

INTISARI

Perbandingan Distribusi Rapat Peluang Harga Kurs Mata Uang Di Pasar Valuta Asing dengan Distribusi Hukum Pangkat dan Distribusi Gauss

Oleh

Ahmad Fathan
18/427510/PA/18470

Telah dikaji distribusi rapat peluang harga kurs mata uang asing di pasar valuta asing. Distribusi *return* suatu pasar valuta asing perlu dikaji karena mencerminkan proses yang terjadi di pasar keuangan tersebut. Pola pergerakan kurs valuta asing memerankan peran penting dalam perkembangan ekonomi suatu negara. Sebagai sampel akan diambil tiga kurs mata uang yang ada di dunia yaitu USD/EUR, USD/IDR, dan USD/VND. Distribusi *return* yang diteliti merupakan data harga pembukaan harian pasar dengan rentang waktu berbeda. Distribusi rapat peluang yang diperoleh dari data series dibandingkan dengan distribusi hukum pangkat dan distribusi Gauss yang dikenal dalam fisika. Pergerakan kurs mata uang diasumsikan mengikuti proses Markov. Hasil perbandingan menunjukkan bahwa distribusi rapat peluang *return* empiris di bagian dekat puncak sesuai dengan distribusi Gauss dan di bagian ekor terlihat lebih gemuk, sedangkan di bagian ekornya lebih sesuai dengan distribusi hukum pangkat.

Kata Kunci: Valuta asing, hukum pangkat, distribusi Gauss, proses Markov

ABSTRACT

Distribution Ratio Of Probability Density For The Exchange Rate At The Foreign Exchange Markets With Power Law And Gaussian Distribution

By

Ahmad Fathan

18/427510/PA/18470

The distribution of probability density for foreign exchange rates in the foreign exchange market has been studied. The return distribution of a foreign exchange market needs to be studied because it reflects the processes that occur in the financial market. The pattern of movement of foreign exchange rates plays an important role in the economic development of a country. As a sample, three world currency exchange rates will be taken, that is USD/EUR, USD/IDR, and USD/VND. The distribution of returns studied is the daily market opening price data with different timeframes. The probability density distribution obtained from the data series is compared with the power law distribution and the Gaussian distribution known in physics. The movement of currency exchange rates is assumed to follow the Markov process. The comparison results show that the empirical return probability density distribution near the peak corresponds to the Gaussian distribution and the tail looks fatter, while the tail section is more in line with the power law distribution.

Kata Kunci: Foreign exchange, power law, Gaussian distribution, Markov process