The Theory of Black Market Prices
A Reconsideration

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In the last Annual Number of The Economic Weekly, I made an attempt to present the theory of black market prices on the lines of the theory of discriminating monopoly, in preference to the method adopted by Dr. Das Gupta in the analysis of the same problem in the previous year’s Annual Number. I further tried to prove that legalisation of the black market followed up with a policy of taxing the uncontrolled market with a view to subsidising the controlled market would render the system of price control and rationing more effective. This conclusion of mine stood in exact opposition to that advanced by Dr. Das Gupta that the proper remedy for these excesses is tax cum subsidy rather than price control and rationing” (italics mine).

Subsequent to the publication of my article, I have been honoured with a rejoinder by Mr. Pravakar Sen and a reply by Dr. Das Gupta. Dr. Das Gupta reaffirms that the Boulding diagram which was his point of reference in the 1950 article clearly represents the position of the industry under perfect competition and was designed to exhibit a comparison between the black market price and the price that would be established if free play were given to the forces of supply and demand. The competitive supply curve is employed towards this purpose by Mr. Boulding and Dr. Das Gupta. It is now well known that the rising supply curve of an industry under perfect competition turns out to be treacherous when employed in any situation where the market conditions do not conform to the severe assumptions of perfect competition. And what can be more distant from perfect competition than a situation which involves the existence of black markets? Dr. Das Gupta himself admits in his earlier article that “the so-called black market is a bundle of isolated transactions which strictly speaking do not form a market at all.” And yet he derives his black market supply curve merely by an addition of the “marginal risk cost” to the competitive supply curve. Obviously such a course is indefensible.

The correct method is to take the individual seller as the starting point. In the absence of compulsory procurement by the State, the seller enjoys perfect freedom in his decisions concerning the total output he intends to offer as well as its distribution between the controlled and black markets. His decisions are governed by the objective of obtaining maximum aggregate profit under the given conditions of the market. And this is exactly what is meant by the monopoly behaviour of a firm defining its equilibrium whatever be the conditions of the market, that is, monopoly or monopolistic competition or perfect competition.

It is hard to understand what Mr. Pravakar Sen means when he says that “a blackmarketeer may be a monopolist but he is not necessarily so simply because he is a blackmarketeer.” Perhaps Mr. Sen had in mind the “plain man’s” notion of a monopolist.

Proceeding on the familiar method of deriving the equilibrium conditions of a firm, I constructed my basic diagram, which is reproduced below. (Diagram I). No doubt my entire analysis of the problem including the policy measures rests on the diagram. Dr. Das Gupta dismisses my analysis with a cryptic comment: “All right so far as it goes, but the analysis has little to do with the nature of price control and the resulting black market operations as we know them”. This he does on the plea that my aggregate demand curve presupposes an absolute separation of the controlled and blackmarkets, which is not true in reality. The same criticism is advanced by Mr. Pravakar Sen who contends that this is “empirically falsifiable” and “logically impossible.” My aggregate demand curve is thus alleged to be incorrect and hence my entire analysis of the problem is shown to be wrong.

I must admit that it is my fault in not having presented a detailed and clear exposition of my diagram that has rightly provoked this criticism by Dr. Das Gupta and Mr. Pravakar Sen. In fact subsequent reflections on this diagram have revealed to me a major error that has crept into my analysis while- applying this diagram to the formulation of policy measures. Let me therefore present a clear explanation of my diagram.

I indicated in my last article that the individual seller will offer that aggregate output which equates the aggregate marginal revenue with the marginal cost of the whole output and will sell in each individual market that output which equates the marginal revenue there- with the marginal cost of the whole output.

In Diagram I, the aggregate equilibrium output is O M, of which OM is directed towards the controlled market and ON is sold in the black market. Now this analysis has come in for severe criticism on the ground that my aggregate demand curve from which is derived the aggregate marginal revenue curve is logically impossible. This is because of the dependence of the blackmarket demand on the size of the rations available to the consumers in the controlled market. Since the very existence of the black market is due to the insufficiency of rations at least to some buyers, the size of the per capita rations in the controlled market will determine the intensity of demand for the same commodity in the black market.

This point is perfectly sound; and I have been kicking myself for not having made this point clear in my last article. But this by no means makes my analysis either “logically impossible” or “empirically falsifiable.” My mistake there consisted in not having pointed out that my diagram indicates a position where equilibrium adjustments have taken place. And this point clearly needs clarification.

The controlled price in my analysis refers to the procurement price at which the Government decides to purchase from the sellers in order to meet their ration commitments. This procurement price may or may not be equal to the issue price i.e.

The correct method is...

Diagram I

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the price at which rations are sold, to the consumers. What is relevant to the seller is only the procurement price.

Now my black market demand curve indicates the price the consumers are willing to pay to buy any given quantity in order to supplement their rations. Evidently the position and shape of this demand curve depends upon the size of per capita rations. If the rations are large, the intensity of demand in the black markets will correspondingly be reduced. Therefore the black market demand curve will be nearer to the origin and more inelastic. On the contrary, if the rations are small, the black market demand curve will be further to the right and more elastic. Hence the position and shape of the black market demand curve and, thus, of the aggregate demand curve, depend on the size of the per capita rations, given tastes, incomes, issue price morals, legislative measures, etc., constant. When the rations in the controlled market attain the equilibrium size, the demand curve in the black market is also adjusted to this equilibrium situation and conditions of equilibrium will prevail in the controlled as well as the black markets. This is the position indicated in Diagram I. Let us see how this adjustment takes place.

Suppose the Government introduces rationing and announces a certain per capita quota of rations which will be distributed at the fixed issue price. Corresponding to this per capita availability of rations, there exists a black market demand curve which indicates the prices the consumers are willing to pay to buy the black market supplies in order to supplement their rations. Now given this black market demand curve—along with the procurement price, the seller, as we have seen above, will offer that aggregate output at which the aggregate marginal revenue (i.e., the controlled price) will be equated to the marginal cost of the whole output, and will divide this output in such a manner that the marginal revenue in each market will be equal to this level of marginal cost. In the diagram, the seller offers an aggregate output OM, of which NM is supplied to the controlled market and OM is sold in the black market. Now if the aggregate of supplies such as NM to the controlled market by all the sellers falls short of the total size of ration commitments on the basis of the announced per capita quota, the Government will be compelled to reduce the per capita rations/ When this happens, there will be a corresponding shift in the black market demand curve to the right and accordingly the sellers will revise the amount they supply to the controlled market. But while the supplies to the controlled market diminish, the total size of the ration commitments will fall to a greater degree since a cut in rations affects the entire population whereas the increase in black market demand is only due to a section of the population. Now, dimension by the well-known trial and error method, a stage is reached at which the aggregate supplies in the controlled market will exactly fulfil the ration commitments of the Government. This will be the position under equilibrium conditions, and the aggregate demand curve in my diagram indicated the position when such equilibrium adjustments have taken place. I hope I have made the point clear.

I argued on the basis of the above diagram that: "Neither the prices nor the outputs sold in the black markets are in any way influenced by the risk involved in selling in the black markets. The seller, if he makes provision for this at all, will have to treat it as an incursion into his monopoly profits." In this argument I presumed that the risk element involved in selling in blackmarket is due to the illegality of such transactions in general. Obviously the risk is associated with the nature of the transaction and not the size of the transaction. Therefore the seller has to make a lump sum provision for this and treat it as an incursion into his monopoly profits. Dr. Das Gupta, however, contends that this cannot be my assumption since in his policy prescription I apply this very analysis to suggest a tax on the sale of the commodities. And Dr. Das Gupta is perfectly justified in this. My policy prescription does give that impression which is a clear mistake. In fact, my suggestion of a tax on the sale of the commodity is wrong. I shall shortly present my revised policy prescriptions.

So much for the theory of black market prices. In fact the more fascinating part of the theory consists in its dynamic aspects which involve shifts in the cost schedules and demand schedules, particularly in the case of demand for producer's goods. This throws open a number of interesting problems to a student of monetary theory. I hope to be able to say something about this in the near future. Let me now come to my policy measures.

My main thesis in the last article was that a system of price control and rationing could be made much more effective by legalising the black markets and by adopting a policy of tax cam subsidy. I stated that subsidies to the controlled market will have a general salutary effect by enabling the controlled market to offer a higher price to the seller. A rise in the controlled price will produce a double effect in that larger total supplies will flow into the markets and a larger part of the increased supplies will be offered to the controlled market. Now while this statement is perfectly sound, I have discovered an error, to which I referred above, in the application of my diagram to establish this proposition. Luckily the discovery of this error has only strengthened my proposition. For with a rise in the procurement price, the per capita availability of rations increases owing to increased supplies and this means a corresponding shift in the demand curve in the uncontrolled market (that is, the legalised black market) towards the origin. Therefore the amounts offered when equilibrium adjustments have taken place with reference to the new procurement price are such that a still larger part of the increased aggregate output will be directed to the controlled market than what I pointed out in my last article, since not only the level of intersection of the marginal revenue curve with the marginal cost higher but the marginal revenue curve itself is shifted nearer to the origin. The position is clearly indicated in Diagram II.

Diagram II

At the higher controlled price OR_2, the aggregate output offered by the seller is OM_2, of which N_2 MO is supplied to the controlled market while ON_2 is sold in the free market.

My second policy proposition referred to an imposition of a tax on the sale of the commodity and a steeper system of direct taxes on
buyers' incomes, in order to raise revenue with a view to offering a higher procurement price. I have now realised that this is incorrect and what is called for is an exactly opposite policy. The correct policy is to impose a purchase tax on the purchases in the uncontrolled market and to levy a lump sum tax on the sellers in the uncontrolled market. This is for the following reason:

The demand curve in the free market indicates the highest price the consumer is willing to pay for any given output. Therefore a purchase tax cannot be added to the price at which a given amount is sold but can only be deducted from it. This means that the revenue per unit sale that accrues to the seller by selling in the free market a commodity on which a purchase tax is levied is its price minus the purchase tax. This we can define as the average net revenue. Corresponding to this average net revenue curve, we have the marginal net revenue curve and the seller offers that output in the free market at which the marginal net revenue will be equal to the marginal cost of the whole output. The output sold in the free market will be naturally smaller than what would be sold in the absence of the purchase tax. In Diagram III, AQSB is the amount of tax proceeds the Government realises by the levy of a purchase tax AB and the output sold in the free market is ON.

Herein then we have two important and interesting sources of revenue to subsidise the controlled market. To repeat my earlier statement, what is taken from the right hand pocket of the seller is put into his left hand pocket. But in the process a substantial benefit accrues to the community at large.

The great advantage of this dual market policy backed by a system of tax cum subsidy in the manner suggested above is that it not only ensures minimum supplies to the entire population by means of rationing but also effects a redistribution of real income in favour of the lower income groups. Dr. Das Gupta would be content with a policy of direct taxes and subsidies, and a restoration of the free market forces. But the point remains that as long as the sellers have free choice in offering their supplies, the equilibrium output will be a monopoly output which will be definitely less than the competitive output. And accordingly the price will be higher than the competitive price. Further Dr. Das Gupta has to answer the wider question whether a general policy of tax cum subsidy will succeed to the desired degree in minimising the distortion in the competitive conditions caused by income inequalities and monopoly elements in the modern context of production. Above all, in a country like ours when the scope for income taxation is restricted for various reasons and the size of the population is very large, could a general policy of tax cum subsidies be ever feasible? And is not a self-contained dual pricing policy theoretically sound and practically expedient?