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Environmental Derivatives: Pollution Repellant Tools

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ABSTRACT

The recent reports show that India is home to 22 most polluted cities of the world. Indian capital Delhi is in 11th place. South Asia, a home to one-fourth of the world's population is in an alarming position. All the governments of the countries have strictly formulated rules to reduce pollution and despite this the pollution is in its peak. These rules for small activities especially at domestic level will not yield much result. The governments should focus on renewable energy resources to generate power facilities and reduce the emission of carbons into the atmosphere. India is also aiming to have at least 30% of its vehicles running on electricity by 2030. The farmers must be advised not to burn the residue left after crop harvesting.
The impact of air pollution is on the lives of human beings. In addition to that billions and trillions of dollars are spent on lost labor and medical expenses. That is it is affecting the lives of the people and also health and wealth of the people. Only in India the statistics recorded 1.24 million deaths in 2017 due to air pollution making up 12.5% of the total deaths in the year. In this regard the derivatives have shown up a significant impact on controlling the pollution.

INTRODUCTION

Today, the environmental derivatives have become increasingly popular and most commonly used in the world of finance. This has grown with so phenomenal speed all over the world that now it is called as the green derivatives revolution. With the introduction of green or environmental derivatives the trading strategies adopted by the investors is changing to reduce the risk and achieve more profits from investment.

Derivative markets were very new until the 1970s. But, with the breakdown of Bretton Woods system in 1973, there was a sudden increase in the volatility of exchange rates and interest rates thereby making it necessary for firms and investors to find ways to reduce these risks. Other developments in the international economic environment such as on-going globalization process, the deregulation of industries and the spectacular growth in international trade and finance, advancement in e-commerce through World Wide Web in recent years have also increased the demand for derivative products.

Environmental commodities are commodities that take the form of non-tangible energy credits. The value of these credits derives from the needs of market participants to produce, deliver and consume cleaner forms of energy. The markets for these products formed as a result of government efforts to tackle greenhouse gas emissions (GHGs) and promote clean energy production and consumption.

The Indian climate exchange aims to establish a mechanism that will provide objective, transparent and effective linkage between the buyers and sellers of certified Emission Reductions, thereby ensuring an optimized price for them and a win-win situation for both the buyers and sellers. The Indian climate exchange is set to fill a gap between buyers and sellers and promote carbon trading under market mechanism in the country.

REVIEW OF LITERATURE

Many researchers studied about risk management, risk avoidance mechanism and the significance of Basel-III framework to deal with the financial challenges in the regime of sub-prime crises in the banking sectors of many countries during 2008-2011. As per the study it is observed that the countries formulated new regulations to deal with the crises and to avoid these types of crises in future.

Some researchers in their paper analysed the regulatory framework of the Indian over the Counter derivatives market; especially the role of OTC traded derivatives versus exchange-traded derivatives. The paper explores the regulatory initiative of recording and clearing of derivatives through centralized counterparty for transparent functioning

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of the OTC derivatives market.

Gakhar and Meetu [1] and Gakhar [2] estimated that the size of derivatives market became multi-trillion dollar from 1990 to 2010. The authors studied the evolution of Derivatives market in India, its future prospects and the obstacles that are restraining the growth of derivatives in India which need to be resolved immediately.

Mina [3] studied the role of financial derivatives on managing the currency risk especially in Serbia. The Serbian currency is depreciating on an average of 10% annually which reports that it is highly volatile. The volatility is due to the under development of economy and its dependence on international markets. Hence the corporate are hedging the contracts with dinar denominated positions.

Hammoudeh [4] reported optimal portfolio is possible only with proper risk management. New econometric, financial econometric and empirical finance methods contributed mostly to the analysis of risk management, with special focus on financial derivatives, especially conditional correlations and volatility spill overs between crude oil and stock index returns, pricing exotic options using the Wang transform, the rise and fall of S&P500 variance futures, predicting volatility using Markov switching multi fractal model.

Yadav [5,6] reported that financial market of a country signifies the economic capacity of the country. A sound financial health of a country helps in increasing the cash flow and creates capital that contributes to develop a country. After privatization and globalization, financial markets entered into a new segment of global integration and liberalization with new and innovative financial instruments. The stock market is highly volatile as the prices change frequently. During the 2001, India launched a risk minimizing tool, derivative [7]. The idea behind announcing derivatives trading in India was to control the fluctuations in the stock and commodity prices. It facilitates increasing the trading volume in the stock market and cash flows in India. This paper is to find out the impact of financial derivatives on spot stock market volatility. Numerous readings contributed different outcomes regarding the impact of the financial derivatives on the spot market volatility. This creates a confusion regarding increasing or decreasing volatility in the stock market due to the introduction of derivatives trading in the stock market. So, there is a requirement to stretch an overview of the literature review. The conclusion of various studies is to be analyzed in this paper, so that the role of derivatives trading can be understood in context to the volatility of the stock market.

OBJECTIVES OF THE STUDY

- To study the importance of environmental derivatives in managing the pollution for society.
- To study the impact of environmental derivatives in the growth of Financial Markets.

RESEARCH METHODOLOGY

The study is conducted basing on secondary data that is books, journals, magazines and the reports published by SEBI, NSE, BSE, etc.

DISCUSSION

Environmental conservation is the most important requisite in the present days. The rise in global warming is giving alarm to the whole nations on the earth. It is resulting in many problems and side effects. Thus all the stakeholders have taken a serious consideration to protect our planet 'Earth' and all the citizens of the Earth.

Governments

All the governments of the countries have taken serious measures to control pollution. They formulated and passed special environmental laws and are implementing them effectively. The governments are creating awareness about the severity of pollution stage and the precautions that protect the habitat on earth to all the citizens of the country. They are encouraging the industries to develop green products and dispose the waste only after recycling it.

National and international organizations

Many of the organizations are coming forward to protect the environment. They are contributing to clean rivers, growing plants, distributing the different products to the public which results in less pollution like LED lights, etc., Another important problem is wasting food in this society. This is exploiting the land resources and loss of many lives. For Example International Maritime Organization works for Safe, Secure and efficient shipping on clean oceans.

Industry

Industry is responding positively to the requirements of the Earth. Rather than focusing on their profits they are contributing to protect the environment. They are producing environmental friendly products with environmental friendly energy sources and machines. They are also contributing in the form of corporate social responsibility apart from their general practices. They are spending thousands of crores on research and development to create environmentally friendly products.

Consumers

Consumers are becoming alert in their purchasing decisions. The buying behavior of the people is now affected by environmental awareness. They are encouraging only eco-friendly products.

Public

The public at last is the most important stakeholder in the protection of environment. The citizens should be responsible towards their role to protect environment.

Thus all the stakeholders are trying to protect this environment and thereby resulting in the protection of our future generations **(Figure 1)**.

Figure 1. Environmental protection and sustainability.

Source: http://www.edx.org

Financial markets

Financial market is a place where the buying and selling of financial instruments is being done. The financial instruments are the securities that are issued by various organizations to raise capital to support their need for expansion, modernization or diversification. Now the financial markets came forward with an innovative financial instrument that is environmental derivatives **(Figure 2)**.

Figure 2. Making an asset of environmental derivatives.

Source: http://www.theneweconomy.com

The environmental derivatives are depended on characterizing risk and offer multiple direct and indirect advantages for conservation management. It makes sure that the funds are available to implement agreed rebuilding initiatives if assets drop below trigger points. Indirectly, it pressures managers to invest in effective conservation strategies. For example, managers are typically faced with a choice of strategies having different risk profiles, and may be under pressure to adopt a strategy that promises higher economic returns, but higher risk of population collapse. Managers may also, less obviously, be under pressure to reduce investment in monitoring and assessment needed to underpin the strategy chosen. The requirement that a management agency insure against the risk of population collapse using environmental derivatives, at a price that increases in proportion to risk, offers a countervailing pressure that favors risk-averse strategies.

The organizations are being encouraged to invest in sustainable and responsible investments assets under management. The proportion of investment in sustainable and responsible investments assets under management have increased drastically over the period **(Figures 3 and 4)**.

Figure 3. Global sustainable investment alliance.

Source: http://www.economist.com

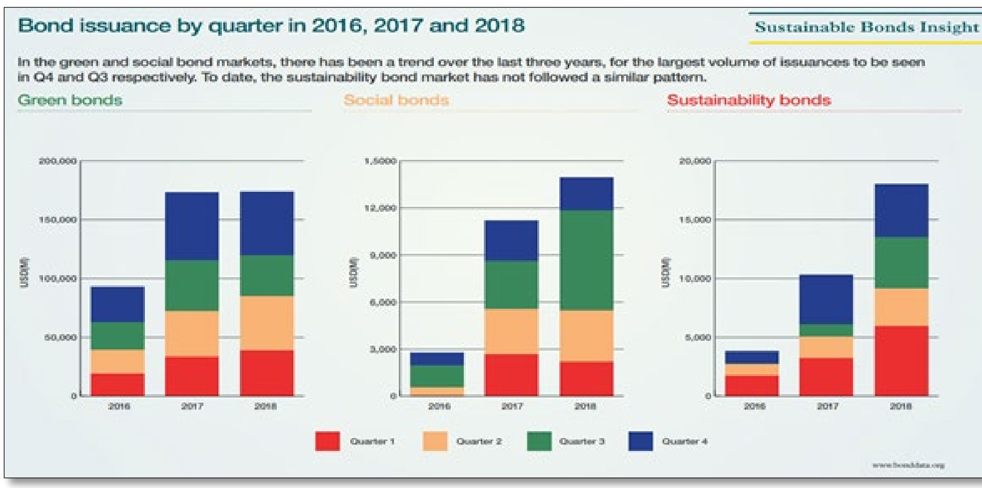

Figure 4. Sustainable bonds issuance insight.

CONCLUSION

Thus derivatives are one of the most traded instruments of financial markets that are supporting as risk management tools for all the business corporate and individuals. It is still novel in India. But along with other commodities the environmental derivatives are also growing in India. It is the mostly need of the hour in India as India is one of the most polluted places. Thus the environmental derivatives play a major role in protecting the society and restricting the organizations.

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