

Market Laws

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More than one billion data sampled with different frequencies from several forex instruments (foreign exchange market) are investigated with the aim of testing whether they involve power law. As a result, a known power law with the power exponent around -4 is detected in the empirical distributions of the relative returns. Moreover, a number of new power law behaviors with various power exponents are explored in the same data. Further on, a model based on finite sums over numerous Maxwell-Boltzmann type distribution functions with random (pseudorandom) multipliers in the exponent are proposed to deal with the empirical distributions involving power laws. The results indicate that the proposed model may be universal.