ABSTRACT

Name : Infusia Damayanti

Study Program: Magister Management

Title : Valuing Currency Option Price Using Garman-Kohlhagen Model (Case Study of PT XYZ)

Within the past decade, the Indonesian Rupiah (IDR) has been subjected to currency exchange volatility particularly towards US Dollars (USD). This condition has been affecting PT XYZ financials as most of the Company's obligations are denominated in USD, while its revenue denominated in IDR. In meeting its USD obligations and at the same time managing the currency exchange volatility, PT XYZ hedges its USD denominated obligations (exposure) through derivative transactions which includes currency option. An option can be valued using the Garman-Kohlhagen (G-K) model which essentially is an extension of the Black-Scholes model. By using G-K model, PT XYZ is enabled to value its current portfolio of currency option. This thesis will explain further the process of evaluating the value of PT XYZ's portfolio currency options using G-K model. By using Garman-Kohlhagen model, the value of option contract with ABC amounted to USD11,961,628 which means that the option contract is underpriced by 25.91% when compared to the premium paid of USD 9,500,000. The value of option contracts with DEF are respectively USD3,077,236, USD3,014,418, and USD4,304,332, which means that the option contracts are respectively 36.59% underpriced, 60.64% overpriced, and 4.81% overpriced when compared to the present value of premiums paid of respectively USD2,252,946, USD7,658,350, and USD4,521,879. The value of option contract with GHI amounted to USD4,363,843 which means that the option contract is underpriced by 0.38% when compared to the present value of premium paid of USD4,347,124.

Keywords:

Derivative, Currency Option, Garman-Kohlhagen.