# COST OF PRODUCTION, PRICE CONTROL AND SUBSIDIES

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# COST OF PRODUCTION, PRICE CONTROL AND SUBSIDIES: AN ECONOMIC NIGHTMARE

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In recent decades the attention of economists interested in value theory has been largely turned away from a consideration of cost of production in the sense of "opportunity cost" toward consideration of the so-called "cost" of production to the individual company or "firm." Emphasis is put on the "marginal cost curve" and the "marginal revenue curve" and these are used to express graphically the hypothesis that the "firm" will tend to increase its production up to but not beyond the point at which "marginal cost" is as great as "marginal revenue."

Possibly a principal reason for this new emphasis by teachers and writers of economics is the great expansion in collegiate training for business. For such expansion would bring, presumably, a desire to give more attention to matters that seem to relate to the "practical" decisions of business executives.

In this paper I want to distinguish between the *outlays* of the "firm," as such, and those alternative opportunities which make up the cost or costs of production in their effective supply-determining sense. I am not greatly concerned with the question of definition. I admit the right of others to define "cost" or "costs" of production as they like. But I believe there are very real advantages in using the expression "cost of production" in a sense that fits in with and is helpful to a demand and supply analysis. And for such analysis, "firm" outlays are not the important causative influences. To get at these we must direct attention to the alternative employment possibilities of each separate worker, each separate piece of land, each bit of capital equipment.

I strongly suspect that the logical justification for this view is not anything like generally understood by economists. Perhaps the great majority of economists do not understand it. If so, explanation is especially important.

Suppose, to begin with a relatively simple case, we consider a firm engaged in the production of wheat. This "firm" could be an individual proprietorship, a partnership or a corporation. For our purposes it does not matter which. The "firm" employs a number of workers, the various pieces of land embraced in the farm (and perhaps some land not thought of as part of "the" farm), and such buildings, fences,

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machinery, fertility and other forms of capital as the operator thinks desirable. Wages are paid to the workers, interest is paid for the use of capital, land rent is paid to the landlord or landlords for permission to use the land. Are all these *outlays* to be regarded as costs *in the sense* that they are necessary payments to maintain the production?

The answer is in the negative. Consider first the rent of the land. The "firm" is, indeed, in competition with other wheat producers for the use of good wheat land and must pay as much for it as is necessary to meet this competition. But what if the demand for wheat should become less and, therefore, the price of wheat should fall? Would not the bidding of rival wheat producers to use this land decline? If so, could not our assumed "firm" offer a lower rent to the landowner and still be as certain of having the use of the land as he was previously at the higher rent?

This might indeed be the case and, therefore, it does not at all follow that the outlays the firm is obliged to undertake to outbid a rival or rivals in the same business are a necessary *cost* of keeping the land in *that* business and, therefore, continuing to get wheat from the land.

On the other hand, as could easily be the case, the land might be so productive for a different crop, *e.g.*, oats, potatoes or sugar beets, and some tenant, therefore, willing to pay enough rent to use it for this different crop, that at a slightly lower price for wheat the land would be rented to the tenant who would use it for the other crop. (This might *or might not* be the same tenant who, at the high wheat price, would use it to produce wheat, for all users are certainly not equally good in all lines of production.) The amount which must be paid to keep the land in this *instead of* an alternative line of production, *is* cost of production in a sense significant for a study of the supply and demand and the price of wheat.

But we cannot assume that all the land used for the production of wheat by a particular farm or farming company is equally productive. Nor, even if it should be, can we conclude that all of it is equally good for some alternative crop. If we suppose that on the particular farm there are ten separately fenced-off fields used for wheat and if we go so far as to suppose that these fields are equally good for the raising of wheat, the land rent cost of producing wheat on these separate fields may still be different. Perhaps field A is so poor for any other use that even with a pretty low price for wheat it would still be used for that purpose. The wheat attributable ("imputable") to the use of that field is, comparatively speaking, *low-cost* wheat. Field G, on the other hand, may be so good for the production of (say) sugar beets that even a very slight fall in the price of wheat would cause it to be diverted



to the production of sugar beets. If the present tenant does not know how to produce sugar beets, the owner may rent it to another tenant who does. Wheat raised on field G is, comparatively speaking, *high-cost* wheat.

So far as the land rent is concerned, then, we cannot say that *the* farmer or the farm *company* or the farm *firm* is either a low-cost *or* a high-cost farm or company or firm. In the sense in which *cost* relates clearly and simply to the conditions of supply and to a supply and demand analysis, there is no *one* cost for a particular firm. Part of *each* firm's production may be low cost and part, high cost.

Now let us turn to the matter of labor and wages. Here again, the *cost of production*, in the only sense directly relevant to a supply and demand analysis is the amount necessary to get and keep the "factor" (in this case, labor) in the particular line of production. And so here, again, such cost must be reckoned in alternative possibilities, and *not* in mere *outlays*.

The workers engaged in the production of wheat may be unevenly productive and may be receiving varying wages for their work. But we shall here assume that they are equally productive and are receiving equal wages. Still, the cost of production of the wheat produced by some will not be the same as the cost of that produced by others. For their alternatives will, presumably, not all be the same. Though all may be receiving, say, \$8 a day, K might be ready to quit and go into an alternative line if his wages in the wheat fields should go down only to \$7.99, while Q might conceivably have no alternative line that would pay him more than \$4.00 a day and would therefore remain in wheat production even though wheat were to fall almost, or quite, to half its previous price and his wages were to go down almost, or, even, quite, to \$4.00 a day.

This does not mean that any firm could get Q on such terms so long as the price of wheat remained high. For different companies then could and would bid for Q's services, and at any wage the tiniest bit below the amount necessary to get K, would prefer Q to K. Thus, they would compete against each other for Q up to that point before hiring K. But it does mean that if the demand for wheat should decline and, therefore, its price should fall, with consequent decline in the demand for that particular kind of labor, the resulting lower wages would not necessarily cause all the workers in wheat production to quit it for other work. Some would quit but, unless the reduction in wages were very great, others would not.

Of course, the number of young persons going into this kind of production might decline very rapidly even though many older workers, less adaptable, remained for years in the work.

Our general conclusion must be that with labor and wages, as with land and land rent, cost of production of goods must be reckoned as what is necessary to keep each individual worker (or each individual piece of land) in the given line of production. This depends on what they can earn in the best alternative line of production. What the "firm" has to pay as wages, because of the competition of other firms in the same line, is *not* cost in the sense in which the word is here used. The cost of production of the wheat imputable to the labor of each worker must be reckoned in terms of whether *that* worker would or would not stay *in that industry* producing (as in this illustration) wheat for a lower wage than is being paid him.

A similar analysis can be made in regard to the cost of keeping capital equipment—buildings, ships, the roadbeds of railroads, locomotives, machinery, orchards—in any specific line. And here, as in the case of labor, a distinction must be made between the long run, in which the equipment wears out and replacement depends on a return high enough to make such replacement worth while, and, on the other hand, the shorter run, when some equipment would remain in its line for very little annual return, because it is so highly specialized as to have no practical alternative.

It is true enough that the logical way to run a specific firm is to increase output up to and only up to the point where the marginal revenue is no longer in excess of the so-called "marginal cost" (but meaning marginal outlays); and, of course, to *decrease* output if and when it is discovered that excess production has made marginal outlay greater than marginal revenue. But by itself this analysis is superficial as regards production in general. For it fails to stress the fact that there is *no one cost* for all units produced by a firm, that the cost of part of the product is low, of part intermediate and of part high; that, with a reduction of demand for the product and a fall in its price, such outlays as wages and land rent would be likely to decrease; that with these lower outlays the so-called marginal "cost" for any "firm" would be lower; and that any one firm might be willing enough to produce as much as before, even at a lower price, considering its lower outlays per unit of goods; but that so many individual workers, individual fields or pieces of land, and individual units of capital equipment, would *not* remain for the lower return, as to mean less total production.

And so the important fact for our analysis is not that some "high-cost firm" quits at the lower price for the product but that some workers, some pieces of land (in agriculture, some fields) and some capital instruments quit. This might possibly involve a diminished number of "firms" in the business if otherwise the smaller scale of production would mean less economy of operation. But certainly the reference to individual firms as high-cost and low-cost is, by itself, superficial. The significant matter is that "factors" (labor, land, capital) quit. Hardly ever will *all* the labor,[1] *all* the land, *all* the capital associated in one "firm" quit simultaneously. Workers who do not quit but who have been working on land that does, will recombine with another piece of land (and likewise, with other capital) which does not transfer to another line, but some of the workers on which do transfer.



The analysis is the same when the "firm" owns—instead of hiring or borrowing—the land or capital it uses. For management will presumably choose to divert into another line or lines such land and capital as will yield more in such line or lines than in the line it has been in previously. Even if the economist who emphasizes "cost" to the "firm," contends that in the case of land and capital owned by the firm itself he is not thinking about "outlays" but about some "reasonable" or to-be-expected return to the firm, he is missing the main point unless this "reasonable" return is measured in what could be had in an alternative line or lines. And in any case, as regards all labor, land and capital hired or borrowed, he is still missing the main point.

All this has a bearing on the contention that prices can advantageously be kept down—or reduced—by the payment of subsidies out of money raised by taxes, and, especially, on the claim that the expense of the subsidies to taxpayers will be less than the gain to consumers in lower prices. The basis of this claim has been that the subsidies will need to be paid only to the "high-cost" firms. But our analysis has shown that *much* of the production of a so-called "high-cost" firm is actually low-cost production, in the sense that some of the land, labor and capital used by it would, if product price were forced down, nevertheless remain in that line of production for less rather than transfer to another line or lines. Our analysis showed, too, that a part of the production of a so-called "low-cost" firm is high-cost production, in the sense that some of the land, labor and capital used by it would be shifted to another line or lines rather than accept any less remuneration. Presumably, the "firm" which is said to operate at "low cost," tends to employ these factors *as long as* there is any gain to the owners and operators of the firm—or *up to the point where* there is no longer any gain—and, therefore, could not normally employ as much of each and all of them at a forced reduction of product price. In short, the effort to distinguish "firms" of the "high-cost" variety from "firms" of "low cost" and to base policy on this distinction is utterly super-

[1] The concerted quitting characteristic of the strike of labor is a not uncommon phenomenon of our industrial life. But it does not invalidate the principle stated. In fact, the principle operates not only where labor is unorganized but also where it is organized.

ficial and leads only to confusion and to unwise legislation and administration.

To illustrate, suppose we consider the proposal sometimes made—and sometimes acted upon, *e.g.*, during World War II—that prices in specific lines be kept down through the payment of a subsidy to producing "firms" by government. This was done in various lines during World War II, was defended by President Roosevelt as necessary and effective and is currently part of the administration program. The thought is that if (say) milk would sell in an unsubsidized market at 22 cents a quart, a subsidy from government of 4 cents a quart would enable the producers to sell the same quantity for 18 cents a quart. The consumer, as such, would pay the 18 cents. The government would pay 4 cents.

Assuming this 4 cents a quart to be paid by taxation, it should be clear enough that, collectively, the people are still paying 22 cents a quart, though some taxpayers will then probably be paying, in part, for the milk consumed by other families than their own.[2]

But when it is pointed out that the 4 cents paid by government out of taxes is just as much a cost as if paid by consumers directly, the rejoinder is made that the 4 cents does not need to be paid to *all* firms but only to the "high-cost" firms, and that there is thus an "economy" in the subsidy system.

As we have seen, however, it is impossible thus to divide firms into "high-cost" and "low-cost" firms. The significant costs are costs for getting and keeping the factors of production—land, labor and capital—in the given line. And these costs are not the same for the various workers or for the different pieces of land used or for each of the various units of capital equipment. If, therefore, there is any logic at all in the paying of subsidies to hold down or bring down the prices of specific goods and if it is desired to pay these subsidies only for the *really* high-cost part of the supply, then the subsidies should be paid to *some* workers but not to *all*, to the owners of *some* land but not to *all, etc.*

But let us see what this more truly *logical* application of the subsidy plan for the "high-cost" part of the output would mean. To do this, let us return to our assumed alternatives for workers in the wheat fields (for the principle is the same whether the product is wheat, or is milk, butter and cheese). The worker who, because he could make an equal income in another line, would not remain in the wheat business (or the dairy business) for less than $8.00 a day, is "high-cost" labor, and

[2] If the subsidy should be paid, for example, by a new issue of paper money, there would also be price level inflation; but it would still be true that, collectively, the people would be paying for what they received.



if the price of the product is to be kept down to where he would not get the $8.00 from consumers as such, he must receive a subsidy from taxes so that he can still realize his $8.00 and will still remain in the given line. But for the *equally efficient* worker in this line who could not make more than $4.00 in another line and who would, therefore, stay where he is despite regulation lowering the price of the product—for him *no subsidy is required*. And the only way to have this so-called "economy" is *not to give him the subsidy*.

Thus, the payment of a subsidy to the one worker and not to the other would mean that one of the two workers—and it could be 160 out of 200—though equally efficient and productive and thus rendering equal service, would have to be grossly discriminated against. If the price were regulated to half the normal market price, the worker discriminated against would receive only $4.00 a day. The other, being subsidized, would receive $8.00 a day for no greater production or service. That such a subsidy system would arouse great resentment is sufficiently obvious.

In a system of truly free markets, the worker who cannot change to another line without substantial loss, is protected against having his wages greatly reduced on that account by the fact that many others can and will change if wages in the particular line greatly fall. The subsidy system deprives him of this protection.

There is also to be considered, of course, the administrative impossibility of such a system of subsidies. How shall we know *which* of 1,000 or 100,000 workers would change permanently to another line if their wages should be reduced and which of them would not? Any of them might *say* he would, if that would get him a subsidy otherwise not obtainable. But, in fact, most of them probably do not themselves know until finally faced with the actual problem, under just what pay conditions they would or would not change their line of work.

It seems unnecessary to repeat the argument of the last four paragraphs, in its application to land and to capital. The reader who has followed the analysis up to this point should have no difficulty in seeing how it applies to these other factors of production.

Since some natural resources—*e.g.*, a rich mine of coal, copper or silver—which yield high rent (or royalty) in one line of production, are entirely or almost entirely useless for any other production, it will perhaps be urged that the price of the particular product should be held down and that then the owners of such natural resource will just have to take a lower rent or royalty, to the clear gain of consumers. Or, if the operating company itself owns the resource, it will have to accept a lower "profit"—although the income from the resource, as such, is really no less a rent or royalty, imputable to the resource, than if it were owned by a private individual who received monthly, quarterly or annual checks from the company for its use.

But to hold the price of the product down by force would mean that the price was also reduced on such parts of the product from this rich mine itself as are produced at the "intensive margin" and, likewise, on such parts of the product as are produced from poorer—including marginal—mines. Then some, at least, of the labor and capital used in both cases referred to would probably quit rather than accept any lower return and, short of compulsion, would remain in the business only if subsidized.

Such holding down of the price by subsidization would not only arouse resentment from some workers, as indicated above, but would tend strongly to encourage a larger use of the product as compared with other goods, at, of course, the expense of taxpayers. Unless a rationing system forcibly held down demand, the amount of these goods consumed, as compared with other goods, would be larger than if marginal costs were covered by prices to consumers instead of being partially covered by taxes. The economy would be thus more largely a directed economy and less an economy based on voluntary choice. To a considerable extent, in fact, the so-called non-communist world has been moving toward a directed economy and away from the freedom in which its "leaders" pretend to believe.

If any advocate of a directed economy is inclined to take satisfaction from such a possible case as this, in the thought that rents or royalties (including "profits") to owners of natural resources would thereby be reduced, it can be pointed out to him that such reduction could be accomplished through taxation of the unearned gains from natural resources and sites, without disturbing effects on the operation of a free-market economy. Such taxation could—and should—be general on all land values rather than discriminatory on the land which has only one advantageous use. It would not substitute regimentation and control for the normal operation of the private enterprise system, but would, in ways that have been frequently pointed out, remove obstacles to its most effective operation and conduce to strengthen and maintain it.

The subsidy policy of World War II was an outgrowth of a rising price level which was itself a consequence of failure of government to balance its budget. Since taxation—plus individual investment in government bonds from saving—did not provide the desired funds, and since Congress would not levy taxes nearly sufficient to do this, there was resort to inflation of the circulating medium, through extensive financing of the war by borrowing from the banks. Then, although rigid price regulation had been held out as the remedy, the administration decided that there must be *not only* regulation *but also* subsidies. Subsidies were demanded as the *necessary* means of making regulation effective. Yet such subsidies meant additional expenses when expenses were already far outrunning tax revenues. Such additional expenses must then require still further borrowing from banks and bring about still further inflation of the circulating medium, with a resulting increased upward pressure on average costs and prices. That so many of the "intelligentsia" and so many "good" organizations supported the subsidy idea (and that two successive administrations have employed and defended it) would appear to be significant evidence of the general economic illiteracy.