

# Perhitungan beban modal risiko nilai tukar dengan value at risk metode Monte Carlo Simulation = Calculation of capital charges foreign exchange rate risk with value at risk Monte Carlo simulation method

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## Abstrak

Penerapan langsung Market Risk Capital Charges terhadap permodalan perbankan berdampak langsung terhadap turunnya Capital Adequacy Ratio (CAR) pada masing-masing bank. Salah satu fungsi utama dari perbankan adalah menunjang pertumbuhan ekonomi melalui kemampuannya untuk memberikan pinjaman kepada masyarakat. Penurunan CAR akibat perhitungan market risk capital charges, akan mengakibatkan penurunan kemampuan ekspansi perbankan nasional secara tidak langsung. Risiko nilai tukar (Exchange rate risk) merupakan salah satu komponen dari market risk.

Perhitungan market risk capital charges dengan menggunakan model internal akan menghasilkan nilai yang relatif rendah dibandingkan dengan penggunaan model standar. Hal tersebut dikarenakan, dalam model internal sudah memperhitungkan efek volatilitas dan korelasi antar faktor risiko. Model internal yang banyak digunakan sekarang adalah Value at Risk (VaR). Perhitungan market risk capital charges yang efisien dengan menggunakan VaR akan berdampak langsung terhadap capital adequacy yang efisien pula. Penelitian ini menghitung market risk capital charges untuk risiko nilai tukar (exchange rate risk) dengan menggunakan VaR Monte Carlo Simulation.

Penelitian yang dilakukan menyimpulkan bahwa (1) perbankan syariah dapat menggunakan metode Value at Risk pendekatan Monte Carlo Simulation untuk perhitungan capital charges risiko nilai tukar; dan (2) pengukuran capital charge risiko nilai tukar dengan VaR Monte Carlo Simulation valid untuk digunakan dalam pengukuran risiko nilai tukar pada Bank Syariah XYZ.

*Direct application of Market Risk Capital Charges on banking capital directly impact the decline in Capital Adequacy Ratio (CAR) in each bank. One of the main function of banks is to support economic growth through its ability to lend to the public. Decrease in CAR due to the calculation of market risk capital charges, will result in decreased ability of the national banking expansion indirectly. Exchange rate risk (Exchange rate risk) is one component of market risk.*

Calculation of market risk capital charges using internal models will produce a relatively low value compared with the use of the standard model. That is because, in the internal model taking into account the effects of volatility and correlation between risk factors. Internal models are widely used today is the Value at Risk (VaR). Calculation of market risk capital charges are efficiently by using VaR will directly affect an efficient capital adequacy as well. This study calculates market risk capital charges for the exchange rate risk (exchange rate risk) by using the VaR Monte Carlo Simulation.

Research carried out concluded that (1) Islamic banking can use the method of Value at Risk Monte Carlo Simulation approach to calculating capital charges exchange rate risk, and (2) the measurement of capital charge exchange rate risk with VaR Monte Carlo Simulation valid for use in risk measurement value exchange at Bank Syariah XYZ.