Article ECORFAN Journal-Mexico
OPTIMIZATION April 2011 Vol.2 No.3 190-195

Fractal modeling for rational consumer

ESPINOZA-GOMEZ, Luis Éric†´, CANO, Viridiana, GARCIA´´, Susana and ESPINOZA, Alexsandrini´´

'Universidad Mayor Real y Pontificia de San Francisco Xavier de Chuquisaca
''Universidad Tecnologica de Mexico. Departamento de Administración de Negocios

Received November 05, 2009; Accepted March 27, 2011

The development of Lagrange, Financial leverage, Carnot and Koch methods applied to company Grupo Bimbo is presented to determine the risks of Financial Employability.Based on the trading matrix of the Mexican stock exchange in March, he was working in each of the methods. When performing the calculation steps allowed us to observe the variations between models Exchange, shares outstanding and employment, we performed a comparative between three models, which has a higher % Employment taking 33%.

Employment, Exchange, Shares Outstanding, Carnot and Employability.

Citation: ESPINOZA-GOMEZ, Luis Éric, CANO, Viridiana, GARCIA, Susana and ESPINOZA, Alexsandrini. Fractal modeling for rational consumer. ECORFAN Journal-Mexico 2011, 2-3:190-195

† Researcher contributing first author.

Introduction

Grupo Bimbo was established in 1945. Since 1980, Grupo Bimbo shares are traded on the Mexican Stock Exchange (BMV) under the ticker symbol BIMBO it has 162 plants; its outlets are located strategically in 22 countries in America, Europe and Asia. Its main product lines include fresh and frozen bread, buns, cookies among others."Growing and create" were the key words from the beginning marked the successful path by which until today has continued to thrive Grupo Bimbo. Their commitment is to be a highly productive and fully human company, as well as innovative, competitive and oriented to the total satisfaction of its customers and consumers.

Methodology

The method to obtain the result of Carnot is star equation's most striking property is that it can generate a power-law distribution with an exponent between 1 and ∞. This happens under delicate conditions that were dismissed as anomalous. It shall be argued that this perception is especially clearly unwarranted in the context of price variationmade by applying the following formula:

$$GISF = \frac{(\text{PUT}+\text{CALL})^{\frac{1}{2}}}{\left(\frac{\text{VCALL}-\text{VPOST}}{2}\right)^{\frac{3}{4}}} = \frac{(117+116.2)^{\frac{1}{2}}}{\left(\frac{117-116.2}{2}\right)^{\frac{3}{4}}} = \frac{15.2708}{.5029} = 30.36 \quad (1)$$

Data Call and Put were obtained from the Mexican Stock Exchange of Bimbo Company, where you can see a positive value, as expected, the Carnot cycle, helps us and must place the maximum and minimum of the trading matrix

Type Exchange

This method will try to maximize profits despite resource constraints, such as time and money. This médodo uses a technique inwhichthe consumers can achieve maximum satisfaction and business can maximize the benefit or costs miminizar with the limits specified, an example will be about this great method:

$$TC = \left[\frac{\partial + Tcf + \partial\, Tcft}{\partial\, Tcx}\right]^{Ti} \quad (2)$$

Where:

$$\partial = \frac{.25}{.75}$$

Tcf = 17.55, Tcft = 20.31 and Tcx = 14.79

$$TC = \frac{\frac{0.25\times 17.55}{0.75} + \frac{0.25\times 20.31}{0.25}^{3.75}}{\frac{14.79}{0.75}} = \frac{\frac{4.3875}{.75} + \frac{5.0775}{.25}^{3.75}}{19.72} \quad \frac{5.85+20.31}{19.72} = 1.3265^{3.75} = 2.8850 \quad (3)$$

Lagrage, very large terms are reduced by lower terms, it is replaced in the formula the value of the differential that is 0.25 flexible exchange rate 17.55, adding the product of the differential floating exchange rate with values of 0.25 and 20.31 respectively. The value obtained from this sum of fractions, will be divided between the values of fixed exchange Exchange, this formula can be deduced that the values obtained from the Mexican Stock Exchange, with respect to the company Bimbo have a positive margin. Indicating that the method is helpful to give us information about how to reduce the variables efficiently terms of time and money

$$TC = \frac{\frac{Lim\, Tcf}{\partial} + \frac{\partial}{\partial} Tcf}{\frac{Tcx}{\partial}} \quad (4)$$

ISSN-Print: 2007-1582- ISSN-On line: 2007-3682

Where:
Lim = 0.618, Tcf = 17.55
$\frac{\partial}{\partial} = \frac{.5}{1}$, Tcx = 14.79
$\partial = 1.5$

The values obtained from the Mexican Stock Exchange of the Company are replaced Bimbo

$$TC = \frac{\frac{.618.17.55}{.5} + \frac{.5 \times 20.31}{1}}{\frac{14.79}{1.5}} = \frac{\frac{10.8459}{.5} + \frac{10.155}{1}}{9.89} = \frac{31.8369}{9.89} = 3.2191 \quad (5)$$

Which resulted in a positive value, it can be concluded that Financial leverage helps reduce values, they change and are very close to Lagrange the argument assumed that all the moments are finite otherwise meticulous scientists make this assumption all the time, without even a thought, but in this context it happens to lead to a paradox., still considered time and money in a tangential manner as expressed values show the behavior of the company with respect to a set time according to the Mexican Stock Exchange, the next task is to specify the rules of statistical dependence between weights.The most important and least constrained case, called canonical, the Wβ are independent random variables and one postulates EWβ = 1/b, hence EMβ = 1. This identity expresses conservation on the average.

$$T.C = \left[\frac{\frac{1}{2}17.55 + \frac{3}{4}20.31}{14.79}\right] = \frac{8.775 + 15.2335}{14.79} = \frac{24.0075}{14.79} = 1.6232 \quad (6)$$

Where:

Lim es igual a ½, Tcf = 17.55, Tcft = 2031 and Tcx = 14.79, of the three values is generated $Sum = Lagrange + Lemma\ de\ Itto + Koch$

$$S = 2.8850 + 3.2191 + 1.6232 = \frac{7.7273}{3} \times 100 = 27\ \% \quad (7)$$

No. 2 Employment

In this case the information was obtained from INEGI and ermitiéndonos Stock market information to determine values and apply calculations show the following results which added together and divided by three, to obtain the application of this method is as follows:

$$E = \left[\frac{\omega + \pi}{D - \pi}\right]^{TC} + [Y]^{[Ti - \pi]} \quad (8)$$

To perform the operation corresponding to Jobs must have the detail of the following items: W = 66.15, π = 2.60, D = 1,692.41, TC = 17.55, Y = 100 and Ti = 3.75

$$E = \left[\frac{\log\ \omega + \ell\eta\ \pi}{\frac{D}{\pi}}\right]^{TC} + [Y]^{b[Ti - \pi]} = \left[\frac{(0.25)(66.15) + (0.75)\ (2.60)}{\frac{1692.41}{2.60}}\right]^{17.55} + 100^{[3.75 - 2.60]} \quad (9)$$

$$E = \left[\frac{16.5375 + 1.95}{650.9269}\right]^{17.55} + 100^{[3.75 - 2.60]} = 199.5262 \quad (10)$$

$$E = \left[\frac{\lim\ \omega + \frac{d}{d1}\pi}{\frac{D}{\pi}}\right]^{TC} + [Y]^{[Ti - \pi]} \quad (11)$$

To determine Financial leverage the above formula is developed by replacing the matrix values, substituting, the whole financial or economic system adds up to a highly multidimensional process. The canonical cascade can be rationalized by assuming that investigating a financial time series by itself amounts to extracting a linear cross section from that full system.

ISSN-Print: 2007-1582- ISSN-On line: 2007-3682

$$E = \left[\frac{(0.25)(66.15)+\left(\frac{0.05}{0.05}\right)(2.60)}{\frac{1692.41}{2.60}}\right]^{17.55} + 100^{[3.75-2.60]} = \left[\frac{16.5375+2.60}{650.9269}\right]^{17.55} + 100^{[3.75-2.60]} = 199.5262 \quad (12)$$

$$E = \left[\frac{\frac{1}{2}\omega+\frac{3}{4}\pi}{\frac{D}{\pi}}\right]^{TC} + [Y]^{[Ti-\pi]} = \left[\frac{(0.25)(66.15)+(0.75)(2.60)}{\frac{1692.41}{2.60}}\right]^{17.55} + 100^{[3.75-2.60]} \quad (13)$$

To determine Koch, the above formula the only possibility is to follow the canonical cascades and make the weights into independent random variables, the resulting 'MPCP process' was worked out, first heuristically develops substituting the values of the matrix,reducing:

$$E = \left[\frac{18.48}{650.9269}\right]^{17.55} + 100^{[3.75-2.60]} = 199.5262$$

Of the three values is generated $S = 199.5262 + 199.5262 + 199.5262 = \frac{199.5262}{3} \times 100 = 33\ \%$ (14)

$$AC = \left[\frac{(\log Psm+Ln\ Psn)^{1/2}}{\frac{Pam-Pmg}{3/4}}\right]^{\propto} \quad (15)$$

To determine each μk (dt) by a 'high-frequency' term corresponding to all the stages beyond the kth. Thanks to the cascade structure, the high frequency terms are independent and identical in distribution to χ.the above formula develops substituting the values of the matrix, sustituting:

$$AC = \left[\frac{(0.25*49.55)+(0.75*49.28)^{0.25}}{\frac{49.55-49.28}{0.75}}\right]^{1} \left[\frac{2.6504}{0.36}\right]^{1} = 7.3622 \quad (16)$$

Financial leverage Method

$$AC = \left[\frac{(\lim Psm+\frac{d}{d_1}Psw)^{1/2}}{\frac{Pam-Pmg}{3/4}}\right]^{\propto} \quad (17)$$

To determine Financial leverage, the above formula develops substituting the values of the matrixSustituyendo:

$$AC = \left[\frac{(0.618*49.55)+(0.5*49.28)^{0.25}}{\frac{49.55-49.28}{0.75}}\right]^{1} = \left[\frac{2.7265}{0.36}\right]^{1} = 7.3536 \quad (18)$$

Koch Method

$$AC = \left[\frac{(\frac{1}{2}Psm+\frac{3}{4}Psw)^{\frac{\partial}{\partial_1}}}{\frac{Pam-Pmg}{\frac{d}{d_n}}}\right]^{\propto} = \left[\frac{(0.25*49.55)+(0.75*49.28)^{0.75}}{\frac{49.55-49.28}{0.75}}\right]^{1} = \left[\frac{18.6186}{0.36}\right]^{1} = 51.7183 \quad (19)$$

To determine Koch, the above formula develops substituting the values of the matrix, of the three values is generated

$$S = 7.3622 + 7.3536 + 51.7183 = \frac{66.4341}{3} \times 100 = 22\ \% \quad (20)$$

Conclusions

Of the three values obtained were positive with the methods used, it can be concluded that the formulas used help reduce costs with respect to time and money invested in a company, being Bimbo a profitable company considering TCambio as a determining factor in deciding whether it is viable or not to invest in ela.

ISSN-Print: 2007-1582- ISSN-On line: 2007-3682

The three methods greatly reduce the variables used to determine the correct value that allows to know the behavior of a variable on the market, specifically in a company of great nickname

References

Santos, M. L. O. S. O. (2016). RIESGO Y VOLATILIDAD DEL TIPO DE CAMBIO EN COLOMBIA EVALUACIÓN Y PRONÓSTICO 2000-2006. *Revista de la Facultad de Ciencias Económicas y Empresariales*, *2*(2), 33-57.

Pérez, M. A. L., & Villarreal, H. H. P. (2016). TIPO DE CAMBIO Y DETERMINANTES DE LAS EXPORTACIONES EN PERIODOS DE VOLATILIDAD FINANCIERA EN LA ZONA DEL TRATADO DE LIBRE COMERCIO DE NORTEAMÉRICA/EXCHANGE RATE AND DETERMINANTS OF EXPORTS IN PERIODS OF FINANCIAL VOLATILITY IN THE NORTH AMERICA FREE TRADE AGREEMENT ZONE. *Revista Internacional Administración & Finanzas*, *9*(2), 61.

Gálvez, S. Q., Pérez, M. A. L., & García, C. J. (2016, January). EL IMPACTO DEL TIPO DE CAMBIO REAL Y OTRAS VARIABLES MACRO Y MICRO EN LA COMPETITIVIDAD DE LAS EXPORTACIONES MANUFACTURERAS MEXICANAS/THE IMPACT OF THE REAL EXCHANGE RATE AND ANOTHER MACROECONOMIC AND MICROECONOMIC VARIABLES ON THE COMPETITIVENESS OF MEXICAN MANUFACTURING EXPORTS. In *Global Conference on Business & Finance Proceedings* (Vol. 11, No. 1, p. 754). Institute for Business & Finance Research.

Navarro, P. A. (2016). EL 'MAL'EMPLEO DE LA 'BUENA'RECUPERACIÓN: Baja el paro, pero también su cobertura social, mientras crece el trabajo precario. *El siglo de Europa*, (1141), 58-60.

Pérez, J. I. G. (2016). *El efecto de la Reforma Laboral de 2012 sobre la dualidad y el empleo: Cambios en la contratación y el despido por tipo de contrato* (No. 2016-06). FEDEA.

Alcón, E. M. (2016). La actividad económica y el empleo en el sector servicios español. *Economistas*, (146), 43-48.

TORRES, N. J. F. MARIA PAULA GUTIERREZ VEGA.

Herrera, J. J. D. (2011). *Diccionario de Finanzas* (Vol. 4). ECOBOOK.

Lau, M. E. A. (2008). APRENDER ECONOMÍA Y FINANZAS, DISFRUTANDO HACIÉNDOLO. *CRISIS FINANCIERA NORTEAMERICANA*, 6.

Cabrera, A. Capítulo 10 Financial Engineering case study: Alcatel-Lucent, SA Mexican Capital Market (BMV). *Economía Digital*, 147.

Vargas, O. R., Ramos-Escamilla, M., & García, L. (2016). Human Rights and External Debt: Case Study Spain. *Economía Informa*, *396*, 3-33.

Escamilla, M. R., & Torrado, F. M. (2012). Tecnología fractal aplicada a los precios del consumidor racional. *Investigación: cultura, ciencia y tecnología*, (8), 32-37.

Escamilla, M. R. (2011). Análisis empíricos de los sectores económicos de México en R3 con aleatoriedad fractal. *Ecorfan Journal*, *2*(3), 10-29

ISSN-Print: 2007-1582- ISSN-On line: 2007-3682

RAMOS ESCAMILLA, M. D. J. (2013). *DINAMICA ECONOMICO FINANCIERA ACTUAL* (Doctoral dissertation).

Miranda Torrado, F., & Ramos Escamilla, M. (2015). Regiones factibles y óptimas del Iso-Beneficio del Consumidor (Artículos y Miscelánea).

Cabrera, A. Capítulo 10 Financial Engineering case study: Alcatel-Lucent, SA Mexican Capital Market (BMV). *Economía Digital*, 147

Ramos Escamilla, M. (2013). Mapeo fractal con IFS de precios bursátiles.

Escamilla, M. R., & Torrado, F. M. (2012). Tecnología fractal aplicada a los precios del consumidor racional. *Investigación: cultura, ciencia y tecnología*, (8), 32-37.

RAMOS ESCAMILLA, M. D. J. (2013). *DINAMICA ECONOMICO FINANCIERA ACTUAL* (Doctoral dissertation).

ISSN-Print: 2007-1582- ISSN-On line: 2007-3682