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"Application of the Infinity Cartesian Space: Location of the Minimal Oil World Price"

By

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The Infinity Cartesian Space (I-Cartesian Space) provides the possibility to input simultaneously input two dependent variables (y1, y2) and n independent variables in the same Cartesian Space. In this case, the I-Cartesian Space is applied to microeconomics analysis that is to analyze the behavior of households and firms to find the market price of any good or service from different graphical point of view. The same Cartesian Space provides for two levels of analysis. The first level of analysis is formed by (y1, [x11…x1n]): $n \longrightarrow +\infty$, the second level of analysis is formed by (y2, [x12,x22…x2n]): $n \longrightarrow +\infty$. In the application of the I-Cartesian Space, it is assumed that all independent variables Xn have positive values and that the measurement of the independent valuables y1 and y2 is dependent on the average value of Xn. The average value of Xn is equal to the sum of x1+x2…n divided by the number of variables in analysis. After we obtain the average value in Xn is possible to plot the I-Cartesian space y1 and y2. The changes or movements of Y1 and Y2 depend on the changes of one, many or all Xn values. To apply I-Cartesian Space, it is necessary to use the same product or service interested to analyze, but the prices and quantity of this product or service can be different values.

Here the I-Cartesian Space is applied to study how the changes of the changes of global oil production (on the part of oil production firms) affect the global household's oil price. Specifically, the study seeks to answer the following questions through the application of I-Cartesian Space:

(i) How much can the global oil price be affected under the possibility of expansion in the global oil production?

(ii) How fast can the global oil prices grow under the possibility of a drastic contraction in the global oil production?

The application of the I-Cartesian Space is used five larges buyers of oil around the world (United States, China, Europe, Canada and Japan) are used in this study to find the average global oil price on the demand side. Two periods, 1998/1999 and 2003/2004, are covered in the study. On the supply side, five oil sellers/oil production countries (AEU, Iraq, Russia, Indonesia and Venezuela) were selected to find the average global oil production. Two periods, 1998/199 and 2003/2004 are covered in this study.

If we compare the variation of volume and prices of oil between 1998/1999 and 2003/2004 (See OPEC, 2005), then it is possible to observe that the oil world production. Based on the variation in the volume of production and prices of oil shown in OPEC 2005 as well as Graph 1, it is obvious that, during the period 1998/1999, the global oil production expanded 25% while the global oil price reduced by 2%. In the period 2003/2004, however, the global oil price increased dramatically in 35%. The high growth in the oil price originated from several rounds of contraction in the volume of production, totally 20%, in the global oil production in this period, Hence, by way of conclusion, the answers to the questions raised in this study are:

Firstly, Expansion in global oil production cannot generate drastic reduction in global oil prices. Any small reduction in the final oil price is originated by large distribution channels and different profit margins in each phase, from producers, distributors (transportation), final sellers right to the final buyers.

Secondly, several rounds of contraction in the global oil production can generate rapid rise, in the global oil price. Such price hike in the global oil price is a result of the high speculation in various phases along the distribution channels. An increase in global oil price ultimately leads to an increase in global oil production cost. Finally, high cost of oil production inevitably generates spillover inflation in the world economy.

Graph 1: Application of the I-Cartesian Space in the measure of the World Oil Price