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RESEARCH NOTE

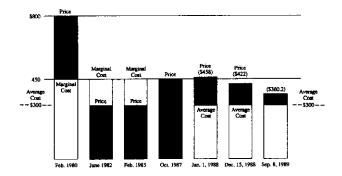
Lewis E. Lehrman (212) 296-7190 September 15, 1989

WHITHER GOLD?

Is there an objective measure by which one can compare and forecast the relative values of portfolio assets as different as gold and U.S. equities? In our early-1988 research study, "Gold in a Global Multi-Asset Portfolio," we proposed such a benchmark and spelled out an objective methodology for selecting it. By calculating the percentage divergence between the market price of each asset and its actual replacement cost (or the cost of its production), one can obtain an objective value-based ratio that can be used to estimate the relative under- or overvaluation of gold and U.S. equities.

Has that measure proven to be a useful indicator of relative performance? On January 1, 1988, the S&P 400 was trading 19.5% below the estimated replacement cost of the equity of its component companies, whereas the price of gold was 52.7% above the metal's estimated all-in average cost of production (approximately \$300 an ounce) in the United States. On the basis of our cost-of-production/ price test, therefore, gold was substantially overvalued at the beginning of last year relative to U.S. equities. The model thus implied a relative decline in the price of gold and/or a relative rise in U.S. equities. From January 1, 1988, to September 8, 1989, the price of the metal has dropped almost 21% and the S&P 400 has risen 12.5%.

Price of U.S. Gold Output Versus Estimated Average and Marginal Cost (of Readily Mined Gold) (per ounce)



The accompanying figure shows the fluctuations in the market price of gold relative to both estimated marginal and average all-in costs of production since 1980. On September 8, 1989, gold closed at \$360.20 an ounce, a 20% premium to the all-in average U.S. cost of production (based on the January 1988 average cost of \$300). On the same date, the S&P 400 closed at 399.24, a 7.3% premium relative to its replacement cost value. Thus, since January 1988 the gold price premium has fallen substantially relative to the S&P 400, especially considering that the true average cost for gold has probably risen to closer to \$350. (We emphasize that even a rigorous analysis cannot specify exact replacement and average costs.)

With this caveat in mind, our model still suggests that the price of gold should hold steady or continue down slowly in the near future — with occasional upward bursts. Even from an intermediate viewpoint, the metal may still be a bit overvalued in relation to U.S. equities. But this disparity could end in late 1989 or early 1990, if, for example, gold appreciates less than U.S. stocks or if the price of gold falls more than the U.S. stock market.

Finally, using our absolute value test, gold is now approaching its true worth; that is, the market price is close to the underlying average cost of production. We would not buy gold aggressively for longer term investment until its price declines below the all-in average cost of production in the United States, now closer to \$350.

For those who can endure the pain of being early in a volatile market, one might even initiate a small position now. For those who prefer North American gold shares to bullion and appreciate the risks, the premier institutional investment is <u>Placer Dome</u> (\$15) listed on the New York Stock Exchange.

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