

Anwar Shaikh's Capitalism – Notes on Part I,

Chapter 4

I. Introduction

In this chapter Shaikh turns his attention to the characteristics of production, a topic of great importance to classical political economy (and of course to Marx) but one that is largely glossed over in today's economics, for reasons we will shortly understand. Shaikh starts his chapter with a pithy statement that echoes Marx:

“Underneath the glimmering surface of exchange lie the subterranean tunnels in which is conducted the eternal struggle within production to determine how long and hard labor can be made to work” (120).

Compare this with Marx's famous transition from the discussion of exchange to production in *Capital, Volume I*:

This sphere [of exchange] that we are deserting, within whose boundaries the sale and purchase of labour-power goes on, is in fact a very Eden of the innate rights of man. There alone rule Freedom, Equality, Property and Bentham. Freedom, because both buyer and seller of a commodity, say of labour-power, are constrained only by their own free will. They contract as free agents, and the agreement they come to, is but the form in which they give legal expression to their common will. Equality, because each enters into relation with the other, as with a simple owner of commodities, and they exchange equivalent for equivalent. Property, because each disposes only of what is his own. And Bentham, because each looks only to himself. The only force that brings them together and puts them in relation with each other, is the selfishness, the gain and the private interests of each. Each looks to himself only, and no one troubles himself about the rest, and just because they do so, do they all, in accordance with the pre-established harmony of things, or under the auspices of an all-shrewd providence, work together to their mutual advantage, for the common weal and in the interest of all.

On leaving this sphere of simple circulation or of exchange of commodities, which furnishes the “Free-trader Vulgaris” with his views and ideas, and with the standard by which he judges a society based on capital and wages, we think we can perceive a change in the physiognomy of our dramatis personae. He, who before was the money-owner, now strides in front as capitalist; the possessor of labour-power follows as his labourer. The one with an air of importance, smirking, intent on business; the other, timid and holding back, like one who is bringing his own hide to market and has nothing to expect but — a hiding.

It is in production that the “money-owner” becomes a proper “capitalist,” and we will see that neoclassical economics strives mightily to obscure the human, social relations that this shift implies.

II. Microeconomic Production Process

Shaikh begins this section by stressing two points. First, that “labor is the active agent that operates on materials with the aid of tools to produce output at some later time,” (122) which is contrasted with the “...passive and timeless inputs-into-outputs methodology of most other economic traditions” (120).

This point is expanded in considerable detail later in the chapter, where it is shown to have deep and far-reaching implications. Second, Shaikh invokes the classical notion of production vs. non-production labor, a contentious point that Shaikh has some interesting arguments about, but which will be discussed later.

1. Circulating versus fixed investment

This section begins with definitions of the two key terms:

1. Circulating investment: Expenditures on additional materials and labor to increase production (Made prior to the start of production)
2. Fixed investment: Expenditures on additional plant and equipment to increase capacity (Also made prior to its employment)

Total investment is made up of these two components. Circulating investment creates new demand, but it also creates new supply at the point of its employment. Fixed investment on the other hand, creates demand but only creates the *capacity* for new supply. Shaikh argues that both forms of investment are made in order to adjust supply to changes in demand (again, this is not about establishing a static equilibrium, but rather chasing profitability). This linkage to supply is what distinguishes Shaikh's approach from the Keynesians who treat total investment as exogenous in the long run.

Shaikh then gives a very brief survey of the approaches of other schools to production time:

- Neoclassical: "...labor and capital appear as coequal 'inputs' into the production process, from which output emanates instantly and optimally" (123).
- Input-Output: Focuses on the ratios of inputs to outputs but ignores labor and production time.
- Neo-Ricardian: Labor is valued as a determinant of prices but production time is largely ignored.
- Keynesian: Production responds instantaneously to changes in demand.

Here Shaikh recalls Marx's observations on the importance of imbalances and interruptions in reproduction. Time becomes meaningful when we account for the possibility of a materials shipment being late, or workers striking during a peak period of production, or financing for a factory falling through, or the gradual appearance of a glut in supply, or the wearing down of equipment as it ages. "Then suddenly the time of production and buffers such as the stocks of inventories and money become crucial to the dynamics of the actual path" (123). Readers of *Capital: Volume II* will recall that the middle section of that book is deeply interested in these sorts of discontinuities in reproduction.

2. Classical and conventional national accounts

Shaikh begins this section by complaining that standard national accounts begin from the premise that "the creation of utility is the end of all economic activity" (123). This means that they focus on *net product* instead of *total product* because it offers an account of the consumption goods that directly provide utility and the investment goods that can provide it in the future. The interest of this sort of theory is tracking value added, and so it does not include intermediate goods in its accounts. Shaikh objects to this focus on utility because utility is a historically variable concept, and because tracking total product can provide a better account of the movement of profits, which are of great importance in

understanding the capitalist system. In contrast the classical and input-output approaches focus on accounts of the total product.

This total product is accounted for on the value side as intermediate inputs + value added, and on the use side as intermediate inputs + final product. In other words, the “whole product.” Shaikh justifies this approach as “...important for analysis of the inter-industrial sector, long-run prices, technical change, and the overall relation between production and money flows” (123). The difference between classical and input-output approaches, as stated above, is the issue of production time.

Shaikh proceeds to show how the fact that production started in one year may carry into the next, and how the classical focus on *finished production* as opposed to the Input-Output approach’s focus on “the sum of finished product and changes in inventories of materials and work-in-progress” (125) leads to drastically different measures of annual national production.

Finally Shaikh emphasizes that the emphasis on time in the classical model leads to differing accounts of circulating capital, which is not tracked directly in conventional accounts, and this leads to an obscuring of the differing roles of circulating and fixed capital. As stated above, investment in circulating capital is associated with increases in output, while investment in fixed capital is associated with increases in capacity. Understandably, in a timeless system this is a distinction without a difference, but in a world with time it is of considerable importance in understanding the dynamics of the capitalist system: “Precisely because production takes time, any change in the level of of production requires a prior change in the materials and labor devoted to it.” (127)

3. Production and non-production labor

Here Shaikh turns to the controversial question of productive and non-productive labor. He clearly states the difference:

All labor draws its consumption requirements from present or past production. But only production labor simultaneously adds to the total product. (128)

So what kind of labor doesn’t add to the total product? It is the sort of labor that “...result[s] in other socially mandated outcomes such as the distribution of goods, services, and money (either directly or indirectly when mediated by exchange), general administrative activities in both the private and public sectors, and various other social activities such as police, fire, military, and private guard labor” (128). So non-productive activities are these sorts of labor, plus personal consumption. This is a fraught issue. For example, Shaikh argues that distribution is unproductive, but in *Capital: Volume II* Marx argues that it *is* productive. Shaikh argues (with Marx) that the production of services is productive, but admits that Smith argued that it is not. However, Shaikh does make a good point against the argument of neoclassicals that an activity is productive if “...at least someone would be willing to pay for it” (129) and therefore that the classical theory is needlessly restrictive. He writes:

...from a classical point of view, this change is really a retreat from [the classical] ‘comprehensive consumption’ approach (which treat many activities as forms of social consumption, not production) to the ‘restricted consumption’ definitions of the

neoclassicals (which restricts the definition of consumption to personal consumption alone) (129).

Shaikh leaves it to the reader to puzzle out what this means, but we can say that the difficulty that neoclassical theory runs into is in trying to characterize all (non-personal consumption) activity as production for sale on the market, whereas the difficulty classical theory runs into is in trying to characterize certain types of activities as forms of consumption alone and not production. While this point is still abstract, one obvious example of the controversy that the neoclassical approach can run into is its characterization of financial speculation and soldiering as economically productive. Furthermore, its attempt to define everything as a market activity has had pernicious social effects in the neoliberal period, where all non-market consumption oriented institutions like the British NHS were attacked as not fitting the neoclassical model of rationality and therefore in need of “market reform.”

On the other hand the classical approach is no less controversial. Shaikh does not mention it anywhere here, but the characterization of child-rearing and other “women’s work” as unproductive was enshrined in the institution of the Postwar male “bread-winner” who had to “support his family.” Clearly this was not the result of any dominance of classical economics, because neoclassical Keynesianism was the dominant school of thought at the time, but this division of labor into productive and unproductive forms can be used in gendered and harmful ways. Another controversy it can provoke is in its characterization of the work of the state bureaucracy as unproductive. In an age when public sector unions remain a last bastion of the labor movement, the argument that “productive labor” possesses any kind of strategic primacy is understandably unwelcome. Much of the controversy over the work of Nicos Poulantzas hinges on this issue. In the end, Shaikh states that the division between productive and unproductive labor is not the main concern of this book and moves on.

III. Production Relations Versus Production Functions

1. Structural and temporal dimensions of production

In this section we start to see the substance of Shaikh’s critique of neoclassical production theory. To begin with, Shaikh defines the “dimensions of production.” Structurally, the dimensions are:

- Tools – plant, equipment
- Materials – raw, auxillary (e.g. electricity, fuel, etc.)
- Labor

Temporally, the dimensions are:

- Production time
- The overall circuit of capital (production time + time to sale)

These dimensions are fairly self-explanatory, so I will not spend much time explaining them. Again, the structure given here follows *Capital: Volume II* fairly closely, and it is quite interesting that *Volume II*, which is typically associated with distribution, has so much overlap with the concerns of this chapter on production. That being said, it will not be long before we arrive at concerns of production that

should be familiar to readers of *Volume I*, the volume of *Capital* most closely associated with production.

Shaikh introduces two more “dimensions” to his model. The first is “the arrangement of shifts,” which refers to how many machines in a plant are used in a day (extensive plant utilization), how long each machine is operated (extensive machine utilization), and at what speed the machine is operated (intensive machine utilization). If we select the maximum of each of these mechanical dimensions we get an “engineering” maximum determined by mechanical limitations. However, these machines usually need to be operated by workers, working on shifts. Shaikh gives the example of a machine that can be operated at maximum speed for 20 hours a day. This machine could be worked by one crew on a 20 hour shift, two crews on two 10 hour shifts, and so on. This may seem to be an irrelevant distinction, because in any case the machine is worked for all 20 hours, but in fact this arrangement of shifts is deeply significant for production.

The reason for its significance starts to become clear as we come to the next dimension, where we do not assume that the machine is worked at maximum intensity for the maximum length of time, but instead that the length and intensity of its employment is limited by “the relation between the productivity of labor and the length and intensity of the working day” (131). Here Shaikh cites Marx and Braverman’s famous studies of this subject, and notes that “[b]oth of these aspects of the labor process have always been a matter of great contention between employers and employees...and have an important theoretical place in analyses of the labor process” (131). However this somewhat understates the point that he will eventually make, which is that the social relation between capital and labor is the single most important factor in the consideration of production, and that mainstream theory deliberately represses the significance of this relation at the conceptual level. This “conceptual violence” has a long and dark history, and I will return to discussing it as we continue.

2. Social and historical determinants of the length and intensity of the working day

This section is mostly made up of a collection of historical data about the working day, but it begins with a theoretical point. Shaikh argues that the struggle between capital and labor over the length and intensity of the working day is a struggle between “...the power of capital, embodied in and expressed through the machine...” and “...the resistance of workers through rebellion and sabotage...” (132). By looking at the history of the “...length, intensity, and average or marginal productivity of labor...” we can see that these elements of struggle are *not* technologically determined. The basic point that Shaikh makes here is that the extent of the exploitation of labor has increased and decreased over time and place despite secular improvements in technology. What this implies is that the terrible exploitation of labor in the Global South is not some kind of objectively determined condition, but is open to a “...constantly changing range of alternatives” (134). However I have to say that this section seems underdeveloped. If the machine is the counterpoint of worker resistance, then why does such terrible exploitation happen in workplaces that are relatively primitive in their degree of mechanization? It could be objected that these outcomes are “...not technologically determined,” but in that case, how is the machine the counterpart of worker struggle? The relation is not made clear.

3. Empirical evidence on the relations between work conditions and labor productivity

This section introduces a point of crucial importance for the following analysis: the “exhaustion point” (134).

...on the whole, we may say that labor productivity rises with the length and intensity of the working day, but at a decreasing rate, and after some point of overextension, it may even decline. (134)

Notably, this pattern differs from the patterns of other production coefficients.

There are coefficients that decline continuously as output rises:

- The stock/flow coefficient
- The machine coefficient (machine/output ratio)
- The machine/labor ratio
- The machine labor hour ratio

And there are coefficients that are constant with increasing output:

- The ratio of machine hours to labor hours (“machine services,” “labor services”)
- The materials coefficient (although it may vary with increasing lighting or heating costs on some shifts)

But there is only one coefficient that displays the distinct pattern discussed above: the labor coefficient.

...the labor coefficient (the reciprocal of productivity) declines with the length and intensity of the working day. For any given level of intensity, the labor coefficient falls at a slowing rate as the length of the working day (and hence output) increases, yielding a curve that tends to flatten out at the end of a given shift. (135)

In other words, only labor has an “exhaustion point” that inflects its productivity pattern. This particularity has a decisive influence on the structure of productivity patterns.

IV. Production at the level of a firm

1. Work conditions and “re-switching” along the microeconomic production possibilities frontier

To begin this section, Shaikh raises the issue of engineering capacity, and what output over the course of a working day would look like if there was a single daily shift. In other words, he is pointing out that after we determine engineering capacity we still have to take into account the effect of the varying productivity of labor on output in order to get a conception of what actual output is. As he will do elsewhere, Shaikh is here emphasizing the role of the worker as an “active subject” that should not be reified into an input that is effectively the same as a piece of machinery. His assumption is that “...the productivity of labor rises with hours worked, peaks at the point at which labor exhaustion sets in, and declines thereafter” (135). As an aside, I would note that while this pattern distinguishes the worker from a machine, it does *not* distinguish them from an animal (e.g. a workhorse). The “active subjectivity” of the worker is only partially expressed here, and is more fully expressed in the worker’s ability to determine the length and intensity of the working day through their struggle with capital. The

workhorse can complain of overwork and make some forms of protest, but it is not able to establish concrete limits out of a wide and largely arbitrary set of options. In doing so, workers are able to exercise and establish their power as subjects.

Shaikh illustrates the wide variety of possible work intensities with curves depicting maximum physical intensity of work, socially normal intensity, work-to-rule (Working according to the letter of all rules and directives, causing production disruption while being able to claim otherwise), and a full work slowdown. These are shown for the purposes of illustration only.

After going through some of the points about the characteristics of coefficients discussed above in more detail, Shaikh next turns to the “reswitching” problem mentioned in the section title. Neoclassical production theory seeks to define a “production function” that “...gives the *maximum* amount of output associated with a given amount of inputs” given a certain production technology (137). As mentioned in the discussion of Aggregate Production Function (APF) in the previous chapter, this function must be “monotonic in each input” (138). Therefore “output [must rise] at a declining rate which approaches zero but never becomes negative” (138) and production can exhibit “diminishing returns” but cannot actually decrease. Why? Because if it decreases there exists an alternate combination of shifts that will have a higher output at the point of its decrease but themselves also be sub-optimal at some point (“switching”). Shaikh illustrates this point in Figure 4.5 on page 139. The only type of shift combination (function) that does not have this problem is a combination of two shifts of equal length. However this type of combination does not occupy the maximum at every given length of time and is in any case totally unrealistic as a standard that could exist in the real world or be used to optimize anything. If this micro-economic production function is so riddled with problems, it goes without saying that a “microfoundations” based APF is out of the question.

2. Output and production coefficient under socially determined work conditions

This section restates the point of the prior section in detail that some may find pedantic and others interesting. Assuming the pattern of changing labor productivity over the course of a shift that was discussed above, Shaikh tries every conceivable combination of coefficients that could produce the desired neoclassical production function and finds that the function simply cannot be produced. As he writes:

...we find that no matter how we choose to specify the inputs KR [real capital], L [labor], it is not possible to derive the hypothesized patterns of a neoclassical microeconomic production function...In the face of such results, the only recourse left to neoclassical theory is to simply postulate, against logic and empirical evidence, that any given machine can accommodate an infinite range of workers in exactly the prescribed fashion (147).

This “fairy tale” postulate “gives rise to the illusion that production coefficients are purely technical” (149) when in fact:

...production coefficients are generally not ‘technically’ determined. Technology itself is an eminently social artifact whose shape and character varies greatly across time and space. And even within any given technology, production coefficients generally depend on the specific social conditions under which labor functions. *The so-called engineering side of*

business operations is profoundly social. Finally, even if labor conditions are taken into account, observed production coefficients would still generally depend on prices and costs (149).

The determination of production patterns by the varying characteristics of labor productivity is one social element, but the influence of prices and costs points to broader social connections that also confound the idea of technical determination.

V. Costs, Prices, and Profits

1. Assumed shapes of cost curves in neoclassical, neo-Ricardian, and post-Keynesian theories

In this section Shaikh goes over the three types of cost curves mentioned in the title. These cost curves are important because they determine the level of output that is profitable, and profit-seeking is essential to the survival of capitalist firms.

The first is the neoclassical cost curve, which includes (as mentioned early in the chapter) “normal profit” as a part of fixed costs. What this means is that it includes variable and fixed costs (as normally defined) + the average level of profit at equilibrium. The ideological implications of this definition were discussed above, but neoclassical cost can be seen as similar to the classical concept of “price of production” (cost-price + average profit), but with the additional baggage of the equilibrium concept and the assumption that “normal profit” is a given. Shaikh plots out both neoclassical cost, and the “true average cost” which subtracts the normal profit from fixed cost. Any sales at costs above normal neoclassical costs (including “normal profit”) are taken as evidence of “...’excess profit’ and imperfect competition” (152). To some extent this forms the basis for the Post-Keynesian perspective.

The Post-Keynesian theory of price focuses on the persistence of “monopoly prices” but Post-Keynesians differ in what they consider to be “monopoly prices.” Some use almost the same definition of what the neoclassicals call normal profit, others define monopoly profits as being in excess of normal profits, and some define anything above “prime costs” (Materials costs + Labor costs) as being monopoly profits. This is typical of the Post-Keynesian downplaying of the role of production, treating the margin above prime cost as arbitrary: “...if gross margins are taken to be stable, then oligopolistic prices are independent of demand, so that variations in demand are met by changes in output rather than changes in prices” (152). This is the opposite of Shaikh’s perspective that was mentioned at the beginning of the chapter.

Shaikh’s classical perspective, unlike the Post-Keynesian perspective, accounts for fixed costs, and assumes that firms that survive in the long run make a “normal profit” at competitive prices above the minimum point of average cost. Importantly this normal cost is a *long-term* normal cost and it is assumed to be won by firms that are profitable and survive competition. These firms are not entitled to their profits.

2. Cost curves under general conditions of the labor process

This section is mostly a mathematical restatement of points made earlier in the chapter.

3. Implications of general cost curves for various economic arguments

The first part of this section addresses neoclassical responses to the cost curves and production coefficients that Shaikh has derived in this chapter. Cost curves are not “U-shaped”, providing no chance for clear optimization. Production coefficients are not fixed, (remember our discussion of shift work) creating yet more problems for the idea of market optimization under equilibrium and the technical determination of production functions.

The first neoclassical response is to treat shifts as “technologies,” retaining the technical determinism of their approach. However “...this stretches things rather far, since the definition of a ‘technology’ now encompasses not only socially determined working conditions but also all potential combinations of wage payment schemes [hourly wages, daily wages, piece work, etc.] and shift lengths, intensities, and premia” (158). Simply stating that something is a technology does not make it so.

The second neoclassical response is to assume 1) That there are no shift premia 2) That labor coefficients are constant across shifts (that is, there is no exhaustion point, etc.) 3) That wages are paid per hour (preventing any step-wise cost structure). This is simply defining the problem out of existence in another direction. Even with these assumptions in place changes in work conditions would change the magnitude of production coefficients, and they only offer a theory of long term production coefficients because that is how the neoclassicals are able to argue that the firm reaches a point of production at minimum cost.

The Post-Keynesian approach uses a variant on the second response in its arguments “...in which material and labor coefficients as well as hourly wages are constant across all shifts...” (158).

Oligopoly pricing is assumed to be a result of a markup above the resulting costs. Shaikh accuses the Post-Keynesians of ignoring the existence of *reserve capacity* in plant and equipment utilization because of their approach that downplays supply-side considerations, conflating it with “excess capacity” and using this as a basis for their arguments about oligopoly.

Shaikh next notes that discreet changes in micro (plant) level capacity utilization do not necessarily imply discreet shifts at the macro level. As he has strongly argued before, there is no need for “micro-foundations” in macro-economic analysis and emergent properties can lead to quite different macro patterns. Finally, Shaikh points out that the neoclassical rule of profit maximization according to the use of price = marginal cost ($p = mc$) is useless because of the shape of cost curves we discussed earlier, which would give us multiple consistent production levels and therefore be of little help. Shaikh argues for the use of the *direct* as opposed to the *marginal* calculation of profit.

VI. Empirical Evidence on Cost Curves

Once again, I will leave the reader to examine the empirical evidence, as it is largely consistent with Shaikh’s work and so does not tell us anything particularly new.