

# **DEREGULATION OF PRICING: DOES IT IMPROVE ANYTHING?**

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## **ABSTRACT**

*It is not generally recognized that effective price controls necessarily cause surpluses or shortages in markets. The answer depends very much on the degree of competition prevailing in the specific market being affected. There is a significant difference in the impact of price regulation in competitive markets as contrasted with more imperfectly competitive markets. A primary purpose of this paper is to bring attention to this somewhat neglected reality.*

## **INTRODUCTION**

Lawmakers and business leaders have promoted the shift from monopoly electric power to competition as a breakthrough that would cut power cost and help a state's economy. The idea is to encourage competition by setting up a wholesale power market and allow consumer; business and residential, to choose their own supplier.

Twenty states have now made a commitment to deregulate following an initial move by California to deregulate power a year ago. The early efforts to deregulate have not yet panned out to produce lower electricity rates. Nevertheless, many states including Arkansas have made commitment to deregulate. The basic appeal to deregulate seems to be the prospect of lowering the cost of doing business in a state. If in fact it will achieve this, then that would benefit the population of a state and provide additional job opportunities.

The deregulation efforts so far, which focus on bringing down the cost of electricity to consumers, have been led by states where power costs are high. Areas with higher electricity process benefit most from deregulation since price differentials result primarily from past investments in unusually expensive generating facilities. The areas with facilities reflecting the current state of technology have the lower electricity prices. The issue may be one primarily of competition between the "old" and the "new" type facilities.

There seem to be many significant "ifs" in this movement to deregulate electricity. The purpose of this study is to make use of models to guide us in evaluating the impact of deregulation as compared to an environment of regulation. This is an issue of current significance and should not be left to an uninformed general public without the benefit of some economic analysis.

Almost every Principles of Economics student learns that when a regulated price lower than the equilibrium price is imposed, a shortage of that product is the result. Beginning students also learn that whenever a price is established greater than the equilibrium level, a surplus develops in the market. The tendency is to develop generalizations about the effectiveness of government price controls on such areas as minimum wages and electricity pricing. The outcome really depends upon the degree of competition prevailing in the market being evaluated.

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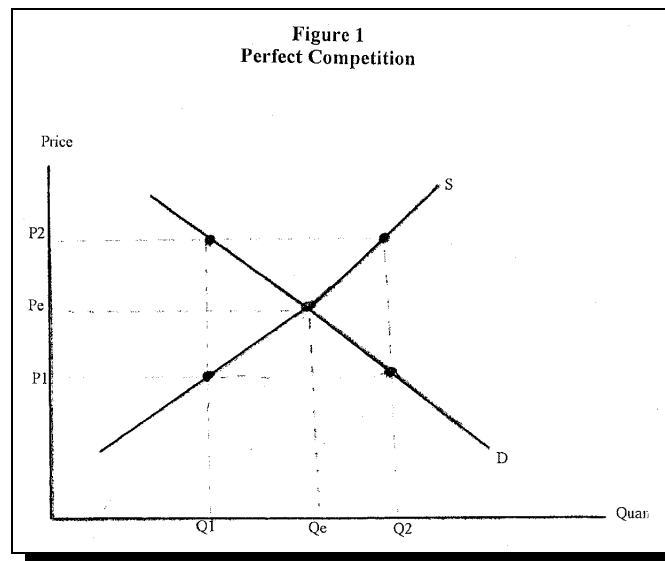
### **SETTING PRICES IN COMPETITIVE MARKETS**

Figure I illustrates a standard model of pure competition. Pure competition as defined in standard text books would result in  $P_e$  and  $Q_e$  being the equilibrium. Any attempt to achieve a lower price, such as  $P_1$ , would result in a shortage as measured by the distance  $Q_1-Q_2$ . Price regulation would bring on the need for some way to deal with this shortage. Furthermore, any attempt to establish a higher price, such as  $P_2$ , would result in a surplus as measured by the distance  $Q_1-Q_2$ . Price regulation would bring on a need to deal with this surplus. As a consequence with large numbers of independently acting buyers and sellers as characterize a competitive market, price setting causes shortages or surpluses. A strong case can obviously be made for leaving the market alone.

### **SETTING PRICES IN IMPERFECTLY COMPETITIVE MARKETS**

In this circumstance the somewhat well defined supply and demand functions become less so. In order to explore this type situation, two models are presented. Model A demonstrates the impact of price controls on monopoly or oligopoly firms supplying some good or service. Model B demonstrates the impact

of price controls(minimum wage legislation) on monopsony or oligopsony firms demanding labor services.

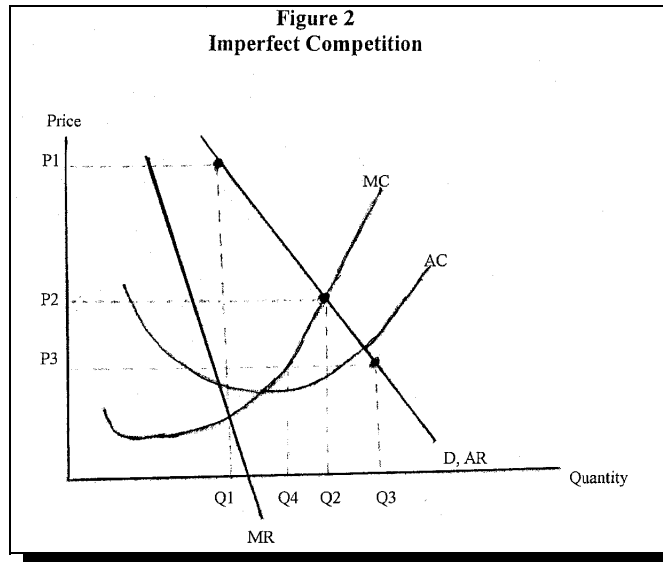


In model A (Figure 2), standard economic analysis would call for the firm to maximize profit at  $P_1$  and  $Q_1$ , and no shortage of the firm's product would exist. If we now impose a price ceiling at  $P_2$ , there will be a change in the firm's behavior. The firm's MR curve is now horizontal at  $P_2$  until  $Q_2$  is reached. The marginal or additional revenue in this range is the same as the regulated price. For points beyond  $Q_2$ , the firm's MR curve is the original and declines as output becomes higher. In summary, with the imposition of  $P_2$  as the ceiling price, the firm's marginal revenue curve is horizontal at  $P_2$  until output is a  $Q_2$ ; at this point MR becomes a vertical line and reverts to the original MR beyond  $Q_2$ .

At the ceiling price, the imperfectly competitive firms supplies a larger quantity at a lower price than was the situation prior to regulation. The firm demonstrated here still earns an economic profit, but not as much as before regulation. The consumer gets more product and at a lower price than before. Furthermore, as long as the ceiling price is set no lower than  $P_2$ , where marginal cost intersects the demand curve, a shortage would not occur.

If the price were set a  $P_3$ , a shortage would occur. At any price below  $P_2$ , quantity demanded tends to increase as the price is lowered while quantity supplied decreases. An illustration of this is to look at  $P_3$  where quantity demanded is  $Q_3$ . The firm would supply only  $Q_4$  since this is where  $MR=MC$  at that output level. The

consequence would be a shortage. In summary, as long as price is set at level P2 or above, no shortage of product will tend to result.

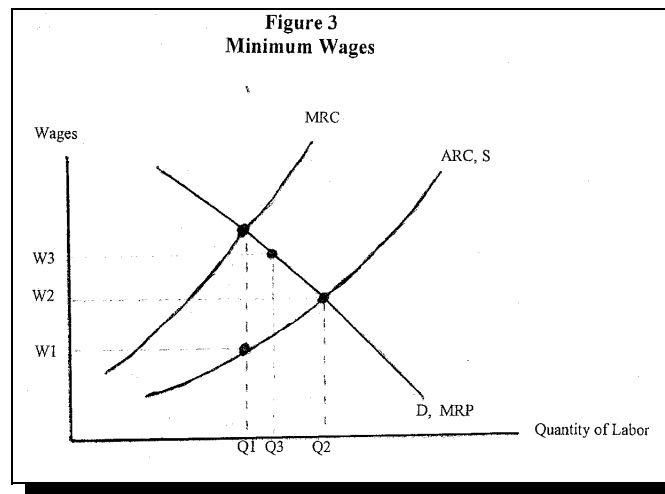


Another possibility not illustrated in this paper would be where demand is so weak that the intersection of MC and the demand curve is below the average cost curve. If prices are set below this level, the continued existence of the firm would be in question. A firm must cover all costs in the long run or it ceases to operate.

Figure 3 illustrates the impact of price controls (minimum wage legislation) upon monopsony or oligopsony firm's demand for labor. This figure is utilizing the conventional concepts; Marginal Revenue Product, Marginal Resource Cost and Supply Curves for labor in a market. If there is no regulation whatever, the firm will follow its self-interest instincts and hire Q1 units of labor and pay W1 as a wage rate. This is the standard monopsony model discussed in most Principles of Economics books.

If the government establishes a minimum wage at W2, the effect will be that no labor can legally be supplied at rates below that and the marginal resource cost of labor will be horizontal at that level. The consequence is that  $MRP = MRC$  at W2 and Q2. The requirement that the higher wage, W2, be paid has the effect of being associated with a higher level of employment, Q2. Also, there is no surplus of labor at this higher wage rate. On the other hand if an even higher wage rate were established as the minimum wage level, the consequence would be lower

employment level. For example, if  $W_3$  were established as the minimum legal wage rate, only  $Q_3$  would be employed.



In conclusion, there is a range in which a higher minimum wage may even produce more jobs by eliminating the monopolistic employer's motive for restricting employment. It might also be argued that an effective minimum wage could increase productivity which would shift the MRP(demand curve) for labor to the right. This could result from a "shock" effect causing firms to use labor more efficiently or could result from an improvement in workers vigor, motivation, etc which contribute to productivity. The models shown do not establish these latter points, but they do support the previously made points, but they do support the previously made point that higher wages do not necessarily result in less employment and may even be associated with more.

## CONCLUSION

The main point to be gotten from the above somewhat simple use of conventional concepts is that government involvement in the regulation of pricing is not necessarily bad. As has been demonstrated, when monopoly elements exist, requiring a reduction of price can result in an increase (not decrease) in the quantity supplied. What essentially happens is that part of the return to the monopolist for restricting output are removed, and no shortage occurs.

It has been similarly demonstrated that minimum wage legislation does not necessarily have the effect of causing more to be unemployed. Indeed, as was demonstrated, the final effect could well be more employment as we remove the monopolistic employer's motive for restricting employment.

As we consider the implications of the current movement to deregulate the pricing of electricity, perhaps more thought needs to be given to whether the electric industry is competitive or monopolistic. A major indicator of monopolistic market structure would be the existence of long term economic profit. Those who have already objectively studied the electricity industry should know the answer even now.

The natural regulator of the market is competition. Where it is found to not exist, it would be appropriate to conclude that we either attempt to establish it or that government has some proper role to play. As Adam Smith said, the proper role for government is to do those things needed and necessary but not being provided by any other means.