

Abstract Submitted
for the APR20 Meeting of
The American Physical Society

Theoretical modelling of stock price dynamics in stock markets using a phynance approach.¹ LEONARD MUSHUNJE, Midlands state university — In this paper we present time to time price dynamics associated with stock assets within stock markets. Our conjecture was that, stock prices are stochastic and time variant as such they do attain and posses different values from time to time. We then centrally aimed to model this old way phenomenon of stock price dynamics using a distinct model from the physics field so as to substantially expose the core idea of phynance on an open academic space. We used the two-forms of Schrödinger wave Equation (SWE) to fully model our core study. We derived the time part and space (market) value functions for stock assets from the SWE. Meaning that, we managed to derive the time function measuring the time intervals taken by stock assets in the market space and the market value function which gives out the value of stocks without any time factor. Our results suggested that, stock price dynamics can well be modelled and presented using both time independent Schrödinger equation (TISE) and time dependent Schrödinger equation (TDSE)with traceable stock price and time changes. This supported our conjecture and our model proposition as stock prices are traditionally known to be stochastic in nature and normally they are non-stationary.

¹none

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Date submitted: 05 Nov 2019

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