

Using the information below verify if there is an arbitrage opportunity clearly r...

[Business](#), [Marketing](#)



Research Paper about Finance

The current paper is devoted to the derivatives markets issues. When conducting this research I gave definitions to derivatives, examined their use, learned theories and concepts related derivatives application, analyzed existing derivatives regulation policies, proposed several ideas and concepts concerning innovative derivatives markets regulation, developed innovative derivatives products. I examined several arbitrage strategies and made appropriate conclusions with regard to this research.

1. Part 1.

1. 1 Question 1.

Derivative is a kind of security which price is derived from one or several types of underlying assets. The most common underlying assets are: bonds, currencies, stocks, market indexes, interest rates and commodities. This is a financial market instrument for hedging risk which is characterized by high leverage. The most commonly traded derivatives are as follows: futures, options, swaps and forwards (CBOE). Another definition of derivative is “ a contract which reflects an underlying asset” (McDonald 35).

The primary purposes of derivatives markets are: provide risk management, allow price discovery, improve market efficiency of underlying assets and reveal market volatility. Contemporary application of derivatives suggests using them as the tools for easier practice of risk management on the opposite of traditional use referred to hedging and speculation.

Theory of financial risks and financial theories that examine stochastic processes, such as Black-Sholes theory, Minority Game, the theory of yield curve, Monte-Carlo methods are applicable to derivatives markets activity

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(McDonald 52).

Futures markets provide information regarding underlying assets prices. As assets are traded in various markets, futures help derive information regarding the variety of spot prices and make conclusions about an asset price. Moreover, futures contracts may serve as prices instead of facing risks of uncertain prices. For instance, a gold-mining company hedges its risks of price uncertainty with the help of a futures contract on gold which expires in three months locking the gold price three months later (McDonald 64).

History of finance discipline offers many examples of financial collapses related derivatives. One of the oldest European banks, Barings Bank, was brought to bankruptcy as a result of speculative derivatives trading in 1995. In 2001 Enron - the largest dealer of derivatives - collapsed thus causing damage to the US energy sector. Energy derivatives dealers used these tools in order to manipulate the markets during energy crisis in California. The Allied Irish Bank lost millions of dollars in foreign exchange options in 2002.

1. 2 Question 2.

Policies and regulatory features designed for derivatives markets efficiency and sustainability must meet the following core requirements: the reduction of systemic risk, the protection of investors' interests and the endeavor for creating efficient, fair and transparent markets (Stout).

I consider that the following approaches would help achieve objectives mentioned above:

It is necessary to provide flexible legislation of derivatives markets so it could evolve together with them. This would help improve regulatory framework encouraging industry members to participate in this activity.

Cooperation between regulatory authority and CBOE would ensure regulator's expertise and allow focusing on the primary areas of expertise. Besides, this approach could enhance sharing information between regulator and regulatory object (Rebonato and Pogudin 10).

It is important to distinguish between hedging and speculative activity when establishing regulatory legislation in order to provide different regulation of the processes.

The issue of regulation and de-regulation of derivatives markets is controversial. Some researchers insisted on strict regulations stating that complete deregulation caused world crisis of 2008, others argue that the best regulation is deregulation (Stout). To my mind, for achieving efficient and sustainable derivatives markets there must be a reasonable balance between regulation and deregulation of derivatives markets (Rebonato and Pogudin 18).

In order to mitigate potential problems related derivatives markets, regulatory functions should aim speculations regulation first. The second measure is to trace the extent of risk generated by derivatives in the market. It is essential to reveal a distinction between using derivatives for hedging and speculations. Otherwise, derivatives speculations could cause unexpected losses of money as the cases of AIG and LTCM showed, thus adding risk to the whole financial system.

2. Part 2

Contemporary financial markets environment demand high liquidity, satisfactory returns and risk sharing from derivatives innovative products. Also, the products developed have to allow for current derivatives markets

trends.

2. 1 Product 1.

Proposed Product 1 would give access for Malaysian investors' purchases options based on high quality underlying indices (US, EU and China equity). The product would permit switching between variable and fixed option allowing changes in strategies using the same product. This tool would offer an access to a protected product of an Islamic principal while giving the possibility to choose between option of variable payout profit and protected profit with certain periodicity (for example, every 1-2 years) over a long period of time (for example 10 years). As Asian financial market is developing rapidly, I think that this product would be successfully marketed in the exchange. In addition, it offers effective risk management (Appendix 1).

2. 2 Product 2.

Proposed Product 2 is based on the Global Yield Model and was developed for retail investors' involvement. The product offers total principal protection if held for five years term with minimal investment of \$100, 000. The Product 2 aimed at expansion of the clients' base of investment strategies. The tranches will denominate in Asian currencies and G10. The product should be regularly revised in order to reveal and eliminate currencies which exhibited negative signals (employment of risk filters). The remaining currencies are then ranked in accordance with three months yield analysis to form a portfolio of four currencies. If the situation in the global market remains without significant changes, then the portfolio would be revised in the next observation period.

2. 3 Product 3.

Still, Asian derivatives market, except for Japan, is underdeveloped and offers opportunities for establishing various annuity products. Taking into account current demographic tendencies, i. e. ageing of population, Product 3 was created to offer life insurance benefits for investors. In the market uptrend, the guarantee equals 80 per cent with daily augment. After five year of holding investors are allowed to switch to fixed annuities. Before the five year holding period they invest in mutual funds or equity. This high liquid product will offer relatively high returns (Appendix 2).

2. 4 Product 4.

Recently, credit indices gained extreme popularity in the derivatives markets representing strong markets tendency. I think that this product will be in a high demand in the next several decades. The Product 4 was developed on the basement of the theoretical value calculations with reference to market spreads of CDS components. The product 4 offers a coupon of approximately \$3 month LIBOR +1% annually on the condition of five years Index Basis Linked Note. The leverage is a multiple from 25 to 50 enlarges the payoff. The Product 4 is structured with a coupon protection and principal. In addition, it satisfies the demand for short-term credit products.

3. Part 3

3. 1 Case 1

The information for the analysis of an arbitrage opportunity is provided in the Table 1 below.

There is no arbitrage opportunity in this case because forward price is lower than spot price plus minimum return on investment by the expiration date. There is a minimum required rate of return on investment which is equal to \$1.45 which will double by the expiration date. Spot price is \$29 plus minimum return \$1.45 per annum will result \$2.9 by the expiration date. Thus, forward price does not cover spot price plus minimum return: $\$29 + \$2.9 = \$31.9$. So, to make a profit, the trader would have to exercise the contract before the expiration date.

3.2 Case 2

The information for an analysis of arbitrage opportunity is provided in the Table 2 below.

It is better to hold the asset in order to trade it in future. However, there is storage cost expected of \$1.5. As the risk-free-rate is 4%, the minimum return on investment must be \$0.64. Thus, spot price of \$16 plus storage cost \$1.5 and yield of \$0.64 are equal \$18.14. It is better for a trader to hold an asset and trade it in a year because forward price is higher than spot price together with storage cost and minimum return on investment. A trader will yield \$0.86 in addition to his/her minimum return planned.

In order to implement an arbitrage strategy, a trader will have to open a long position in asset at \$16 and initiate a short position in underlying futures simultaneously at \$19. This strategy is called cash-and-carry arbitrage. Then the trader would carry an asset till the expiration date of the contract and deliver it in accordance with contract ensuring riskless profit of \$1.5 which

higher than risk-free rate thus generating profit.

3.3 Case 3

The information for the analysis of the case is provided in the Table 3 below:

An arbitrage opportunity occurs when a trader can buy an asset at a low price and then sell it immediately at a higher price on a different market. In this case minimum rate of return equals 4%, thus the minimum expected theoretical return on investment derived from \$12 is \$0.48, thus buying this asset and selling it at a minimum price of \$12.48 offers an arbitrage opportunity if a trader goes bull.

Forward price of an asset is set on the level of \$10.5 plus the asset yields dividends \$6 after two years of holding. Thus, a trader buys an asset at the current price of \$12; future value of an asset in two years will make up \$16.

5. An asset will generate income of \$6 in two years. It makes sense to buy an asset at a higher price today despite the forward price is less than the spot price because an asset is dividend-paying. Therefore, an immediate selling of an asset might be senseless. If a trader would hold an asset, then there will be no opportunity for arbitrage trading.

In the course of the study four new derivatives products were developed with regard to current derivatives markets demand and innovative propositions. I got to know that derivatives market reform addressing transactional and clearing operations took place in 2011. Derivatives markets are constantly changing and they evolve with financial markets.

Today derivatives concept is changing while offering a new vision of these financial tools. Derivatives more often associated with more effective

practice of risk management rather than viewing them as hedging or speculation tools.

Also, I learned three alternatives of arbitrage strategies in detail and offered my own solution of the issues. I conducted a deep research of derivatives products and markets making several innovative propositions concerning further development of derivatives markets. I anticipate that this research paper will contribute in the development of derivatives market.

Appendix 1.

Asian Derivatives Exchanges Turnover Ranking Derivatives Exchange Growth

Korea Stock Exchange

Pacific Exchange

Dalian Commodity Exchange

Indian Stock Exchange

Taiwan Futures Exchange

Shanghai Futures Exchange

Osaka Securities Exchange

Singapore Exchange

Hong Kong Exchange

Malaysia Derivatives Exchange

Appendix 2.

Age Distribution in US (2000), million

Age Distribution

Number

Total Population

Works Cited

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