

## ABSTRACT

### ARBITRAGE OPPORTUNITIES AND PRICING EFFICIENCY IN MALAYSIA FUTURES MARKET - KUALA LUMPUR STOCK EXCHANGE COMPOSITE INDEX FUTURES (FKLI)

By

**Jason Jasmy Khong**

(A futures contract is defined as the agreement between two parties, which are the seller and the buyer who agreed to purchase or sell a certain product. The contract states all the details of the transaction such as the agreed quantity, price and the delivery of the product on a predetermined date. Both parties have the responsibilities and obligations to carry out the agreed transaction at the maturity date. A futures contract is viewed as a hedging tool by the market players in order to minimize the risk exposure in cash market when there is adverse price change in the market. With the existence of stock indices futures contract, investors are now having a better control in managing their risk without changing their portfolio composition.) In order to be a good hedging tool, hedging effectiveness is one the important criteria to measure the performance of the futures contract. It implies the accuracy of the futures contract to reflect its underlying market position. Therefore, pricing of the futures contract is very crucial because it will affect the hedging ability and performance of a future contract. Price convergence model indicates that price discrepancies between the cash market and futures market should not last long. An effective arbitrage activity is vital to make sure prices in both markets are moving in line. Arbitrageurs create a mechanism to ensure that prices do not deviate substantially from its

fair price for a long period of time. Therefore, if arbitrage is not effective, futures market will not be a good hedging tool for the investor. The general objective of this study is to identify the arbitrage opportunities and pricing efficiency for the Kuala Lumpur Stock Exchange Composite Index Futures (FKLI). The results show there are constant happenings of negative basis price deviations in the FKLI contracts under the simple cost of carry model. This confirms that there are many opportunities available for traders to undertake arbitrage activities. The results also suggest that the pricing mechanism is sensitive to the price volatility in the equity market. Moreover, there are still some violations of the arbitrage free boundary remained in observation after testing under different level of transaction costs which imply that the investor who is able to lower their transaction costs will have greater exploitation to the arbitrage opportunities than others.

## **ABSTRAK**

### **PELUANG ARBITRAJ DAN KECEKAPAN HARGA DI PASARAN KONTRAK NIAGA HADAPAN DI MALAYSIA – KONTRAK NIAGA HADAPAN INDEKS SAHAM KUALA LUMPUR (FKLI)**

**Oleh**

**Jason Jasmy Khong**

Kontrak niaga hadapan adalah perjanjian antara penjual dan pembeli sesuatu komoditi yang menetapkan harga, kuantiti dan kualiti komoditi tersebut dan masa bila urus niaga ini akan berlaku. Kontrak ini membawa kewajipan kepada kedua-dua pihak untuk menunaikan syarat-syarat yang ditetapkan. Salah satu kelebihan kontrak niaga hadapan adalah untuk membekalkan peserta pasaran dengan alat perlindungan nilai yang dapat mengimbangi risiko mereka dalam pasaran tunai. Pengenalan kontrak niaga hadapan indeks saham menyediakan alternatif kepada pelabur untuk mengawal risiko pasaran dalam portfolio mereka tanpa mengubah komposisi saham di dalam portfolio. Keberkesanan lindung nilai kontrak niaga hadapan bergantung kepada setakat mana kontrak itu dapat mencerminkan pasaran asasnya dengan tepat. Oleh sebab itu, mekanisme harga kontrak niaga hadapan yang cekap adalah penting untuk memastikan salah harga antara pasaran tunai dan pasaran niaga hadapan adalah minimum. Dengan itu, aktiviti arbitraj memainkan peranan yang penting untuk memastikan kedua-dua harga di pasaran tunai dan pasaran niaga hadapan adalah sejajar. Perdagangan arbitraj yang aktif dapat memastikan harga kontrak-kontrak niaga adalah betul dan adil supaya objektif kecekapan harga akan dipenuhi. Kajian ini akan memberi tumpuan ke atas pemeriksaan perbezaan antara harga sebenar kontrak niaga hadapan indeks saham Kuala Lumpur (FKLI) di pasaran dengan harga yang sepatutnya

apabila dinilai dengan menggunakan kaedah "cost of carry". Kajian ini juga menguji kewujudan peluang arbitraj selepas mengambil pertimbangan tentang kos transaksi. Di samping itu, kertas ini juga cuba untuk menentukan sama ada kecekapan harga di pasaran niaga hadapan indeks saham di Malaysia telah meningkat sepanjang masa. Keputusan daripada kajian tersebut menunjukkan bahawa kejadian salah harga antara harga sebenar dengan harga teori berlaku dengan kerap dan berterusan. Selepas mengambil pertimbangan tentang kos urusniaga, beberapa kejadian salah harga yang melebihi batasan tanpa arbitrage masih dapat diperhatikan. Ini menunjukkan bahawa peluang arbitraj masih wujud untuk pedagang yang menghadapi kos transaksi yang lebih rendah. Dari segi kecekapan harga, pasaran niaga hadapan memperoleh prestasi yang lebih baik selepas krisis subprime 2008 ketika ekonomi sedang memasuki peringkat pemulihan.