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An Analysis of the Forces of Over Production & Crisis in a Competitive Market

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Abstract: *The intent of the article is a study of the market forces leading to overproduction, ultimately leading to Crisis in the Competitive Market. The Article applies the basic ideas of Commodity, Use Value, Exchange Value, & Price introduced in Marx's 'Capital' to the concepts of 'Laws of Supply & Demand' defining the Market process. In Adam Smith's 'Wealth of Nations' he introduces the concept of 'Effectual Demand' as the driving force that operates the Law of Supply and Demand. The Article analyzes the Concept of 'Effectual Demand' in perspective of Use Value & Exchange value. This analysis categorizes demand into two with a study to explain the forces which distorts the equilibrium in a market operating as per the Laws of Supply & Demand. An Illustration of the mechanism is provided. A concluding note includes suggestions for further research.*

I. Introduction

In his Magnum Opus of economics "An Inquiry into the Nature and Causes of the Wealth of Nations" Adam Smith introduces the principles of Market system. In the Chapter "Of the Natural and Market Price of Commodities", Smith Introduces the Principles of Supply and Demand & Equilibrium price (Natural Price). In order to explain these principles, he first introduces the concept of Effectual Demand. He then explains the invisible hands of the market and market mechanism that leads the market to reach equilibrium price to meet this effectual demand. However in the same chapter he further states that price can stay in an unbalanced state for prolonged periods. To state in his own words,

"The quantity of the commodities brought to market will sometimes exceed a good deal, and sometimes fall short a good deal, of the effectual demand. Even though that demand therefore should continue always the same, their market price will be liable to great fluctuations, will sometimes fall a good deal below, and sometimes rise a good deal above their natural price"

In his preceding analysis he details the causes for such disequilibrium. He presents with examples the possible cause and results and monopolistic tendencies of the market. This is perceived as an inevitable periodic crisis occurring in a market economy.

This Paper explores the cause for the creation of this disequilibrium price with a different approach by analyzing the 'Effectual Demand'. In a competitive market the driving force behind the market price is the Effectual Demand. This paper focuses on the forces that generate this Effectual Demand. The analysis investigates the sources that generate this Effectual Demand applying the concepts of Use Value and Exchange Value as defined in Das Capital.

Such an analysis reveals a major phenomenon in the market which leads to the large fluctuations and the reasons for the enormous disequilibrium's that occur in the price of commodities. This paper attempts to present this with a methodological approach in an attempt to establish the concept on a theoretical base. The paper synthesizes the concept of Effectual Demand into Real and Apparent Demand using the concepts of Use Value & Exchange Value.

II. Overview of the Concepts

Use Value & Exchange Value

The Use Value of a Commodity is the Utility of the commodity for an individual. An individual acquiring a Commodity for its Use Value intends to use the commodity to satisfy his personal need, for example when an individual acquires wheat for his personal consumption, he intends to exploit its Use Value. He can acquire wheat on his own if he is a farmer of wheat, or by purchasing wheat from the market. If it is the latter, where he will purchase from the market then in this case he will be paying an Exchange Value of wheat in the market. The Use Value is an intangible value, and is related to how much emotional value the acquirer assigns to the commodity. The purpose of producing a commodity is to satisfy a particular material use- Use Value. Hence a commodity meets its purpose of creation only when it is consumed; it is acquired for its use value.

The Exchange value of a commodity is defined in Marx's Capital as "Exchange value, presents itself as a quantitative relation, as the proportion in which values in use of one sort are exchanged for those of another sort, a relation constantly changing with time and place". Quoting a clarification for Exchange Value in

Capital; " A given commodity, e.g., a quarter of wheat can be exchanged for 'x' quantity of silk, or 'y' quantity of gold, etc. – in short, any commodity can be exchanged for other commodities in the most different proportions. Instead of one exchange value, the wheat has, therefore, a great many exchange values with many different commodities". This means we can exchange a commodity with other commodity and quantity exchanged can vary. The Exchange value is relative to Time and Place. The exchange between commodities is what we call as trade or commerce. In the old days of barter system commodities were directly exchanged between themselves. However as the volume of trade expanded changing the nature of market, it was necessary to have a common item to which commodities can be equated to so that their value can be defined to facilitate exchange. Money was introduced for this.

Money & Price

Money acts like a commodity that expresses the value of any other commodity. Gold was the first commodity to be widely used as money and all other commodities were equated in terms of gold. Money is thus a measure of value i.e. it is a unit of measure of value. Thus a more valuable commodity will have more units of money assigned to it, than a less valuable commodity. The number of units of money assigned to a commodity to measure its value is defined as the Price of the commodity.

The form of money has change changed considerably with time, the form of money was initially as Gold (a commodity) which then changed to a Representative form of money (paper form) and now mostly Fiat money is used which is given as a particular currency, 'Dollar', 'Euro', 'Rupee', etc.

From the above review we state;

Money (in a particular currency) is a unit for expressing the Exchange Value of a Commodity. The value is expressed by assigning a particular number of units of currency money to the commodity and is called as price. The Price however specifically expresses only the Exchange Value of the commodity.

The Exchange value is a relative Quantity. The exchange value of a particular commodity is not constant, and it varies with time and place, i.e. geographic locations. A Trader is an individual or entity who exploits this relative nature of exchange value to generate profit, by shifting a commodity geographically or through time.

The Relative relationship between 'Price' and 'Exchange Value' is defined by the Laws of Supply and Demand. Demand is the requirement of a Commodity in the Market. Now this demand for a commodity in the market is the one which creates an Exchange Value for the same. The Exchange Value created by the demand is then expressed as Price (in units of Money).

'Demand for a commodity gives it an Exchange value which is expressed as Price using Money as its unit of measure'

Supply and Demand in a Competitive Market

Supply and Demand is considered one of the fundamental concepts of Market Economy. The four basic laws of supply and demand are;

1. If demand increases and supply remains unchanged, a shortage occurs, leading to a higher equilibrium price.
2. If demand decreases and supply remains unchanged, a surplus occurs, leading to a lower equilibrium price.
3. If demand remains unchanged and supply increases, a surplus occurs, leading to a lower equilibrium price.
4. If demand remains unchanged and supply decreases, a shortage occurs, leading to a higher equilibrium price.

In a competitive market when the Demand for a commodity increase and the supply does not follow the rise in demand then a shortage for the commodity will develop. This will lead to an increase in price, which will be reflected as higher profits for the producers and traders of the commodity. As a result more production will ensue and an increase in supply to meet the demand. The increased supply reduces the price to bring it to an equilibrium level. Suppose the Supply exceeds the Demand for the commodity leading to a surplus in the market the price of the commodity will fall, reducing or eliminating the profits of the producers and traders of the commodity. This will prompt the producers to reduce production, reducing the surplus and bringing the price to an equilibrium level.

In a market operating in equilibrium or close to equilibrium, the forces of Laws of Supply& Demand operate to balance the production and distribution of commodities with the demand for the commodities, preventing excessive over production or shortages. However in real markets we see that periodically this Equilibrium is distorted and the market enters into a crisis. Our next section tries to analyze the reasons for this instability.

III. The Analysis of Demand

Effectual Demand

We can established that Demand is the underlying force which is ultimately expressed as price whose relationship is theoretically explained through the 'Law of Demand' & 'Laws of Supply and Demand'.

The Laws of operation of the market as introduced in 'Wealth of Nations' is based on the concept of an Effectual Demand. In Adam Smith, words

"The market price of every particular commodity is regulated by the proportion between the quantity which is actually brought to market, and the demand of those who are willing to pay the natural price of the commodity, or the whole value of the rent, labour, and profit, which must be paid in order to bring it thither. Such people may be called the effectual demanders and their demand the effectual demand; since it may be sufficient to effectuate the bringing of the commodity to market."

In principle, it is the Effectual Demand that drives the Market price of a product and its production. Effectual Demand is the demand created by the Individuals who wishes to acquire it, and also has the means to pay the market price of the product. Quoting a clarification for the effectual demand by Smith, "A very poor man may be said in some sense to have a demand for a coach and six; he might like to have it; but his demand is not an effectual demand, as the commodity can never be brought to market in order to satisfy it " Meaning even though a poor man can have a demand for a coach since he cannot afford to pay the market price for the coach, it is not an Effectual Demand as the market will not operate to manufacture a coach to meet his demand.

Thus the Driving force of the Market Mechanism Initiating production of a commodity in shortage or reducing the production of a commodity in Surplus is the Effectual Demand for the commodity.

Synthesis of Effectual Demand

Effectual Demand is a requirement for a commodity in a market. The demand for a commodity is created by individuals wishing to acquire that commodity with the means to pay for it. Now we can classify such individuals or any entities wishing to acquire that commodity, into two categories; based on the purpose for which they acquire a commodity.

We categorize as: (1) Effectual Demand Created by Individuals acquiring the commodity to exploit its Use Value (i.e. for consumption). (2) Effectual Demand created by Individuals to exploit its Exchange Value (for reselling the product) i.e. traders. The 'Category 1' is the demand by **Consumers** and 'Category 2' is the Demand by **Traders**. The two demands should be considered separately as they have intrinsic differences and play different roles on a market which operates on the principles of the Laws of Supply& Demand.

The purpose of creation of a commodity is to ultimately have a Use Value for it, (i.e. finally it is consumed). The Laws of Supply& Demand should operate such that the production of commodities is estimated based on the Effectual Demand for the commodity for its Use Value i.e. the Demand Created by the individuals in first category, who is purchasing the product for its Use Value to them (Individuals who are consumers of the product). Let us define this as the Real Demand. The Market forces should produce the commodity to meet the Real Demand for the Commodity.

Now let us analyze the demand created by a Trader. The trader is a person or entity who acquires the product in order to exploit the Relative nature of the Exchange Value. A trader usually anticipates an increase in Exchange value reflected as an increase in price by shifting the commodity geographically or through time. A trader should estimate a future need for a commodity and acquire it so that when the future demand for the product arises he will be able to sell the commodity at a profit. The trader is thus a speculator who speculates the future demand for a product and mobilizes the market forces to produce the commodity. He will realize his profits when he sells the commodity to the individual who actually consumes it (Exploits its use value). A trader thus acts as an intermediary between the producers and the actual consumers.

The Demand placed by a trader is speculative in nature as he speculates a future real demand for the product. Suppose he overestimates the future real demand he may not be able to find sufficient Consumers (End users) for the commodities in his stock ending up in making a loss. This works as a self correcting mechanism allowing the Laws of Supply and Demand to operate in the market.

In a market, the Total Effectual Demand that the market perceives includes a Speculative Demand generated by the Traders operating in the market. The traders should hypothetically estimate this based on the creation of a real demand by the end users. Generally traders operating in an established market with their experience should be able to do this effectively. However the Estimation cannot be practically perfect and there will be some under estimation or over estimation, Let us call this Part as an apparent part of the Total demand. Now the self correcting mechanism of Supply and Demand should keep this apparent part small allowing for the market to correct itself when there is an over estimation or under estimation.

Total Demand (Effectual demand seen by the Market)	=	**Real Demand** (Consumers Demand)	±	**Apparent Demand** (incorrect Speculation by Traders)

However in the normal process if the Apparent Part of the Total demand increases the self correcting mechanism of the supply and demand should act to reduce it. If the Trader over speculates the real demand (positive Apparent demand) he will hold more stocks than he can sell and end up making a loss prompting him to reduce his orders and thus reducing the production process bringing down the Apparent part. If he speculates less than the actual demand (negative Apparent Demand) he will not be able to meet the needs of his real consumers prompting him to increase the orders which shall reflect as an increase in production.

However a Deregulated Market can generate a situation where the Apparent Part does not correct itself instead grows exponentially. Such a scenario is the object of study in this paper.

IV. Creation of Fictitious Demand in a Deregulated Competitive Market

In a deregulated market this equilibrium can be distorted. Consider a Deregulated market which allows for unrestricted entry of new traders. Also the market allows for Inter-Trader Trading. In such a market the apparent part of the speculated demand can increase exponentially.

The main reason for this is the Inter-trader; trading. Inter-trader trading means the trader sells (trades) goods with another trader. When inter-trader trading happens, the same commodity is exchanged multiple times without actually reaching its Use Value (i.e. reaching a consumer). This can be sustained if the traders circulate the commodity among themselves. However due to the multiple numbers of Exchanges of the commodity and each at a higher price than before will cause the market to perceive a rising demand for the commodity. Also the corrective mechanism of the Supply and Demand fails as the production does not reflect the Real Demand (Production for Actual Consumers). However still the demand for the product keeps on rising, and the traders still make a profit due Inter-Trader trading, and as long as there is continuous entry of new traders into the market, it will keep commodity circulation running, which results in a surge in the Apparent Part of the Total Demand.

In-order to sustain the inter-trader trading there should be sufficient entry of new traders into the market so that the one trader transfers the commodity to another trader. As new traders are attracted to the market there is sufficient circulation of the commodity reflected as the rise in Demand for the commodity in the Market. This Demand is generated by the traders themselves and is mostly the Apparent Part of the Total Demand i.e. it is a fictitious one. When Market forces commence production of the commodity to meet this fictitious demand Overproduction commences in the Market. However this over production due to its very nature can rise exponentially.

As this market boom proceeds the entry of new traders will start weaning of at some point of time. As the entry of new traders fall so does circulation of the commodity among the traders and this will cause the demand to fall. But by the time this happens the production forces would have already been activated and the Equilibrium is distorted by excessive supply and the Market goes into crisis. Due to Excessive over production to feed the Apparent or Fictitious part of the demand an excessively large stock of the commodity is created in the Market. Hence the market correction can be extended for long periods creating Recessions and Depressions.

V. Illustration

As the current crisis stems from the Real Estate sector we will use the Housing Unit as our commodity in the illustration.

Here we consider a community of 50 Households, and the availability of Housing units is balanced. Due to a change in the economic situation a migration ensues into the Community. Let us say the migration adds 40 more households into the community. This causes a shortage of housing units in the community, and the normal market forces commences. The price of the commodity increases. However our market is unregulated, allowing for easy market entry and credit, and thus allows unrestricted entry of traders. In this instance we apply the concept of use value and exchange value to differentiate a trader.

An individual making a bid for a housing unit in-order to use it as his home exploits the Use Value of the housing unit and is a consumer. However an individual placing an order for a housing unit to exploit a change in its Exchange value at a future time (speculating a price rise in future) is a trader. Now the order placed by a Trader and a Consumer is intrinsically different as for the order placed by the trader the housing unit should be sold to an actual consumer for it to meet its Use Value.

But then due to a sudden influx of new traders say a large number of individuals seeing the rising prices for the housing unit's placing orders speculating to sell at a higher price becomes available in the market as traders. Thus our first traders who enter the market, even if they do not find someone with a Use Value for a housing unit (Consumer),they will easily be able to find someone who is a trader like himself wishing to purchase a housing unit for selling at a later date. Thus inter trader trading ensues.

As more and more traders coming in and place more orders and there is a large circulation of commodities. Let us say 5 Traders enter the market initially and have placed orders for 3 units each, creating a total demand of 15 units. The market commences production and produces 15 units. The traders sell 5 units from this to real consumers and hold a stock of 10 units. Now the possible real demand in the market reduces to 35 units. Then another 8 more traders enter the market and place orders for 5 units each bringing in a total demand of 40 units, where in they buy from the first 5 traders the 10 units in stock but the additional units are still constructed, means 30 new units are constructed. So a total order of 40 Housing units is in stock. The first batch of traders has already made a profit by selling their stock to the second batch of traders. At this juncture another 8 new traders come in and our first batch of 5 traders having made a profit at their first venture decides to bid again. This time we have the 8 new and the 5 first batch traders a total of thirteen traders in the market. Now say these thirteen Traders each place an order of 5 units bringing the total demand to 65. Even if the 40 units in stock are bought by the new traders still an additional 25 units are constructed. Thus the total market stock is 65 units far exceeding the real demand possible. Thus as new traders keeping coming into the market and inter trader circulation continues, we have the housing unit circulating without meeting a consumer and new units constructed. Now most of the Total demand is in apparent Part. As long as new traders keep coming into the market the old traders will keep making profits and production will continue unchecked.

In our Case although the real increase in household is only 40 and hence the maximum number of units that need to be constructed in 40, however a deregulated market allowing of unchecked inter-trader trading can show a demand much higher than 40 meaning that there is considerable over production and this will go on as long as new traders keep coming into the market and the housing units keep circulating and the demand keeps multiplying without real consumers. But this can't continue for long and as the influx of new traders will start to reduce at some point of time and the creation of this apparent part of demand drops due to fall in the commodity circulation, and total demand starts falling making the trading unprofitable. However by this time considerable overproduction would have commenced and most of the traders will not be able to find buyers as the number of real consumers are less than the surplus stock. The result is a market Crisis and Waste.

In the real market this is more complicated than is illustrated with the factors of individual income, Credit availability, Employment etc., and as it is all interlinked this creates a general crisis. The Interconnection of the Real Estate Industry with other industries and the Economy as a whole expands the crisis to the entire Economy.

How can such an influx of traders happen in an Economy?

In our case such an influx can happen if the local population itself is given access to easy and unrestricted Credits. In such a situation when there is a sudden rise in price of Housing units people without sufficient financial back up also can become a trader making use of the easy availability of the Credit facility. Thus individuals who were not effectual demanders suddenly create an effectual demand in the market as traders. Thus a consumer is suddenly projected to the status of a trader by buying several units for reselling (US Mortgage Crisis).

In another scenario investors from outside the community can easily access the housing market and trade in the community unrestrictedly. This causes people outside the community with no use value for a housing unit within the community purchasing it with the sole purpose of selling thus adding to a trader influx. As new traders keep entering the market the old traders were able to transfer their units to the new traders and this keeps going on as long as there is a regular influx of traders (Real Estate Crash in Dubai).

VI. Market Study

As per the US Census Bureau estimates there were 18.8 Million homes Vacant i.e. unoccupied as of 2009. As per the study conducted by "National Alliance to end homelessness" the number of homeless persons in US was estimated to be 643,000. Now considering the US as our Case; we can say the number of Vacant Homes far exceeds the number of Homeless Individuals. If we consider each homeless individual create a real demand of a single housing unit still there is overproduction in excess of 18 million. Now suppose an society/the government decides to provide homes to all the homeless that is the government decides to fund the housing for all the homeless still the total real demand that can be generated in the market cannot exceed the number of homeless. Hence there is an excessive over production. The magnitude of over production is huge and which clarifies the correcting mechanism of the market was distorted, by the creation of apparent demand by inter trader trading. Most of the construction of housing units was spurred by the apparent demand created by the traders. Now most of the vacant houses are held by individuals or entities that can be classified as traders. However due to their relatively high investment in accruing it they (traders) will refuse to sell it below a certain recovery price.

VII. Conclusions

An unregulated market would not only lead to the unbalanced market but considerable over production and waste. This form of crisis not only generates unnecessary and huge forms of waste but also adds severe economic hardships to the general population. With proper monitoring and regulation of the markets by the concerned authorities such situations can be avoided. Hence government intervention in the markets is a necessity. The government should intervene to regulate unproductive inter-trader trading practices which tend to generate fictitious demand by circulating commodities. It is true that in the real market it is difficult to identify inter- trader trading.

It is suggested that Government shift taxation policy from taxing at the income Source to taxing when there are transactions or change of ownerships. The approach should be to identify the Traders and Monitor the demand created by Traders. Introduce Holding taxes; depending on the type of commodity, example a progressive tax for (1) Trader inventories with tax progressively increasing with inventory accumulation (2) progressive tax on time period of selling to discourage non traders from engaging in short selling and commodity circulation. The proposal should vary depending on commodities. When the government tax trader inventories, they will be forced to study the markets properly and will be penalized for excessive inventory accumulations. In case of certain commodities such as housing unit, suppose there would have been a progressive tax for individuals holding a Housing unit meaning the tax rate increases with the number of housing units held, this will discourage excessive purchases for trading. Also if there are reasonably high charges when the housing units are traded, which decreases with time, meaning if a person purchases housing units and sells it within a short period then he will have to pay high charges than if he sells after a longer period after using, then inter trader circulation and the creation of fictitious demand could have been stemmed to a certain extent. However a detailed study might be needed to propose appropriate and practical regulatory policy as it will depend on the type of commodity, market and investor attitude. A further analysis of the phenomenon could give more solid and effective regulatory solutions.

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