

Dynamic Relationship Between Gold Prices and Stock Prices: A Study in Indian Context



Economics

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ABSTRACT

The stock markets of a country become more sensitive to both domestic and external factors, and one such factor is the price of gold. There is an inverse relationship between gold price and dollar. the co-movement of gold prices and stock prices even during the period global financial crisis and thereafter. Indians have started considering gold not only as jewellery but also an important mode of investment like investment in bonds and equities. During the period of global financial crisis, stock markets crashed but gold price continues to increase in India. Unlike stock, the extent of holding of gold in India is widespread, though retail participation in the Stock Markets has gone up in the last few years. However, Indians have started considering gold not only as jewellery but also an important mode of investment like investment in bonds and equities. Perhaps, this explains the co-movement of gold prices and stock prices even during the period global financial crisis and thereafter.

INTRODUCTION:

Indian commodity futures markets registered 373% growth during 2005-06. Despite this growth rate, there is skepticism about the effect of commodity futures on its underlying assets in India. Gold has been used around the world as an instrument for investment to hedge against inflation or in the form of jewellery. All these factors are the reason for hyping the demand for gold day by day. As per world gold council gold demand in India is about to rise 33% by 2020. The cumulative annual demand will be excess of 1,200 tonnes by 2020. Recently India has become the largest consumer of gold and price of gold is likely to breach Rs 32,000 mark in the next calendar year. It is important to note that the developments in gold market in 2011-12 are taking place against the backdrop of global and economic uncertainties caused by the downgrading of sovereign debts and the debt crisis in many of the European countries. The crisis has quickly spread to the banking sector in Europe. The scenario that would require gold to fall sharply would entail a turnaround in the global economy, subsiding of geopolitical tensions and a reversal of monetary accommodation. In that scenario, equity and other risky assets ought to recover as investors move money away from "safe haven" assets like gold and US treasuries. In other words, a sharp reversal in gold prices would in fact be reflective of improvement in global conditions, especially, those in the US. The substitution of gold for equity and other riskier assets would thus offset the systemic impact of gold prices, if any.

The reform process in India began in early 1990s with stock exchanges and then spread to banks, mutual funds, NBFCs and of late, to insurance companies. However, reforms in equity market in particular commenced in mid-1980s (Datar & Basu 2004). Mumbai (formerly known as Bombay) Stock Exchange (BSE) has always played the dominant role in the equity market in India. Traditionally, stock exchanges were governed by brokers leading to conflict of interest situation between the interest of common investors and those of brokers/owners of stock exchanges. With the establishment of National Stock Exchange (NSE), a new institutional structure was introduced in India that could ensure smooth functioning of market through a combination of new technology and efficient market design. The Securities Exchange Board of India (SEBI) was set up as a market regulator with statutory powers to control and supervise operations of all participants in the capital market viz. stock exchanges, stock brokers, mutual funds and rating agencies. The development of debt market is another significant development, which has been facilitated by deregulation of administered interest rates. Opening of stock exchange trading to Foreign Institutional Investors (FIIs) and permission of raising funds from international market through equity linked instruments have introduced a degree of competition to domestic exchanges and other market participants. Operations of FIIs have facilitated introduction of best practices and research inputs in

trading and risk management systems. Mumbai stock exchange (BSE), the premier stock exchange of India is probably the oldest stock exchanges in Asia, established in 1875. It was initially named as "Native Share and Share Broker Association" (Poshakwale 1996). Stability in prices for the BSE was considered to be an important feature. During the period 1987 to 1994, average annual price fluctuations of ordinary shares on BSE were 25.1% as compared with London Stock Exchange (22%), and the New York Stock Exchange (23.9%) (Poshakwale 1996).

OBJECTIVES:

1. To study the different factors which affect the price of gold.
2. To find out the trend analysis of Gold prices and stock markets
3. To analyze the long-run relationship between gold prices and stock prices.

METHODOLOGY:

Research Design –On the basis of fundamental Objectives of research our study is a type of Descriptive Research :-Descriptive research also known as statistical research, Method of data collection Secondary Data:-Large amount of secondary data is available in the forms of articles, manuals and previously conducted researchers on the similar topic. Also the data the gathered will help in identifying key parameters to examine through further exploration and thus will help in defining the Objectives.

Determinants of the Price of Gold

Assuming that the short-run price of gold is determined by supply and demand, it will fluctuate on a period-by-period basis in response to variables that alter the supply and/or demand for gold. We start by discussing factors that influence the short-run supply of gold. Central banks have been willing to lease gold since the early 1980's (see O'Callaghan 1991). Gold producers (i.e. mines) can implicitly supply their customers by leasing gold from central bank gold reserves, through a bullion bank intermediary, as well as extracting it from their mines. The quantity of gold supplied from extraction in any period is positively related to the gold price in an earlier period because there may be a substantial time lag before mines react to a price change. The quantity of gold supplied from extraction is also negatively related to the amount of extracted gold that is diverted to repay central banks for the gold leased in the previous period incremented by a physical interest rate in those cases where the central bank opts for interest to be repaid in gold. Therefore the total supply of gold to the market in each period from extraction is positively related to the lagged gold price, negatively related to the amount of gold

leased in the previous period and negatively related to the gold lease rate in the previous period.

There are two components to the short-run demand for gold. The first category consists of the “use” demand for jewellery, medals, electrical components etc. The “use” demand for gold is a negative function of the price of gold. The demand for jewellery is also affected by price volatility but the impact of this variable may be too short-term to affect this analysis. The second category is the “asset” demand for gold as an investment. This demand is based on a number of factors including dollar exchange rate expectations, inflationary expectations, “fear”, the returns on other assets and the lack of correlation with other assets. There has been considerable debate surrounding the assertion that gold reduces portfolio volatility because the types of events that cause stock prices to collapse also tend to raise the price of gold. That is, there is disagreement about the claim that gold has a “negative beta” because the returns to holding gold have the opposite sign to the returns on a market portfolio (beta is equivalent to the correlation of returns). We include this motivation to hold gold since the theoretical justification is unaffected by the debate. The debate about the beta of gold is an empirical issue and the relationship has been demonstrated to hold over some time periods. The effectiveness of gold in reducing portfolio risk is inversely related to beta which measures the extent to which the price of gold moves in the opposite direction from the stock market. Generally the empirical evidence shows that on average there is no correlation (see Lawrence, 2003; O’Connell, 2005; Pulvermacher, 2005a, b).

The market price of gold is determined where supply is equal to demand. However, as explained above, the supply and demand for gold and therefore the equilibrium short run gold price will fluctuate in response to changes, *inter alia*, in the gold lease rate, convenience yield, default risk, the beta for gold and the real interest rate. There is an arbitrage relationship (see Levin, Abhyankar and Ghosh, 1994) that drives the physical interest rate (the gold lease rate) into equality with the real interest rate. Theoretically, in equilibrium, a mine is indifferent between extracting gold now and selling the mined gold now, and leasing gold now, selling the leased gold now, investing the proceeds of the sale in a bond, selling the bond in one year and using the proceeds including interest to pay for extracting the gold plus the physical interest rate. If the cost of extraction rises at the general rate of inflation, the gold lease rate is equal to the real interest rate. The theoretical analysis of the short run gold price implies that there will be fluctuations in the gold price caused by political and financial turmoil as well as changes in real interest rates and the beta for gold that will cause divergences from the long-run inflation hedge price. The long-run price of gold is expected to rise in line with inflation and act as an inflation hedge essentially because the long-run price of gold is related to the marginal cost of extraction and if the cost of production rises at the rate of inflation, the price of gold will rise at the same rate. This conclusion is not affected if gold producers implicitly supply their customers by leasing from central banks as well as by extracting gold from mines. Since this gold has to be repaid it only affects supply in the short term. Profit maximizing behaviour by gold producers ensures that the cost of gold from leasing is equal to the cost of gold from extraction. If this was not the case then the cost of gold from one source would not be equal to the cost of gold from the other source. In this situation, profit could be increased by sourcing a higher proportion from the less costly source.

Macroeconomic Factors Affecting the Indian Stock Market
Stock market plays an important role in the development of an economy. It facilitates mobilization of funds across the economy—from surplus units to deficit units. The escalation in stock market is important from both industry as well as investors’ point of view. The economic position of a country can be judged by the performance of its stock market. An economic downturn escorts stock market towards collapse, and therefore, the government closely monitors the movements in the stock market. Ahmed (2008), by applying Toda and Yamamoto Granger causality test, variance decomposition and impulse response functions, concluded that stock prices in India lead economic activity except movement in interest rate. Interest rate seems to lead the stock prices. Debasish (2009a) concluded that spot price volatility and trading efficiency was reduced due to introduction of future trading. Debasish (2009b) found that the futures market clearly leads the cash market. It also found that the index call options lead the index futures more strongly than futures lead calls, while the futures lead puts more strongly than the reverse. Debasish (2009c), by using GARCH analysis, confirmed no structural change after the introduction of futures trading on Nifty. Besides Bansal and Pasricha (2009) found volatility is significantly reduced after the permission of foreign investment in the equity sector. Goudarzi and Ramanarayanan (2011) established that BSE500 stock index and FII series are co-integrated and bilateral causality exists between them. Gupta (2011) concluded that foreign institutional investment affects stock prices significantly. Ghosh et al. (2010) found that dollar price, oil price, gold price and CRR have a significant impact on stock market returns. However, food price inflation and call money rate do not affect stock market return. Agrawal and Srivastava (2011) found bidirectional causality between exchange rate and stock market; and positive significant relationship between volatility in stock returns and exchange rates through the GARCH model. Agrawalla and Tuteja (2007) provided evidence of a stable long run equilibrium relationship between stock market developments and economic growth in India. Srivastava (2010) concluded that in the long term, stock market was more affected by domestic macroeconomic factors like industrial production, wholesale price index and interest rate than global factors. Agrawalla and Tuteja (2008) reported causality running from economic growth proxies by industrial production to share price index.

A look at the historic data brings out that when the stock market crashes or when the dollar weakens, gold continues to be a safe haven investment because gold prices rise in such circumstances (Gaur and Bansal, 2010). It is no surprise that many investors, big and small have chosen to hedge their investments through gold at the time of crises. Gold prices have been on an uptick since 2000, while the stock market declined from 2000 to 2003 and then again in 2008. In 2008 when the market was suffering from bearish phase worldwide, gold prices spiked as panic spread across global markets. However, signs of recovery in the Indian stock markets have emerged since March 2009. At the same time gold continues to forge ahead, albeit at a slower pace. In 2008, the prices of two assets – equity and gold, were moving in opposite directions, displaying the ability of the yellow metal to protect one’s portfolios at the time of a dip. In fact, during each of the two prolonged bear phases over the past decade, gold has provided an effective hedge.

CONCLUSION:

presently, domestic gold prices and international gold prices are closely interlinked. Variations in the international gold prices find almost similar echo in the domestic

gold prices. As gold is an integral part of savings of a large number of investors, this has raised apprehensions whether any correction in gold prices will have destabilizing implications on the financial markets and to analyse the implications of the correction in gold prices on financial stability in India. domestic and international gold prices are closely interlinked. implications of correction in gold prices on the Indian financial markets are likely to be muted. Indians consider gold the safe haven investment as a financial asset as well as jewellery (ornaments). World Gold Council Report says that India stands today as the world's largest single market for gold consumption. Traditionally, gold has been more attractive than bank deposits, stocks and bonds. In developing countries, people have often trusted gold as a better investment. In many countries including India, gold remains an integral part of social and religious customs, besides being the basic form of savings. However, Indians have started considering gold not only as jewellery but also an important mode of investment like investment in bonds and equities. Perhaps, this explains the co-movement of gold prices and stock prices even during the period global financial crisis and thereafter.

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