# UNIVERSITI TEKNOLOGI MARA

# Pricing Warrant by Using Binomial Model: Comparison between Historical and Implied Volatility

**Muhammad Nasruddeen Bin Mazlan**

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# STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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**MUHAMMAD NASRUDDEEN BIN MAZLAN**

**2016535225**

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# ABSTRACT

A warrant is a security that allows the holder to buy and sell the underlying share at a fixed price until expiry date. Warrant price will always fluctuates since the underlying share also fluctuates. Hence, determining the warrant price is the main problem among the investors in Malaysia. This research is focusing on pricing the warrant for five companies that were listed in Bursa Malaysia. The companies were chosen randomly from UiTM DataStream. The selected companies are Boon Koon Sdn Bhd, Hovid Bhd, Kelington Bhd, ML Global Bhd and Tropicana Corporation Bhd. The data contains underlying share, interest rate, exercise price and actual warrant price. This research aims to define the price of warrant by using Binomial model. Historical volatility and implied volatility were used in this research whereby volatility is the movement of the underlying share price. This research also is aiming to compare the actual warrant price with the calculated warrant price. The data will be computed manually by using Microsoft Excel and the comparison will be made from those two type of volatilities to give the nearest value of calculated warrant price to the actual warrant price. The nearest value will be assumed the best value for this research. The best result can be made by analyzing the line graphs and comparing between historical volatility and implied volatility with actual warrant price. After that, the results will be error measured by using Mean Square Error to support the results that were obtained from the line graphs. In the end, implied volatility gives the better results compared to historical volatility.

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