

A Swingtum Theory of Intelligent Finance for Swing Trading and Momentum Trading

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Abstract

Swingtum stands for Swing and Momentum. A *Swingtum Theory of Intelligent Finance* is presented here in order to provide a scientific and engineering foundation to professional *swing trading* and *momentum trading*. The origins of Swingtum theory naturally go deep into the empirical professional technical analysis, fundamental analysis and strategic analysis, and academic quantitative analysis including financial mathematics, econophysics and computational intelligence. The central perspective of Swingtum theory is the pervasive existence of multi-level swings and abrupt momentum moves in the market prices, business fundamentals, mass psychology, and even the news flow. The dualism of swing versus momentum may resemble the wave-particle dualism in quantum mechanics, however with much higher nonlinearity and sophistication of human traders as building elements of the markets. This view forms the *Swingtum Market Hypothesis*, which is closer to the reality than Efficient Market Hypothesis and Fractal Market Hypothesis are. Swingtum theory models the markets with two parallel and intertwining lines of thought: the multilevel swings and momentums of a target market, and the influences from interrelated markets and the surrounding economic environment. The two lines are then unified into a comprehensive framework - *Super Bayesian Influence Networks (SBIN)* consisting of many Probability Ensembles of Neural Networks (PENN). To describe multilevel swings and momentums for a single market, scale space of phase provides the most essential information as input features to a SBIN model. Multifractality, log-periodic power laws, and physical cycles provide much of the building blocks to the unimarket swingtum models. *Asymmetrical Dependence Test (ADT)* with conditionality and scaling of time provides a major tool for detecting intermarket influence relations. Swingtum theory focuses not only on abstract market modeling, but also on continuous monitoring of the global financial markets, looking for pockets of predictability and profitability with the *Global Influence Networks (GIN)* as an actual application of SBIN. Although this theory is still at an early stage of development, a SBIN for predicting daily direction of Australian All Ordinary Index (High, Low, Close) has already shown significant and nontrivial performance.

Keywords: Swing, momentum, swingtum, wave-particle dualism, intelligent finance, technical analysis, fundamental analysis, strategic analysis, quantitative analysis, financial mathematics, econophysics, mass psychology, fractal, multifractal, log-periodic power laws, Super Bayesian Influence Networks (SBIN), Probability Ensemble of Neural Networks (PENN), Asymmetrical Dependence Test (ADT), Global Influence Networks (GIN).

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