THE UTILITY COMPLEX

Study of nature, properties, laws and classification of wealth is an unearthed science. This branch of economics is un-named so far. This branch of economics is a pure material science. Chemistry and this branch of economics are similar in many ways. For a beginner the similarity is just minded blowing. Their similarity is stemmed from some commonness in the nature, properties, and laws of matter, wealth and energy. Matter, energy and wealth share some common properties and are governed by some common laws. These common properties lead us to a foolproof definition of wealth. The similarity also leads us to a foolproof method of classifying wealth.

Law of Conservation is an important law that is commonly applicable to matter, energy and wealth. Law of Conservation of Mass is stated as follows: When matter is changed from one form to the other, the mass of transferee form is equal to the mass of transferor form of matter. This leads to an inference that matter can neither be created nor be destroyed but can be changed from one form to another. Similarly, Law of Conservation of Energy is stated as: When energy is changed from one form to another the quantity of energy of transferee form equals quantity of energy of transferor form. Energy can neither be created nor be destroyed but can be changed from one form to another. If one observes the underlying principle of Double Entry Bookkeeping method of Accountancy one finds that Law of Conservation is applicable to wealth as well. We cannot create a debit without a credit and conversely a credit cannot be created without a debit. The Assets and Liabilities in a balance sheet should be equal. The source of funds should equal application of funds. The success of this accounting method vouches for the correctness of Law of Conservation of Wealth. In the first page of any book on economics one reads that wants are many and means are few. When wants are changed into means the value of wants equals value of means. If wants are more, the individual or economic entity adjusts wants in such a way that value of wants and means remain equal. If one increases the other also increases and if one is cut the other is also cut. THIS IS LAW OF CONSERVATION. THIS LAW IS THE MOTHER OF ALL ECONOMIC LAWS AND THEORIES PROPOSED BY CLASSICAL ECONOMISTS. This Law is also the mother of Accountancy, another branch of science that deals with sources and application of Wealth.

Mathematically also, one can prove this law. In algebra, one has learnt that 2a and 3a can be added and the result is 5a. Similarly, one can subtract 3a from 8a and the answer is 5a. Can one add 2a and 3b? NO. Can one add 2 kilograms and 3 kilograms? Yes. Similarly one can subtract 2 kilograms from 7 kilograms. Can one add or subtract 3 kilograms to/from 5 meters? NO. Let us assume that “a” is wealth and “b” is non-wealth. Unless “a” and “b” are inter-convertible we cannot add “a” terms and “b” terms. **Thus only wealth can be added to or subtracted from wealth.** This is in simple words LAW OF CONSERVATION OF WEALTH. Economists say that wealth is one that has “Value in Use” and “Value in Exchange”. Accountants show items like depreciation, loss and goodwill that may or may not have “Value in Exchange” in Financial Statements by Accountants. Are these not

forms of Wealth? From the above mathematical derivation, one can infer that as loss, depreciation and goodwill are added to or subtracted from other forms of wealth, loss, goodwill and depreciation should be treated as forms of wealth. More over these are expressed in units of wealth. This will lead us to rethink the DEFINITION of Wealth. In my view WEALTH IS ONE THAT CAN BE CHANGED TO OTHER FORMS OF WEALTH AND ONE THAT IS EXPRESSED IN UNITS OF WEALTH.

The second important property that is common to matter, energy and wealth is "APPLICATION OF LAW OF EQUILIBRIUM". In simple terms, like matter and energy wealth also moves from higher concentration to lower concentration till equilibrium state is achieved. When a tube of a vehicle ruptures, air moves out of the tube though atmosphere contains more air than the tube. Air, here, moved from higher concentration (density) to lower concentration (density). When hot water is mixed with cold water, heat moves from higher temperature to lower temperature even if cold water may contain more heat energy. Quantity of heat energy is not important for movement of heat but the level of heat (temperature) is important for movement for deciding course of movement of heat.

When one says that concentration of sugar solution is 5% one means that 5grams of sugar is dissolved in 100grams of water. There are two forms of matter involved here. Quantity of water, the solvent and quantity of sugar the solute are used to express the concentration. Similarly, to express concentration of wealth, quantity of two forms of wealth is required. In price we notice two forms of wealth: money and goods. In rate of return or rate of interest we notice two forms of wealth: interest or return and investment. Now with a small example one can prove that wealth moves from ALWAYS from higher concentration to lower concentration. HUMAN BEHAVIOR HAS NO ROLE TO PLAY OR THAT IT PLAYS A SUPPORTIVE ROLE TO THIS LAW OF EQUILIBRIUM.

Re.5	Re.6
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Kilogram of potato	kilogram of potato
MARKET A	MARKET B

In the above example one can see that money is concentrated in Market B because Re.6 is greater than Re.5. In Market A commodity (potato) is concentrated because 1/5 is greater than 1/6. IT MUST BE REMEMBERED THAT CONCENTRATION OF ONE FORM OF WEALTH IS RECIPROCAL TO THE CONCENTRATION OF OTHER FORM OF WEALTH. One notices that money (or buyers) moves from Market B to Market A and potato moves from Market A to Market B. In simple words wealth moved from higher concentration to lower concentration.

Law of Conservation and Law of Equilibrium are two faces of a same coin. Law of Conservation is the cause and Law of Equilibrium is the effect. Neither law operates in isolation or independent of the other.

The conclusion is that as matter, energy and wealth have some COMMON properties , chemistry and this branch of economics that deals with

nature, properties, law and classification have many things in common. A striking similarity is observed between water of chemistry and utility of economics. The study of utility leads us to foolproof classification of wealth.

I define utility is ALL THAT A HUMAN NEEDS. It is similar to water in following ways.

1. Water is a form of matter and Utility is a form of wealth. One can express utility in units of wealth and that utility can be changed to other forms of wealth.
2. Water is called UNIVERSAL SOLVENT in chemistry in which many forms of matter dissolve. In economics, utility is a universal solvent in which almost all forms of wealth dissolve. The insoluble forms of wealth precipitate in the system and do not undergo economic reaction. Say an obsolete car loses its marketability.
3. Water is made up of two components: H+ and OH-. Though water has chemical formula of H2O (two hydrogen atoms and one Oxygen atom) it will be in the form of H+ and OH-. + (Positive) and – (Negative) are the charges these ions (H and OH) carry. Similarly though utility appears to be a single form of wealth it is made up of two distinct components: **goods and services** that are other wise called "WANTS" by economists, and **money and money related forms** of wealth that are other wise called "MEANS" by economists. Considering the mobility, "Wants", relatively immobile forms may be assigned with positive charge and "Means", the mobile form of wealth may be assigned with negative charge. If wants and means come in contact with each other they react and the resultant charge is neutral. If wants are more than means we can call such a utility complex as "wants rich" complex.
4. Water exhibits both cohesive and adhesive properties. Water molecule binds molecules of other forms of matter. Water molecule sticks to another water molecule. One notices that Utility exhibits similar cohesive and adhesive properties.

Any economic entity, be it an individual, a family, a state, a business enterprise, an association, an organization, or a nation tries to attain equilibrium between these two components of utility. But, true equilibrium is a rare phenomenon. In water, the concentration of H and OH are equal. The concentration of H and OH are expressed in units called pH and pOH. pH value 7 is called neutral. If pH is >7, we call the solution as basic or alkaline and if the pH is <7, we call the solution as acidic. In economic entities, in the utility complex, wants and means may or may not be equal. If wants and means are equal, we may call that economic entity to be in saturated state or satisfied state. As told earlier, such cases are few. If the difference between wants and means is wide, it may generally be noticed that such economic entities are economically less active. If the gap between means and wants is narrow, the economic entity will be more active. Examples would elucidate this point better.

Imagine a government servant, say, a clerk in a government office or a primary school teacher. In his utility complex, if one observes, the gap between wants and means will be wide. He nourishes no aspirations to meet all his wants. He will be economically less active. Imagine that he gets promotions and

climbs up in his career. He approaches saturated state i.e. the gap between wants and means tend to become narrow. He becomes more and more active economically (physically, socially, philosophically as well). As he becomes richer and richer contrary to agreed principles, he becomes more and more active economically. One finds that the richest man in the world to be the most active man (economically and physically). The countries with a narrow gap between wants and means (developed countries) are very active economically. By resorting to deficit budgeting, a country can increase its means thus reducing the gap between wants and means. This results in increased economic activity. This phenomenon is universal. Even in chemistry, elements with electronic configuration nearer to that of an inert gas, is very active chemically. Elements like gold have electronic configuration far from that of any inert gas and hence they are chemically least active.

What happens when wants are more and means are few? According to Law of Conservation, when means are converted into wants, value of wants = value of means. Wants are forms of wealth and hence cannot be destroyed. The result is that the economic entity replaces costlier wants by cheaper wants OR raise loans/ resort to borrowing to raise means OR Transfer some of the present wants to future wants category. This leads us to classification of wants into present or current wants/means and future wants/means categories. Loans or borrowings are future means that are cashed presently. All economic reactions are reversible in nature and this is a good example of this principle. Future means are converted in to present means and present means are converted into future means. Similarly when wants are less than means, the economic entity may increase the value of wants by replacing cheaper wants by costlier wants OR making long term investments which are regarded as future means. Here again current means are converted into future means. In all the above cases wealth was neither created nor was it destroyed but it changed forms. It must be noted here that wants and means carry opposite charge and are attracted towards each other. Different forms of wants carry same charge and hence repel each other. In a complex filled with means, costlier wants or wants satisfying single need are preferred and in a system starved of means wants satisfying many needs are preferentially absorbed. This is, in chemistry, called dilution effect and concentration effect. Different forms of means carry same charge and hence repel each other. The investments with better IRR or returns are preferred.

This study reveals the effect of this universal law called Law of Conservation of wealth on human behavior. The study has just begun and certainly needs more contributions from economists, behavioral scientists and chemists.