

CRITICAL REVIEW ON RISK AND RETURN IN COMMODITY MARKET

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Abstract: This study is descriptive in nature and the paper reviews the literature on commodity market and risk associated with commodity investment, the different sources of return in commodity market and the effect of different macro-economic variables like interest rate, inflation on the return. Seasonality in the return, the systematic risk for the wheat, corn and soybean futures over the period close to zero. Average returns on the contracts for the same period were close to zero. Asymmetric and seasonal effect is present in commodities market, Seasonality affect is absorbed in risk and return relationship of each commodity. Gold price return indicating that seasonal dummies have asymmetric effect on gold market. The seasonal dummies in risk and return part of gold price are combination of positive and negative sign. The return part of Gold indicating no seasonal effect while the negative seasonal effect is observed in volatility part in the month of June.

KEY WORDS: Risk, Return Commodity Market

I. INTRODUCTION

Commodity is a class of goods for which there is demand but which is supplied without qualitative differentiation across a market. Market is an actual or nominal place where forces of demand and supply operate and where buyers and sellers interact (directly or through intermediaries) to trade goods ,services ,contract instruments for money or Barter .- Wikipedia

A commodity market is a market that trades in primary rather than manufactured products. It is a place where commodities can be bought and sold. It is in this market place that all the elements of commerce will come together to settle a price at which the commodity will get traded, Soft commodities are agricultural products such as wheat, coffee, cocoa and sugar, Hard commodities are mined, such as gold, rubber and oil. Commodity markets can include physical trading and derivatives trading using spot prices, forwards, futures, and options on futures.

A commodity derivative is a financial instrument whose value is derived from a commodity termed an underlie. Derivatives are either exchange-traded or over-the-counter (OTC). Over the-counter (OTC) contracts are "privately negotiated bilateral contracts entered into between the contracting parties directly". Derivatives such as futures contracts, Swaps (1970s-), Exchange-traded Commodities (ETC) (2003-), forward contracts have become the primary trading instruments in commodity markets. Futures are traded on regulated commodities exchanges.

Exchange-traded funds (ETFs) began to feature commodities in 2003. Gold ETFs are based on "electronic gold" that does not entail the ownership of physical bullion, with its added costs of insurance and storage in depositories such as the London bullion market

Commodity futures were evolved from the need of assured continuous supply of seasonal agricultural crops. The concept of organized trading in commodities started in 1975 in India. However due to the fear of unnecessary speculation, commodity option trading , cash settlement and commodity futures had been banned since 1952 & until 2002 commodity derivatives market was virtually nonexistence, except some negligible activity on over the counter (OTC) basis. But during 2003, realising the future trading as a tool for price risk management & price discovery will succeed only if physical trade was free, the government removed forward trading restrictions on a large number of commodities. This has led the Indian to have experience of unprecedented booming terms of number of modern exchanges, number of commodities

allowed for derivative trading as well as the value of futures trading in commodities (Dr G. Chandrasekhar Editor, Hindu Business line). Similarly Narendral.Ahuja(2006) has dealt extensively with the steps taken by the government to improve the market in terms of technology, transparency & trading activity. At present commodity futures were evolved from the need of assured continuous supply of seasonal agricultural crops. The concept of organized trading in commodities started in 1975 in India. However due to the fear of unnecessary speculation, commodity option trading, cash settlement and commodity futures had been banned since 1952 & until 2002 commodity derivatives market was virtually nonexistence, except some negligible activity on over the counter (OTC) basis. But during 2003, realizing the future trading as a tool for price risk management & price discovery will succeed only if physical trade was free, the government removed forward trading restrictions on a large number of commodities. This has led the Indian to have experience of unprecedented booming terms of number of modern exchanges, number of commodities allowed for derivative trading as well as the value of futures trading in commodities (Dr G. Chandrasekhar Editor, Hindu Business line). Similarly Narendral.Ahuja (2006) has dealt extensively with the steps taken by the government to improve the market in terms of technology, transparency & trading activity. At present commodity futures are traded on 6 National exchanges & 16 regional exchanges in India & 109 commodities are allowed for futures trading.

Generally speaking risk is the potential of losing something of value. In financial terms risk is the uncertainty associated with any investment. i.e., Risk is the possibility that the actual return on an investment will be different from its expected return.

According to Modern investment theory, the greater the risk you take in making an investment, the greater is your return has the potential to be if the investment succeeds – CITE – Dictionary of financial terms (2008)

STATEMENT OF THE PROBLEM:-

The commodity market in India has its effect on economic growth and development. The growth of commodity market is vital factor for country's economic growth and trend in this market is defined by the decisions of investors, it is important to explore risk and return factors influencing the decision of individual / retail investors. In this regard this study will have a significance of detail probe in to the various causes of risk and return

III. OBJECTIVE OF THE STUDY:-

1 To examine the risk and return in commodity market

RISK IN COMMODITY MARKET

In the investing world, the dictionary definition of risk is the chance that an investment's actual return will be different than expected. Risk means you have the possibility of losing some, or even all, of your original investment. Low levels of uncertainty (low risk) are associated with low potential returns. High levels of uncertainty (high risk) are associated with high potential returns. The risk/return trade-off is the balance between the desire for the lowest possible risk and the highest possible return. Risk is defined as the chance that an investment's actual return will be different than expected. This includes the possibility of losing some or all of the original investment.

Different kinds of risk faced by commodity market are Credit Risk – Arises on account of default by counter party. Market Risk - Risk of loss suffered by buyers or sellers on account of adverse movement of prices. Liquidity Risk – is the risk that offsetting of transactions may be difficult, as the market may be illiquid. Legal Risk - legal risk is risk coming from legal objections that might be raised since the exchange regulatory framework might disallow some activities. Operating Risk- operating risk is the risk arising out of some operational difficulties such as failure of electricity/internet connectivity problems due to which it becomes difficult to operate in the market. Financial Risk - unexpected changes in financial variables; like interest rates and exchange rates create financial risks for individual firms. This risk results if the firm's transactions involve an inflow or outflow of foreign exchange Hillary Till, Joseph eagleeye (2006),

Emphasis that the risk with commodities investing is similar to the risk with equity market investing, investing is all about managing the risk. Risk can also be bifurcated as Idiosyncratic Risk -(Residual / Specific/Unsystematic Risk) is the risk to which only specific agents /industries are vulnerable , which can be eliminated through diversification . Time varying nature of returns includes that the time to invest in commodities is during times of low inventories and when their future curves are in backwardation. During time of ample supply there are two variables that can be adjusted to equilibrate supply and demand –more inventories can be held and the price can reduce but if there are inadequate inventories only the price can respond to balance supply and demand. Backwardation and contango helps us to take decision like in a normal supplied market i.e market in contango the maximum price difference between the front and back Contracts tend to be determined by carrying charges which includes storage cost, insurance and interest. Backwardation occurs when supplies of commodities are inadequate therefore market participants are willing to pay premiums to buy the immediate deliverable commodity. Systematic Macroeconomic Risk – (Aggregate / Undiversifiable risk) is vulnerable to events which affect aggregate outcomes, which arises from market structure/dynamics which produce shocks which arises from govt policy, international economic force/acts of nature. Systematic Macroeconomic Risk factors are Interest rate environment - whether one is in rising rate/declining rate environment has been a key determinant of return and inflationary environment whether one is in an increasing or decreasing inflation environment also has played a role on how well commodities have performed relative to other asset class. If one invests in commodities when they are in supply or during unfavourable macro-economic environment one must be prepared for the possibility of unpleasant results.

The future risk premium As per Joseph Kang (2005), is determined by three factors a) Systematic risk b) Hedging pressure risk c) Option Co Variance Risk , he analyses in his article the possibility of delivery Risk as an additional determinate of future risk premium .he supports the net hedging pressure and delivery risk as additional determinant of risk premium in future market .Tompkins (2003), Suggest that all determinants of options risk premium are similar to determinant of futures risk premium . The literature therefore indicate that , although the delivery risk like hedging pressure is not a systematic risk , it might be a significant determinant of the future risk premium . Shawn K Roache (2008), asses the macro risk exposure (systematic risk), commodities futures provide exposure to inflation, real interest rates and exchange rates. Precious metals and energy have provided statically significance exposure to real interest rates and U.S dollar index .In fact all other commodities are inversely related to U.S real interest rates (real commodities prices fall as real interest rates rise) agriculture commodities are less sensitive.

Hillary Till (2006) – Discuss risk as portfolio level risk and strategy level risk. Diversified portfolios have inadvertent concentration risk .convenient way to classify levels of strategy risk are corporate level strategy, business level and Functional level strategy. Commodity future to an alternative portfolio provides excess return or minimize risk as compared to a portfolio consisting of stocks and bonds.-global business and management research (2014). One can maximize returns and minimize risk by building a portfolio of assets whose returns are not correlated with each other's, Aakriti Gupta(2004) even if the size of the commodities risk premium were to decline somewhat due to an increase in financial investment ,the diversification benefit of commodities are still make sense to hold commodities as one asset class among many in a well-diversified investment portfolio.-Mark Hannam(2010).commodity market contract will be affected by four sources of risk a) Spot Price diffusive risk b) Interest Rate diffusive risk c) Spot Price – Jump- Time risk d) Spot Price – Jump- size risk (Diffusion – Is the next movement of a substance from a region of high concentration to a region of low concentration) Milos Bozovic (2009), Risk premiums of commodity futures vary with the state of inventories. Portfolios that take positions based on the futures basis, prior futures excess returns prior spot returns, or volatility select commodity futures with below normal inventories which our theory predicts are expected to earn higher risk premiums Gary B. Gorton(2012)

RETURN IN COMMODITY MARKET

In the Recent years commodities market boom has inspired significant interest in this asset class among academics and practitioners , as an individual asset class commodities display several unique features which distinguish themselves from other financial assets .Return is something we expect for the risk we undertake we can analyse return in commodity markets as a) spot return n –which is the result of increase or decrease

in commodity prices over time, b) roll return-is the result of benefiting from different commodity prices for different delivery dates by rolling of future position. c) Collateral return-which is the return on any margin held against a future position.

The sources of returns for long commodity future contracts are, risk premium is the main sources of return and also just in time inventory policies ;is a management system with objective of having commodity readily available to meet demand but not a point of excess where you must stockpile extra product and collateral returns are the sources of returns. Another sources of systematic return in future market are “weather fear premia trades”. In this class of trade future prices are dependent on fear premium due to upcoming weather events that can influence and impact the supply/demand of a commodity. -Hillary Till, Joseph eagleeye (2006) .Convenience yield is the premium associated with holding the physical commodity rather than a contingent claim on it-Milos bozovic(2009).

Gorton (The University of Pennsylvania)&Rouwenhorst (yale University) in financial analysis journal has explored the historical returns of commodity futures indices. They found that over the time period of their studies that fully collateralized commodity futures historically had offered the same return and sharp ratio as equities. Hillary Till (2006) in her studies focuses on to understand the drives of those historical return .she says that the difference between commodity futures returns from its spot returns are substantial sources of return. Rebalancing is also an additional sources of return for a commodity investor (portfolio level effect).In her examine the returns of 16 commodity future contracts over the period –combining lowly correlated, highly volatile instruments can result in additional index level return. Geer of PIMCO (2000) in his journal explained the value weighted construction simply means that each commodity will be given a fixed percentage of the value of the portfolio. As prices fluctuate the index reflects the idea of selling the futures that go up and buying those that go down to maintain this constant balance. One might expect that the importance of the potential return due to rebalancing will become more widely appreciated by commodity investors. Hillary till discuss about structural sources of return one among which is roll yield. In a backwardated futures market (when future contract structurally lower than spot price) a future contract converges (rolls up) to the spot price, the spot price can stay constant but an investor will still earn returns from buying discounted futures contracts, this is the roll yield that a future investors captures. When a commodity futures contract is structurally higher than its spot price, this state is known as contango – a future investor will experience a negative roll yield as the contract continuously converges to a lower spot price.

“Excess return’-is solely from spot return +roll yield

Total return=spot return+rollyield+collateral returns

. She also noted that a rare trend shifts (paradigm shift) upward in spot prices can also a meaningful sources of returns as occurred in the early 1970.

Joelle Miffre, Georgiosrallis (2007) article examines the profitability of momentum strategy. the momentum returns are found to related to the propensity of commodity futures markets to be in backwardation/in contango.the result indeed suggest that the momentum strategies buy backwardated contract and sell contangoed contracts.

The relation between the return on asset and its volatility (as a proxy for risk) has been an important topic in financial research .risk return relationship and seasonality in the return and variance (risk) is captured through GARCH-IN-MEAN approach. Where dummies in mean and variance are used to identify seasonal effect. Gold returns are positive for all months except June. In case of soya bean returns show seven months negative returns while five months show positive return. Gold shows significant positive risk return relationship, whereas soya bean positive but insignificant relation relationship. Brajeshkumar, Priyankasingh(2008).Seasonal dummies have asymmetric effect on gold market. The seasonal dummies in risk and return relation part of gold price are combination of positive and negative sign. The return part of gold indicating no seasonal effect while the negative seasonal effect is observed in risk. Seasonality effect is absorbed in risk and return relationship of each commodity. Ahmed Imran Hunjra, Muhammadazam(2011).

The reason why traders choose to trade in commodity market because are they have a diversified historical term structure and hedging, liquidity, their sensitiveness to business cycle. Various active trading strategies to earn profits from the predictive power of the term structure and net hedging pressure on various premiums. The main active trading strategy are momentum/constrain strategy, convenience yield strategy,

net-hedging pressure strategy. Convenience yield and net hedging pressure are two unique features of commodities future market also both contain information for future risk premium and helps to get in-depth empirical study on commodity return in relationship with term structure and net hedging pressure .- Huijiang(2008). Futures portfolio had a more positively skewed return distribution than the stock portfolio and served as a far better hedge against inflation zviobdie and victor i.rosanky(1980) The Monday effect in cash gold appears to be weak and Statistically not robust. Edel Tully, Brian M Lucey(2005) Fully collateralized commodity futures historically have offered the same return and Sharpe ratio as US equities. Gary Gorton And K. Geert Rouwenhorst(2006) This study compares the risk & return performance of different groups of commodity futures in India over the study period 2004-2012. All the forms of returns (nominal, real and excess) are greater for oil & oil related products. At the same time, the volatility component is also higher for this group compared to other group of commodity futures BhaskarGoswamiIsita Mukherjee (2015).

CONCLUSION

Commodity markets returns are continuing for long time (persistent), occurring closely together (clustering), asymmetric (not identical).Risk return relationship-positive but meagre (insignificant) for soybean, significant positive relationship is found in the case of gold. Seasonality in risk and return found which suggest the asymmetric nature of return, negative correlation between return and its volatility. The systematic risk for the wheat, corn and soybean futures over the period close to zero in all three cases. Average returns on the contracts the same period were close to zero. Asymmetric and seasonal effect is present in commodities market Seasonality affect is absorbed in risk and return relationship of each commodity. Gold price return indicating that seasonal dummies have asymmetric effect on gold market. The seasonal dummies in risk and return part of gold price are combination of positive and negative sign The return part of Gold indicating no seasonal effect while the negative seasonal effect is observed in volatility part is observed in month of June. Commodity futures are positively correlated to inflation and provide a hedge against both expected and surprise changes in inflation. In the index level rebalance return come into play. the commodities which are in the portfolio is basically a basket of uncorrelated or lightly correlated,assets,the rebalance strategy likely result in long term excess return.

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