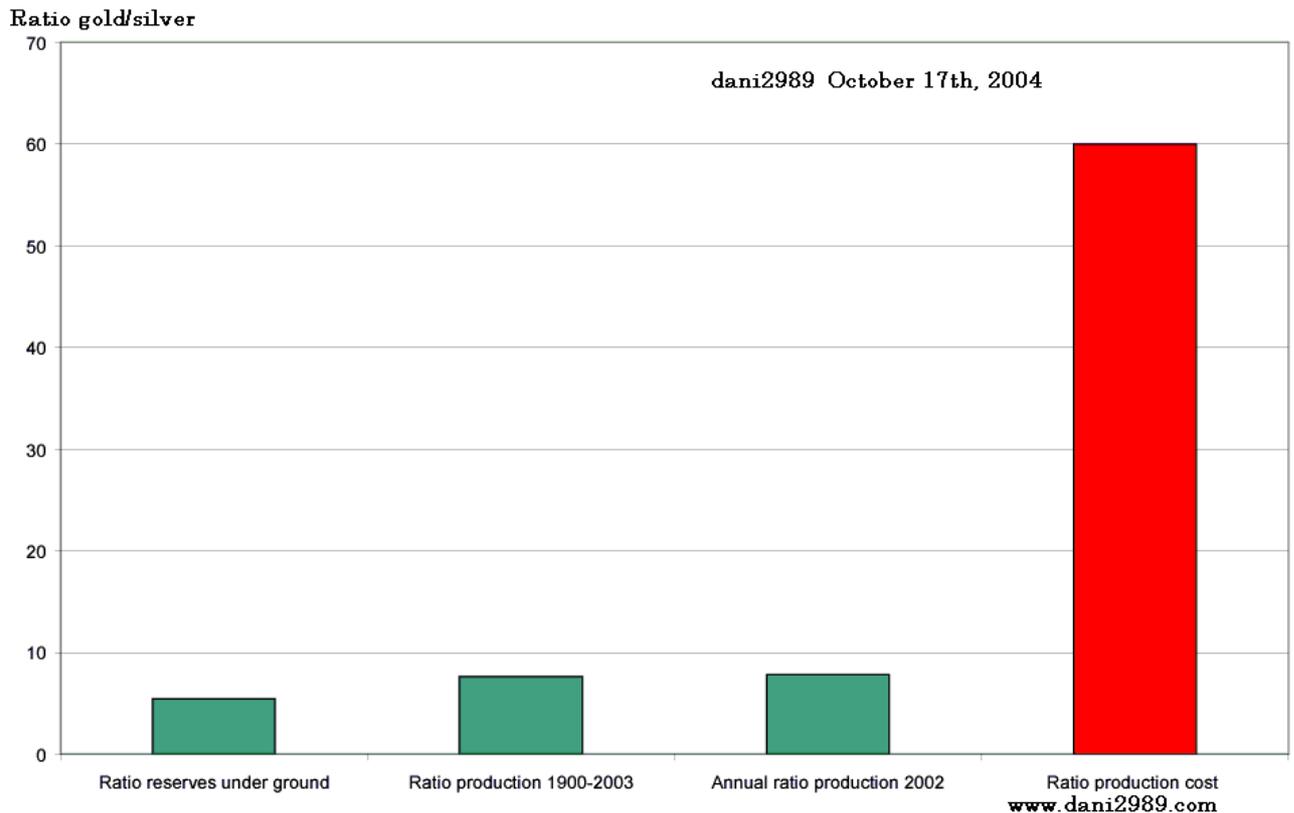
If we summarize:

Ratio production annual: 7.84

Ratio reserves in basement: 5.45

Ratio production 1900-2003: 7.64

Ratio production cost: 60



## Perspective

- The external pressures which occurred for twenty years on the prices of the gold and the silver pushed the prices below their production costs. The production costs of the silver being very weak that those some gold, the silver much more fell thus proportionally. Before the end of the bimetallism, at the end of the 19th century, the silver was considered as the equal of the gold, during this period the ratio between the gold and the silver evolved between 5 and 15. This figure is close to the ratio of rarity between the gold and the silver, for example today silver in reserve under ground is 5.4 times as important as it they some gold. The price of the silver thus has a big delay to be reconquered on that of the gold. The gold is moreover itself in a phase of increase for very long term.

- The price of the silver is determined thus largely by its production cost and not by its rarity. The current ratio is closer to the zone 60 than of 7. This balance between the gold and the silver will be stable until there is a problem on silver in reserve, at this moment there the ratio will straighten violently. This balance will be broken when the first problems on the renewal of the reserves will take place, in summary when the peak of production will be reached.

There are two schools which oppose:

- The optimists think that the raw materials are inexhaustible. For them, the consideration of the 1st exhaustion of the materials questions paradigm of the perpetual growth, Holy Graal of the modern economy. They think that the im-

provement of the techniques of production and researches is enough for them only to increase the reserves *ad vitae æternam*. This current of thought is the most important by its number and its influence. For this group, raw materials in the broad sense are without interest and disdained, this remains even more true for the barbaric relics, than are the gold and the silver, because of their past monetary role.

- The pessimists think that the peak of production is very close and consequently the factor rarity is going to get over it after centuries of hibernation. If you belong to this category, if you are a contrary investor, you here is finally happy, because you are in the opposite direction of big media, financial and university circles, a true salmon against roaming.

In conclusion, the current ratio seems inferred by production costs, not by rarity. The ratio of 60 between the gold and the silver will fall with the appearance of the peak of production. Then the ratio now the silver will go to a ratio of 7. If tomorrow, I find a big diamond in my garden (regrettably very improbable), what is going to determine the price, it is the rarity and not its production cost which is of zero. The silver is produced with costs reduced because of its geologic distribution. It is not sold according to its rarity, but to its availability, this cannot be eternal.

It is difficult to know at which moment the fall will take place, but it is easy to guess that it will pull a vague unprecedented bull on the sector of the silver, this wave, such Tsunami, will take at unthinkable heights all which relates closely or by far to the silver. The structural changes of the sector will return this durable increase contrary to the increase of the 1980s.

But be carafull, I belong to the second category, that of the pessimists. But if you read all these lines, it is doubtless that you too belong to this category.

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