PRESS RELEASE

Research Confirms Gold's role as a Hedge against Currency Fluctuations

London, 22 September 2004: The World Gold Council has today released research by three of the United Kingdom’s leading economists that confirms the long held view that gold offers consistently good protection against exchange rate fluctuations, and in particular against fluctuations in the value of the US dollar against other leading currencies.

Although gold’s hedging properties have been widely assumed by many in the financial services industry, and indeed by central banks, it is believed that the research represents the first time that the case has been proven using statistical analysis of the relationship between gold and the exchange rates of various currencies against the dollar.

The research was conducted by Forrest Capie, Professor of Economic History at the Cass Business School; Terence Mills, Professor of Applied Statistics and Econometrics at Loughborough University; and Geoffrey Wood, Professor of Economics at Cass Business School in the City of London.

Background

With the final breakdown of the Bretton Woods system in 1971, exchange rates of the major currencies floated, thus becoming persistently variable against each other for the first time in history. This created both a danger and an opportunity. The danger was that international traders and investors could make substantial losses, despite sound underlying trade or investment positions, purely as a result of currency fluctuations over which they could have no influence. The opportunity was two-sided; they could protect themselves against these risks or they could actively seek to profit from them.

At first, investors looked for currencies which they could regard as “safe havens”. But even the most apparently safe of currencies is subject to economic and political risk and to unpredictable political manipulation. Accordingly, therefore, there was revived and increased interest in ways to hedge these risks. Among these ways was investment in gold.

It has long been thought that gold was a good protection against depreciation in a currency's value. In the latter case it is normally considered, in particular, to be a hedge against fluctuations in the US dollar, the world's main trading currency.

However, whilst this had been widely believed, it still needed formal statistical support. The purpose of this study was to see whether such support actually exists.

Key findings

Data from 1971 – the date of the breakdown of the Bretton Woods system – on the gold price and on exchange rates were examined. A variety of statistical techniques were applied to explore the relationships between gold and the exchange rates of various currencies against the US dollar. The relationship was examined over the whole period of years from 1971 until June 2002 (the end of the data set examined), and also for various sub-periods, with particular attention paid to the hedging properties of gold in episodes of economic or political turmoil.

The key findings are that:

- The US dollar gold price moves in opposition to the US dollar price of currencies such as the British pound, German mark, Swiss franc and Japanese yen. If the dollar appreciates, the dollar gold price falls. A fall in the dollar relative to the other currency produces a rise in the gold price.

- For each exchange rate considered, a typical weekly movement in the US dollar price of these currencies (i.e. the exchange rate) generates a movement in the gold price of just under one dollar.

- Further, this response of the gold price proves remarkably stable over time. This was the case whether one looked at the period as a whole or divided it into various sub-periods.

- Despite repeated periods of economic turbulence between 1971 to 2002 gold was, throughout, a consistently good protection against the exchange rate fluctuations this turbulence produced.

An example

Consider a UK holder at the time that gold is $350 an oz and $1=£0.67 so that gold is therefore £234.50 per oz. Suppose the dollar falls against the pound by a typical amount of £0.005, so that $1=£0.665. Without a move in the dollar gold price the sterling price would fall to £232.75. But this research shows that the gold price would, on average, rise to $350.9976 per oz and the new sterling price would be £233.41. This would still be slightly lower than the price to start with but some of the loss would have been recuperated.

Clearly the results in each case will depend on the precise exchange rate to start with, the starting price of gold and how much both the exchange rate and the gold price move.

This leads to a consideration of two questions. Why is gold a hedge against such fluctuations, and why does the extent to which it serves as a hedge vary as it does?

Why is it a hedge?

Gold acquired the attributes of a monetary asset for a wide variety of reasons, many of which are discussed in this paper, but underlying all these reasons is the fact that gold cannot be produced by the authorities who produce currencies. This means that those who can increase the supply of money, and therefore from time to time debase its value, cannot by similar means debase the value of gold.

James E Burton, chief executive of the World Gold Council, said today: "Today's research results confirm the view that gold protects against exchange rate fluctuations, particularly in the value of the dollar against other leading currencies. Most central bankers have long understood and recognised this. Only recently Axel Weber, the new head of the Bundesbank, explicitly made this point, describing gold as a 'safeguard against fluctuations in the central bank's holdings of dollars'*. We believe that all central banks and other financial institutions will be encouraged by this formal and independent confirmation."

To see a copy of the research, please visit www.gold.org/value/stats/research/index.html.

- Ends -

For further information, please contact:
Anita Saunders, head of public relations at The World Gold Council
Tel: +44 (0) 207 826 4716, or +44 (0) 7841 299549
Email: anita.saunders@gold.org.
Anna Bornman, marketing executive at the World Gold Council
Tel: (0) 207 826 4726
Email: anna.bornman@gold.org

*The interview in *Die Zeit* (2 July 2004) contained the following statements by Dr Axel Weber, the new president of the Bundesbank:

"For the Bundesbank, gold plays an important role in the management of the currency reserves. In particular it is a natural safeguard against strong fluctuations in the value of the US dollar. Losses on dollar holdings can partly be offset through profits on gold holdings and vice-versa".

He also made clear that the Bundesbank had not decided to sell any gold yet (at the time of the interview). The decision would depend on discussions within the European Central Banking System.

Notes to Editors:

About the World Gold Council

The World Gold Council (WGC), a commercially-driven marketing organisation, is funded by the world's leading gold mining companies. A global advocate for gold, the WGC aims to promote the demand for gold in all its forms through marketing activities in major international markets. For further information visit www.gold.org.

About the academics

Forrest Capie is Professor of Economic History at the Cass Business School, London. After a doctorate at the London School of Economics in the 1970s and a teaching fellowship there, he taught at the University of Warwick and the University of Leeds. He has been a British Academy Overseas Fellow at the National Bureau, New York, and a Visiting Professor at the University of Aix-Marseille and at the London School of Economics. He has written widely on money, banking, and trade and commercial policy.

From 1989 to 1992, he was Head of the Department of Banking and Finance at City University. He was Editor of the Economic History Review from 1993 to 1999. He is a member of the Council of the Economic History Society, the Council of New Europe and the Academic Advisory Council of the Institute of Economic Affairs. He also serves on the bipartisan Council of Economic Advisors to the Shadow Chancellor of the Exchequer and is an Academician of the Academy of Social Sciences. In 2004 he was commissioned to write the official history of the Bank of England.

Terence C. Mills is Professor of Applied Statistics and Econometrics at Loughborough University. A graduate of Essex and Warwick universities, he has also held professorial appointments at City University Business School and Hull University and previously worked for the Bank of England. Terence Mills is the author of *Time Series Techniques for Economists, The Econometric Modelling of Financial Time Series* and *Modelling Trends and Cycles in Economic Time Series*, which has just been published by Palgrave Macmillan. He is the author of more than 130 articles in journals and edited volumes, typically in the area of applied econometrics, forecasting and finance, although he has recently begun to turn his attention to statistical models in meteorology.

Geoffrey Wood is Professor of Economics at Cass Business School in the City of London. A graduate of Aberdeen and Essex universities, his first post as an economist was at Warwick University, which he joined as a lecturer in 1968. In 1971 he went to the Bank of England as a visiting economist in the Economic Intelligence Division. After completing a two year assignment there, he returned to Warwick for a further two years, before accepting an invitation to serve for one year as a Visiting Scholar at the Federal Reserve Bank of St Louis, in Missouri. He subsequently moved to City University, London, where he has been a Professor since 1986.

Geoffrey Wood has advised a number of central banks, international organisations, and governments. He has lectured extensively at Universities, Central Banks, and Treasuries round the world. He has published, as author, co-author or co-editor, twenty books, and numerous articles and conference papers on subjects including foreign direct investment in the EU, the connection between deflation and recession in the UK, currency crises, and the effects of regulation on the stability of the financial sector.

Gold as a Dollar Hedge – a breakdown of data, analysis and findings

The data

Movements of the gold price were tested statistically against different exchange rates. Four of these were dollar exchange rates, against other major currencies: sterling, the yen, the Deutsche Mark and the Swiss franc. The Deutsche Mark was chosen primarily as a proxy for the euro. The dollar effective rate was also examined while the sterling rate was included as a control although gold was not expected to be a hedge in this case.

The analysis

The first step was to confirm whether there was a statistically significant correlation between changes in each exchange rate and changes in the dollar gold price. End-week data were used. With the exception of the sterling rate, a statistically significant contemporaneous correlation was found between the gold price and the various exchange rates. The correlation was, as expected, negative, indicating that a fall in the dollar against the other currencies is associated with a rise in the gold price and vice versa.

The second step was to develop a mathematical equation relating changes in the logarithm of the gold price to changes in the various exchange rates. The results revealed that a change in the gold price the previous week was generally barely statistically significant but that the change in the exchange rates was, the yen apart, highly significant. As expected the results showed that a fall in the dollar provokes a gold price rise and vice versa.

Finally, the authors examined the stability of the relationship. Scattergraph investigation revealed that the mathematical relationship between each exchange rate considered and the gold price had shifted from time to time but that in nearly every sub-period there was a mathematically definable relationship. The breaks varied from exchange rate to exchange rate, but many occurred either in the 1979 to 1980 period, a time of noticeable change in the global economic climate, or around 1985, the time of the Plaza exchange rate accord.

Mathematical equations were developed for each of the sub-periods identified. The conclusion was that while the relationships varied substantially from one sub-period to the next, the gold responses to exchange rate movements remained remarkably similar. This demonstrates that the relationship between the gold price and each exchange rate has changed from time to time, but with only one or two exceptions, gold has maintained its hedging power throughout each different episode. Its reaction to exchange rate movements has been remarkably consistent over time and across currencies.

The effectiveness of gold as a hedge depends on factors such as the level of the exchange rate, the gold price at the time and how much the exchange rate moves. For example, if the dollar weakened from $1 = £0.67 to $1= £0.665 when the gold price is $350 per oz, the sterling value of an ounce of gold would fall slightly but far less than it would if the gold price were unaffected by the dollar movement. If, at the same gold price the dollar were to move from $1=DM2 to $1 =DM1.99, then the DM value of once ounce would rise.