

# Christianto-Smarandache's Poly-Emporium Theory in Economics

A new theory is proposed: **poly-emporium theory**. A search done in Google on May 3<sup>rd</sup>, 2008, for the term “poly-emporium” returned no entry, so we introduce it for the first time.

Thus "poly-emporium" etymologically comes from *poly* = many, and *emporium* = trade center, store with a wide variety of selling things; therefore *poly-emporium* is the study of interactions among many (big and small) firms in the market.

Poly-emporium is different from *oligopoly* since poly-emporium takes into consideration the small firms too (not only the big firms that dominate the market as in oligopoly). Poly-emporium considers the *real situation* of the market, where big firms and small firms co-exist and interacting more or less.

First, let's present the *duopoly* theory, which is a theory of two firms that dominate and interact in the market, proposed by A. Cournot (1801-1877) in year 1838.

In Cournot's model, if one firm changes its output, the other will also change its output by the same quantity, and eventually both firms will converge towards equilibrium.

In 1883 Bertrand's duopoly model, devised by Joseph Bertrand (1822-1900), if one firm changes its price and the second firm follows, eventually both

firms would reach a price (equilibrium) where they would stay.

Both models are similar to two mathematical sequences that little by little converge towards the same limit.

Bertrand's model is criticized because it ignores the *production cost* and market entry by *new firms*.

In oligopoly, which is an extension of duopoly, a small number of selling firms control the market. There is a big degree of interaction among these firms, which set the price, and the price is high and rigid. There is a perfect oligopoly, where all firms produce an identical product, and imperfect oligopoly, where the firms' products are differentiated but in essence are similar.

Sir Thomas More (1478-1535) used this theory in his "Utopia" (1516) and then A. Cournot. Each firm can act as a leader on its market share, or they collude, or one firm sets the price and others follow.

An analogue of oligopoly is the *oligopsony*, where a few buying firms control the market. They set the price which is normally low and rigid.

The cartel (or trust) influences the price too by regulating the production and marketing, but its influence is of less degree than monopoly's or oligopoly's.

Inflexible price or administered pricing (1930s) is set in monopolies, oligopolies, government organizations, cartels.

## **Poly-Emporium Theory.**

How would interact  $n$  firms,  $F_1, F_2, \dots, F_n$ , for  $n \geq 3$ , producing a similar product in the same market? A firm can be a business, a corporation, a proprietorship, or a partnership.

There are three cases of the poly-emporium, which will be detailed below:

- 1) All firms are large and they dominate the market, so we have an oligopoly or oligopsony.
- 2) Some firms are large, and dominate a big share of the market, while others are small, and do not dominate.

In this sub-case, either the small firms are grouped around some of the large firms (as satellites) just as in growth-pole theory, other small firms might exit the competition.

This case also includes the possibility that new firms enter the market, so they commence by small investments and later can grow.

The relationship between large firms in this case can lead either to oligopoly/oligopsony if they succeed to eliminate the small competitors, or to semi-oligopoly/ semi-oligopsony if they control a big part of the market, but not the whole market.

Small firms might collude and form larger firms.

- 3) All firms are small and they do not dominate the market.

As in mathematics, it is akin having  $n$  sequences, which interact, that we need to study their limit. Would they converge towards the same limit?

Surely, there would always be a *monopolistic competition* between them.

As in *monopoly*, each firm attempts to dominate the market, to prevent competition, in order to control the price. But monopoly is outlawed in most capitalistic countries. If one firm, let's say (without loss of generality)  $F_1$ , alters its output, the others  $F_2, \dots, F_n$ , should also respond, otherwise they loose customers.

If it's an imperfect competition, i.e. a market with a large number of sellers and buyers but having differentiated products, the interaction between these

firms is less than in a perfect competition, and they all tend towards a so-called in our opinion **multi-equilibrium**, as in a weighting machine with many balances, or as in a mathematical weighted average.

Nevertheless, if these firms produce a homogeneous product for many buyers, as in perfect competition, their interdependence increases. Disequilibrium of one firm would affect others.

If superior technology commences to be introduced by some firms, the quality of their product will increase and the price decrease.

This may generate the theory of growth-pole, enunciated by Sir William Petty (1623-1687) and François Perroux (1903-1987), which refers to the fact that smaller firms are grouped around a central core of firms that become catalysts. Maximum growth and product excellence for these firms presumes optimal management.

In it's a monopsony, then a single buyer dominates the market forcing sellers to accept buyer's conditions. Therefore, in this case, the firms compete under buyer's conditions. For example, this would be the case if the government controls the cultural economics, the government will then set the prices.

If some firms co-operate, as in collusion theory, entailing similar output levels and prices, then other firms should either join the collusion, making a block or monopoly that controls the market, but this is outlawed in capitalistic countries, or they can alter their output by lowering price or improving production for better output quality.

Another alternative would be for the non-collusion firms to form themselves a separate collusion that will counter-balance the first one, or also have some firms to merge. Some firms may exit the market, while new firms would enter the market.

If the government controls the cultural economics, then trade unions of

cultural workers should be created for counter-balancing. Because this gives birth to a bilateral monopoly, which is a market with a single buyer and a single seller, mostly referring to the government dealing conditions and salaries with unions of workers.

The dynamicity of the market keeps the firms in a permanent competition, and competition means progress.

We extend Engel's law (1857), that the proportion of income spent on food falls as individual income increases, to a similar law related to cultural economics:

**As individual income increases, the proportion of amount spent on cultural event decreases.**

Thus, as individual income increases an acceleration of cultural economics occurs.

Moreover, adjusted from the absolute income hypothesis (1936, 1960s, and 1970s) by J. M. Keynes and later refined by James Tobin (b. 1918), we derive the **absolute income cultural hypothesis** applicable to the cultural economics: as income rises, cultural consumption rises but generally not at the same rate.

The 18<sup>th</sup> century absolute advantage theory, which states that people and nations trade since they have exceeding production in some particular field, does not apply in cultural economics. Nor comparative advantage approach that superseded absolute advantage theory works, because we can't really compare cultures.

Comparative cost, developed by Robert Torrens (1780-1864) and David Ricardo (1772-1823), which is a feature of comparative advantage, asserts that trade between countries is benefic even if one country is more efficient, because of the variety of products. Similarly, cultural economics benefits from its cultural difference. The more distinguishable is a culture, the better chance of increasing the cultural economics.

Economic culture is part of entertainment industry and depends on taste

Economic culture is part of entertainment industry, and depends on taste, advertisement, curiosity, history, and the quality of being diverse, distinctive, with a large spectrum of varieties.

The most interesting case is the third one, where all  $n$  firms are small and they do not dominate the market. Let's see, for example, a network of independent restaurants in a city. They interact little with each other. The quality, taste, distance, and price of course make the difference between them.

They do not collude but in rare situations since each of them has its specific, its exotism, which they don't want to lose. They cannot make an oligopoly since new restaurants may easily enter the market with its specific, and because the taste changes periodically. They remain into multi-equilibrium. Similarly for international cultural economics, where each culture has its specific, and that's what attracts visitors, tourists.

In general, the  $n$  firms eventually tend towards multi-equilibrium, where they stay for a while. In multi-equilibrium each firm tends towards its specific sub-equilibrium.

Periodically this multi-equilibrium is partially or totally disturbed, due to technology, government intervention, wars, crises, reorganization of the firms, change in customers' taste and preferences, but then again the firms return to stability. This period of multi-disequilibrium is a natural state, since economy is dynamic, and the disturbance is a launching pad to refreshment; in order to rebalance the market, these  $n$  firms must improve their technology, their structure, cut production cost, or else they exit the competition. "All the bad for the good", says a Romanian proverb, so disequilibrium brings later new blood into economy.

This cycle of multi-equilibrium - multi-disequilibrium repeats continuously.

Reference: V. Christianto & F. Smarandache. Cultural Advantage for Cities: An

Alternative for Developing Countries, InfoLearnQuest, 2008;  
<http://www.gallup.unm.edu/~smarandache/CulturalAdvantage.pdf>.