Fractal nonparametric modeling on investment of Cemex, S.A. de C.V.

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Abstract

This article presents the development of the methods of prediction and Koch applied to the company known as Cemex, to determine the risk of their investment. On the basis of the stock market matrix of the Mexican stock exchange, was working on a gradual basis in each of the methods. To perform the steps of calculation, it allowed us to observe the price per share and thus have a prediction of the amount of the gain according to the values expected according to the modeling.

Cemex, Koch, Fractal, Nonparametric

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Introduction

Analyzing investment risk, allows us to have a more accurate vision of the gain that can be obtained for a specific customer, whereas the data displayed in the Mexican stock exchange, through the stock exchange matrix. Its importance lies in the certainty of the real gain that can be obtained and which helps to make decisions on future investments. This exercise shows the results highly reliable methods, so that the comparative relationship can be and get successful results. It is a highly personalized result, which guarantees applicable to Cemex numbers. Regularly speaking, companies seek security in its activities, taking decisions with firm foundations which provide them satisfactory results, but above all to provide them certainty.

Methodology

On the basis of the parent stock, we determined

$$\frac{1.15136985 + 2.90202581}{\frac{0.57403127}{4.60517019}} = 1.361$$

To use three different calculation mathematical models. Which provide different earnings scenarios so that they can be obtained by applying them correctly. Certain ecuation for all three models are as followed:

$$\left[\frac{T+Ti}{[T-TC]^{1/2}}\right]^{Y}\left[\frac{PaM+1}{\infty+TC}\right]\left[\frac{\log Ti}{\ln Y}\right]^{3/4}\left[\frac{PMa-1}{\emptyset-TC}\right]\left[\frac{\ln Y}{\log Ti}\right]^{1/2}$$

$$\frac{1.07918125 + 1.32175584}{\frac{-5.211}{0.5}} = 1.749$$

The present price Z(t) is a function of past prices, and of the past and present values of the exogenous trigger Y(t). In the present paper.

The process generating value will be such that, as T increases, the expectation of Y (t T) will tend fairly rapidly toward a limit in the event that the result applies this logarithm to smooth the data investors.

$$\left[\frac{\log T+\ln Ti}{\frac{T-TC}{1/2}}\right]^{Y} = \left[\frac{\log 12+\ln 3.75}{\frac{12-17.2110}{0.5}}\right]^{100} =$$

In Long-Term, the above considerations are linked with the often-raised question of whether one can divide the speculators into several successive groups where members of the first group know only the present and past values of Z

$$\left[\frac{\log(PaM+1)+\ln(\infty+TC)}{\frac{\log Ti}{\ln Y}}\right]^{3/4}$$

$$\left[\frac{\log(13.17+1)+\ln(1+17.2110)}{(\log 3.75)/\ln 100}\right]^{3/4}$$

Short-term period

$$\left[\frac{\log(PMa-1)+\ln(\emptyset-TC)}{\frac{\ln Y}{\log Ti}}\right]^{1/2}$$

$$\frac{1.07627626 \text{ MAS } 0.10048558}{\frac{4.60517019}{0.57403127}} 0.5$$

$$\left[\frac{\log(12.92-1)+\ln(-1-17.2110)}{\ln 100 / \log 3.75}\right]^{1/2}$$

=3.829

For each of the scenarios that were developed in this article are taken the data obtained from the stock matrix, the formulas leading to the application of this method is as follows:

To determine the value of 0.618 develops the previous formula by substituting the values of stock matrix, in the event that the result applies logarithm to smooth the data investors:

$$\left[\frac{\lim(PaM+1)+\frac{d}{d_1}(\infty\ +TC)}{\left[\frac{limT+\frac{\partial Ti}{\partial_1}}{\frac{T-TC}{1/2}}\right]^{\frac{\partial Ti}{d/d_1\ Y}}}\right]^{3/4}$$

$$\left[\frac{\frac{(0.618)(12)+(.25)(3.75)]}{12-17.2110}}{0.5}\right]^{100}=2.46$$

Long-term period if log Z is a martingale, playing on Z will be advantageous to speculators having a linear utility function, the fact that unbiasedness is linked to a choice of scale for Z is well known to mathematical statisticians:

$$\left[\frac{\frac{(0.618)(13.17+1)+(0.05)(1+17.2110)]}{(0.618)(3.75)}}{(0.05)(100)}\right]^{3/4}=9.76$$

$$\left[\frac{PaM+1}{\infty+TC}\right]\left[\frac{\log Ti}{\ln Y}\right]^{3/4}\left[\frac{T+Ti}{[T-TC]^{1/2}}\right]^{Y}$$
$$\left[\frac{PMa-1}{\emptyset-TC}\right]\left[\frac{\ln Y}{\log Ti}\right]^{1/2}$$

Short Term-Period it should also be stressed that the distribution of Z (t T), conditioned by known values of Z(t) and of the Z(t~), may very well depend upon the past values Z(t~). The expectation is unique in being unaffected by the Z(t~).

$$\left[\frac{\lim(PMa-1)+\frac{d}{d_1}(\emptyset\ -TC)}{\frac{d/d_1\ Y}{\partial Ti}}\right]^{1/2}$$

$$\left[\frac{\frac{[\ (0.618)(12.92-1)+(0.05)(-1-17.2110)]}{(0.05)(100)}}{(0.618)(3.75)}\right]^{1/2}=1.72$$

The data obtained from the stock matrix are taken for each of the scenarios that were developed in this article, the formula for the implementation of this method is as follows:

$$\left[\frac{T+Ti}{[T-TC]^{1/2}}\right]^{Y}\left[\frac{PaM+1}{\infty+TC}\right]\left[\frac{\log Ti}{\ln Y}\right]^{3/4}$$
$$\left[\frac{PMa-1}{\emptyset-TC}\right]\left[\frac{\ln Y}{\log Ti}\right]^{1/2}$$

To determine the value of Koch develops the previous formula by substituting the values of stock matrix, in the event that the result applies logarithm to smooth the data investors to begin with, let us note that the impossibility of forecasting in the exponential case can be restated as being an aspect of the following observation: Let U be the exponential random var- iable for which P(u) Pr{U ≥ u} exp(− bu), and let U(h) designate the conditioned random variable U, conditioned by U ≥ h > 0.

$$\left[\frac{\frac{1}{2}T+\frac{3}{4}Ti}{\frac{T-TC}{\partial/\partial_1}}\right]^{Y}$$

$$\left[\frac{\frac{[(0.5)(12)+(.75)(3.75)]}{12-17.2110}}{0.25}\right]=4.090$$

Long-Term Period is not necessary that the random variable U, designating the length of a good or bad run, be exponentially distributed. In all other cases, some degree of forecasting will be possible, so that the price will be influenced by the known structure of the process ruling the weather. The extent of this influence will depend upon the conditional distribution of the random variable U, when it is known that U ≥ h. The following subsection will therefore discuss this problem.

$$\left[\left[\frac{\frac{1}{2}(PaM+1)+\frac{3}{4}(\infty+TC)}{\frac{\frac{1}{2}Ti}{\frac{3}{4}Y}}\right]^{\frac{\partial}{\partial_{11}}} \quad \left[\frac{\frac{1}{2}(PMa-1)+\frac{3}{4}(\emptyset-TC)}{\frac{\frac{3}{4}Y}{\frac{1}{2}Ti}}\right]^{\frac{\partial}{\partial_1}}\right.$$

$$\left.\frac{[0.5)(13.17+1)+(0.75)(1+17.2110)]}{(0.5)(3.75)}\right] 0.75$$

(0.75)(100)

The total result of this analysis is 1.8075 and one important property of the present conditioned or truncated variable U (h) is that it is scale-free in the sense that its distribution does not depend upon the original scale factor σ. One may also say that the original scaling law is self-similar. Self-similarity is very systematically exploited in my studies of various empirical time series and spatial pat- terns. In particular, runs whose duration is scalingly distributed.

Conclusions

When examining prices alone, one assumes implicitly that all other economic quantities are unknown and that their effects on the development of the price series Z(t) are random.The stochastic mechanism that will generate the future values of Z(t) may, however, depend on its past and present values. Insofar as the prices of securities or commodities are concerned, the strength of this dependence has long concerned market analysts and certain academic economists, and remarkably contradictory conclusions have evolved. Among the market analysts, the technicians claim that a speculator can considerably improve his prospects of gain by correctly interpreting certain telltale “patterns” that a skilled eye can help him extract from the records of the past. This naturally implies that the future development of Z(t) is greatly, although not exclusively, influenced by its past. It also implies that different traders, concentrating on different portions of the past record, should make different estimates of the future price Z.

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