

# **INTRODUCTION TO THE PYRAMID CARTESIAN SPACE**

By

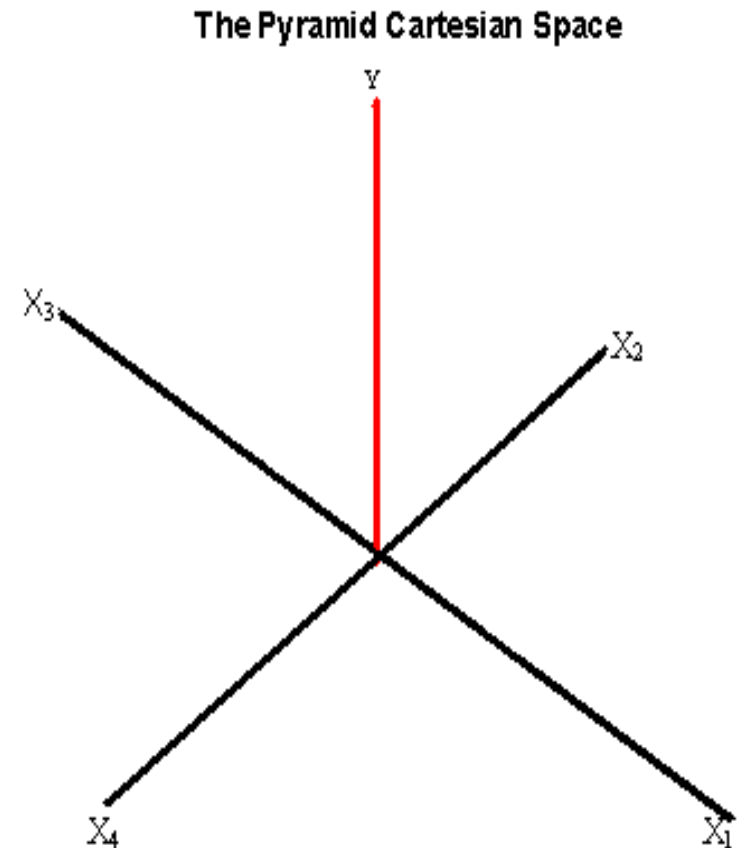
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# THE PYRAMID CARTESIAN SPACE

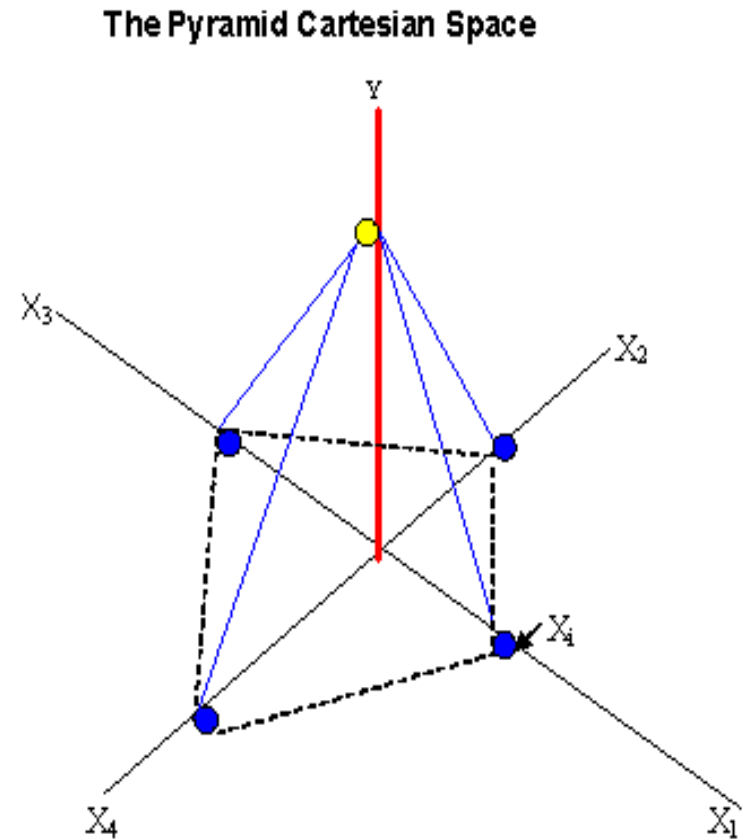
- The pyramid Cartesian Space consists of five axes ( $X_1, X_2, X_3, X_4, Y$ ), representing four independent variables “ $X_1$ ”, “ $X_2$ ”, “ $X_3$ ” and “ $X_4$ ” and one dependent variable “ $Y$ ” respectively.
- Each “ $X$ ” variable ( $X_1, X_2, X_3, X_4$ ) and “ $Y$ ” variable has its individual axis. Representing the dependent variable, the fifth axis, “ $Y$ ” is positioned in the center of the graph (among the other four axes). “ $Y$ ” has a positive value.
- It is the convergent point of all the other four axes  $X_1, X_2, X_3$  and  $X_4$ . In other words, all “ $X_i$ ” axes converge at the “ $Y$ ” axis. In this type of graph only work with positive values into its Cartesian Space.



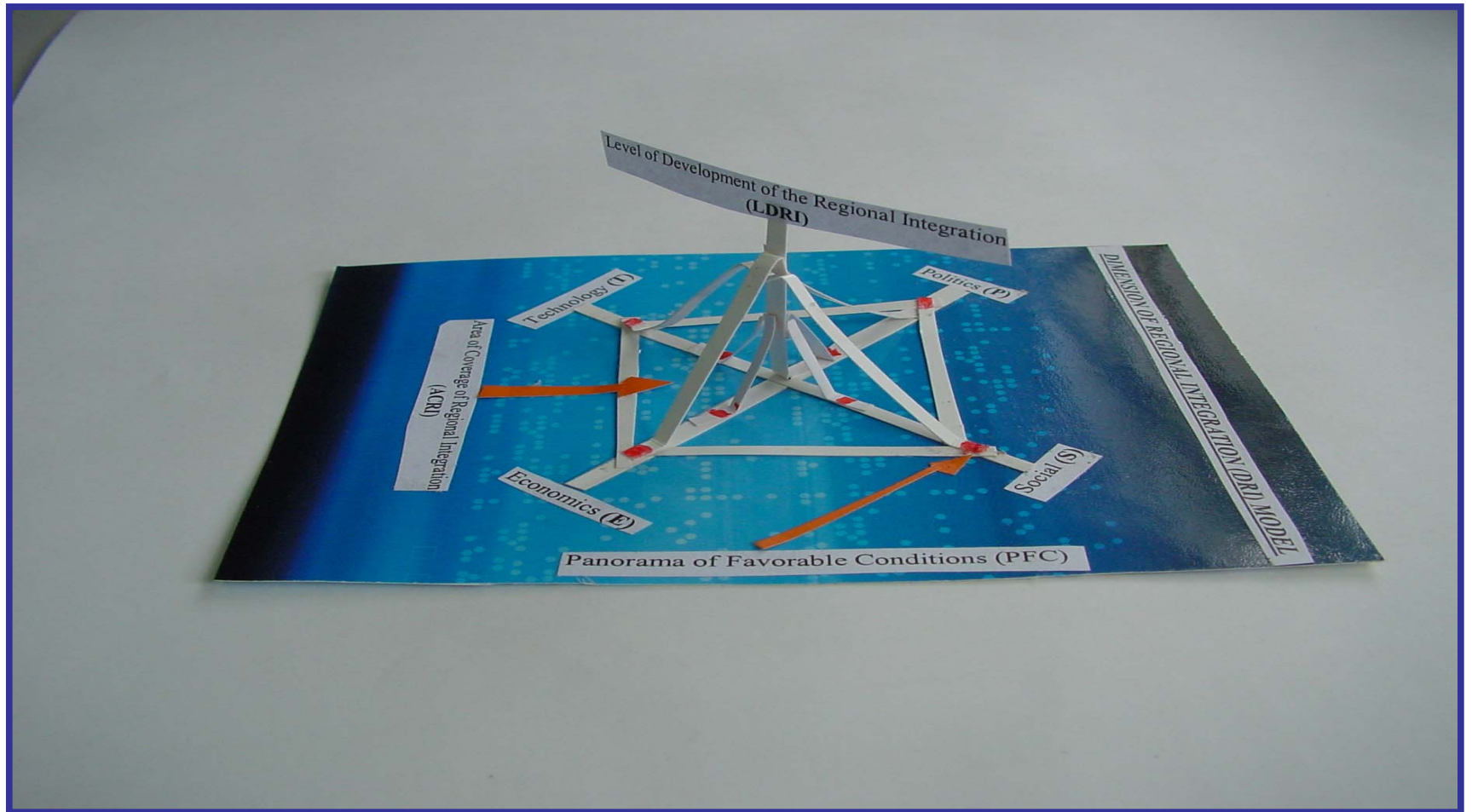
# THE PYRAMID CARTESIAN SPACE

- In the case of pyramid Cartesian Space all variables “ $X_i$ ” and “ $Y$ ” are either on the positive side of respective axes together. In other words, if all or some “ $X_i$ ” change, then the value of “ $Y$ ” can be modified any time.
- However, we have two possible scenarios: first scenario, if all or some  $X_i$  move from outside to inside, then “ $Y$ ” move down. Second scenario, if all or some  $x_i$  move from inside to outside, then “ $Y$ ” move up. Therefore, any change in some or all “ $X_i$ ” will affect “ $Y$ ” directly. The function to be used by the pyramid Cartesian Space is following by:

$$Y = f(X_1, X_2, X_3, X_4)$$



# THE PYRAMID CARTESIAN SPACE PROTOTYPE



# **CASE STUDY**

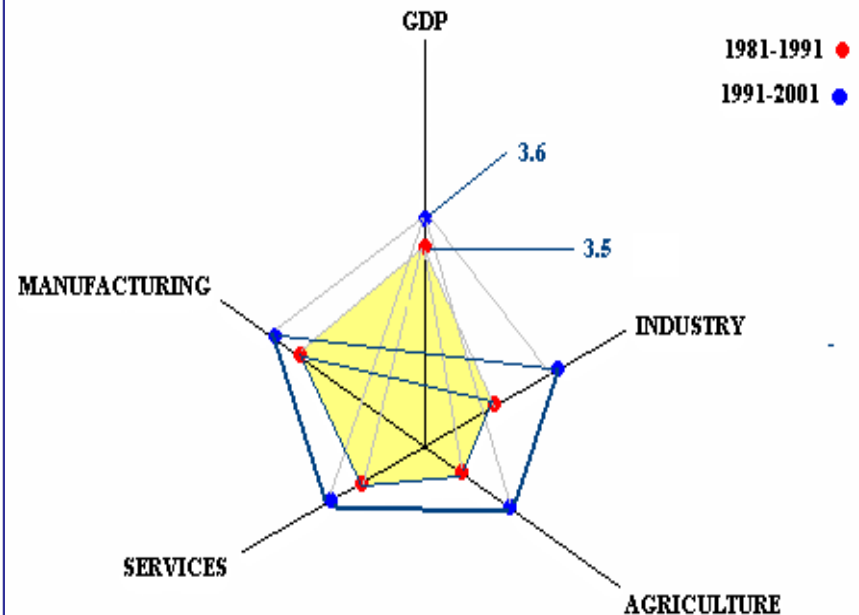
**Gross Domestic Product (GDP) by Production Sector based on  
the Average Growth Rate by Decade between  
1981-1991 and 1991-2001:  
United States of America (U.S.A.) and China Case**

**By  
Mario Arturo Ruiz Estrada**

# United States (U.S.)-GDP

- We can observe that the GDP of United States (U.S.) had an expansion in the two decades of 1981-1991 and 1991-2001. The Pyramid Cartesian Space actually shows clearly the expansion of the four production sectors (agriculture, industry, manufacturing and services) and the GDP simultaneously. The two pyramids in the Cartesian Space can show an expansion from inside (1981-1991) to outside (1991-2001) in all the production sectors. Therefore, in terms of harmonization of growth, the U.S. shows better harmonization of growth in its four production sectors compared to China.

GDP BY PRODUCTION SECTOR AVERAGE ANNUAL GROWTH  
UNITED STATES OF AMERICA U.S.A.



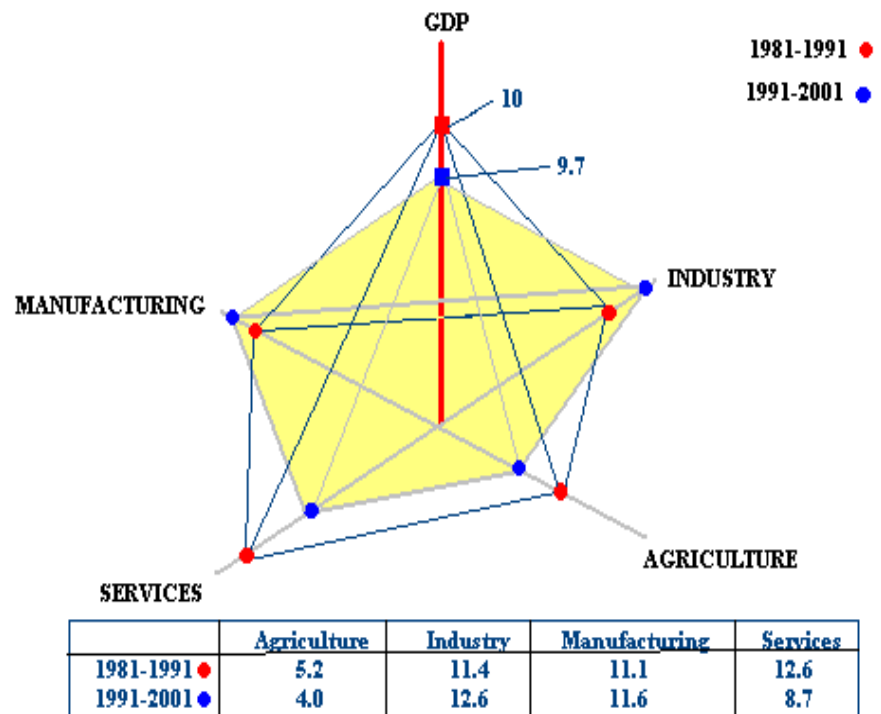
	Agriculture	Industry	Manufacturing	Services
1981-1991 ●	2.5	2.9	4	3.3
1991-2001 ●	3.7	4.2	4.8	3.6

Source: World Bank Data

# CHINA-GDP

In the case of China, a constant expansion of the GDP can be observed between the two decades of 1981-1991 and 1991-2001. The Pyramid Cartesian Space shows clearly the expansion of the industry sector and manufacturing sector, and contraction of the agriculture sector and services sector. Ultimately, the Pyramid Cartesian Space shows how the Chinese economy lost balance in the growth of its four production sectors in between the two decades of 1981-1991 and 1991-2001.

GDP BY PRODUCTION SECTOR AVERAGE ANNUAL GROWTH CHINA



Source: World Bank Data

**END**