# Can the stock market be forecast by relative frequency of keyword searches? – A comparison between indexes and cryptocurrency.

The four major caterpillars which influences the mean valuation and volatility of the stock market has always been thought to be: 1) the government and its legislation, 2) international geopolitics/international transactions, 3) supply and demand & 4) speculation and expectation [[1]](#footnote-1). A quantifiable measure is required for either of the four caterpillars for any attempt at modelling the relationship between stock prices and either of the four caterpillars to be possible. However, defining clear definition boundaries and concrete equations for quantifying the four caterpillars are not trivial nor is there consensus within the field of economics. Simple linear regression functions have often been used to describe demand & supply as well as the demand & supply equilibrium state function[[2]](#footnote-2). Such models typically use in house data such as customer turn over etc. for model estimation. Recent advances in machine learning have proven useful in the field of economics. Online search engine data have successfully forecasted demand of a product. Allowing companies to maximize revenue by preemptively adjusting their production and price in accordance with the supply & demand equilibrium function. We suggest that stock market prices forecasting should also be possible given search engine data. We hypothesize that search engine data are a better predictor of cryptocurrency coins compared to regular stocks or indexes. Our hypotheses will be tested using scraped historical data from the crypto marked as well as regular stock marked and search history from google trends.

1. https://www.investopedia.com/articles/trading/09/what-factors-create-trends.asp [↑](#footnote-ref-1)
2. https://www.sfu.ca/math-coursenotes/Math%20157%20Course%20Notes/sec\_economic\_models.html [↑](#footnote-ref-2)