THE FIRM AND ITS PROFITS

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What sets the firm apart from other producers is the commercial nature of its operations. The firm produces for the market and only for the market. It produces goods and buys them not in order to consume them but in order to sell them or their products.

While economic agents other than the firm sell commodities, the sale of commodities is not the end of their exchange transactions. They "sell in order to buy" instead of "buying in order to sell." Workers engage in exchange to acquire "necessities," landlords do so to get "luxuries," and "factor" owners exchange their goods to get ones that have a higher utility than their endowments.

Exchanging for the purpose of selling is exchanging for the purpose of money making. For, as Marx emphasized, buying in order to sell is rational, benefits those that do it, only if commodities can be purchased for less money than can be made through their sale or the sale of goods which can be produced with them. The difference between the money spent on their purchase and the money made through their sale or that of their products is the profit from the transaction, and this profit or monetary gain is the objective of the firm's operations.

Money acquisition, although necessary for the purchase of goods, is not the same as goods acquisition. Instead of giving one goods, money gives one the power of purchasing them, a title to a certain portion of society's wealth. In striving for profit the firm strives to extend its claim over the wealth of nations. Firms want not to consume this wealth but to own it, to acquire it not use it. The firm's profit end is the end of wealth acquisition.

Firms differ from other economic agents not only in the way they relate to the wealth of nations, but, also, in the way they obtain it. Others get a part of this wealth by contributing to its production. Their incomes are "earned," the market values ("measures") of productive services. Profit, in contrast, while a component of price, is not itself a price, the market worth of any good or service. It is the "unearned" component of the

nation's income and is viewed as such in all traditions of economic thought.1

The unearned nature of profit income stems from its roots in purchase and sale transactions. These transactions result in a monetary gain only when 1) goods are sold (bought) for a price greater (less) than their market value or 2) goods are sold for a price higher than their cost of production. The first case is the mercantilist one of profit through goods "alienation," through cheating in exchange. Profit comes at the expense of others, of those who bought goods for more than their worth or sold them for less than their value. In the second case, the one traditionally dealt with in income distribution theories, profit is the surplus of the product's value over that of its inputs. Profit, here, is the "residual" income from sales proceeds, the income which remains after paying for all the factor services which contributed to the product's production. In neither case is profit "earned," received in return for a service rendered, for goods supplied or any "effort or sacrifice" incurred in their production.

Insofar as profit is not a "reward," the price of any productive contribution, profit seeking activities are not necessary for production. But if they are not necessary for production, if "entrepreneurship" is not one of production's "factors," then what are they necessary for? What is the firm's role in the economy and does what it does with its profits or how it makes them justify their receipt? How does the accumulation of wealth further the economic ends of society, enhance the wealth of nations?

The following turns to economic thought for an answer to these questions. It examines the arguments for the firm and explanations of its profit. We begin with the neoclassical argument, the uncertainty theory of the firm.

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1 In the neoclassical tradition only the interest on capital is earned income. Its profits are both extraordinary gains and unearned ones.

Uncertainty, Profits and the Firm

The classic statement of the uncertainty argument for the firm is Knight's Risk, Uncertainty,and Profit. In this work Knight grounds entrepreneurship and profit in the "true uncertainty" of economic life, the impossibility of knowing, even in a probablistic sense, the consequences of economic decisions and actions. Uncertainty provides the key to the firm's income, explains how profit can exist in reality when it is impossible in theory, the "divergence between actual and theoretical competition" (Knight,p.20).

The uncertainty of events in the economic sphere is the result of its dynamism (Knight, p.370). Economic conditions, consumer wants and factor supplies and productivities, change and change in indeterminate ways. Because the changes that they undergo cannot be anticipated events that depend on them are "absolutely unpredictable."

The uncertainty which economic change creates impairs the market's operation, its allocation of factors. When the future values of products cannot be known from their present values, prices do not indicate the most efficient or beneficial uses of a productive factor. The prices known at the time of a factor's allocation are not those that will determine the values of its products. Marginal value products have to be "estimated" and cannot be "estimated without error."

If marginal value products are unpredictable, then so are the consequences of factor employment decisions. Income from any particular employment of a factor may turn out to be less than the amount expected, and less than could have been made if a different employment had been chosen. Factors could even end up in employments that bring no income to their owners. Employing factors is a speculative venture involving the risk of "error" and wasted or unrewarded effort.

With uncertainty comes a new condition of production: risk assumption. Safisfying this condition, overcoming "risk aversion," is the critical production problem in an uncertain

world. While this problem can be solved in a variety of ways, the most effective solution is the "enterprise system."

The enterprise solution concentrates the risks of production in the hands of those "most willing to assume them," the entrepreneurs. These employ the productive factors, allocate them and take the risk of their misallocation. Others merely supply them, lease out the use of factors of production.Entrepreneurship is a "device" for the specialization of the risk taking function.

The rents paid for the use of factors are fixed in contractual agreements with their owners. Entrepreneurs' factor payments are contractual commitments; they obtain the use of factors by "guarantying" their owners the "receipt of a specified income" (Knight, p. 270). The contractual nature of factor payments spare their recipients the consequences of uncertain production results. While the income from a factor's employment is uncertain, the income of its owners is not.

The income which the entrepreneur "guarantees" a factor's owners is the "estimated" or expected value of its product. If this value does not materialize, if it turns out to be more than the actual value, the income owed the factor's owners will exceed the income from its product. The factor payments that cannot be met with the revenue from the product will come out of the entrepreneur's pocket. His wealth will diminish by the difference between the expected and actual values of the factor's product.2

What induces the entrepreneur to risk the loss of his wealth is the chance of expanding it, of making a profit. Whereas the entrepreneur loses money if the product's value is lower than expected, he makes money if it is higher than anticipated. Revenue exceeds costs when it is more than the amount expected. Profit is unanticipated income, the windfall from production.The

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2 Schumpeter and others have argued that Knight's entrepreneur has nothing to lose, that his liability is a mere "legal fiction." This would be true if he did not need to meet his factor payments. But he does need to do so. If he did not have the means with which to meet them, the income of his employees would be uncertain. They would be the ones who took the risks of production (Knight, p. 306).

uncertainty of its receipt and amount is its distinguishing characteristic.

Were economic events as predictable in reality as they are in theory, profit would disappear. Competition would force the payments of factors up to the values of their products, the "amounts which employers can afford to pay." The uncertainty of these amounts is what thwarts the competitive mechanism, blocks its equalization of product prices and costs.

The enterprise solution to the risk assumption problem works, and works well, because of the strength of the wealth acquisition motive. In the interest of an increase in their property, men will "sacrifice consumption and take risks of complete loss." The wealth ownership end moves men towards risk assumption, and moves them more effectively than the goal of consumption (Knight, p. 370). Men will be "disposed towards" assuming the risks of production when wealth can be acquired through their assumption. We need entrepreneurs and the profits they pursue because we live in a world of uncertain production results.

While profit develops because of the uncertainties of production, it is not the "reward" for bearing these uncertainties. The profit made in individual instances has no relation to the risks assumed or the cost (disutility) of assuming them. The uncertainty explanation of profit is not an explanation of its amount.

An enterprise's risks are assumed before its profit appears and without knowing the amount which will appear. Nonexistence and unknown when the risks are taken, the profit cannot be the reason for taking them or incurring the cost of taking them, the "supply price" of the risk assumption. It is not the profit made in an enterprise but the profit that was expected from it which induces the assumption of its risks (Knight, p. 363).

Rather than measuring the uncertainty of production's results (which is "unmeasurable") or the "irksomeness" of taking its risks, profit measures the "error" in entrepreneurs' estimates of marginal value products (Knight, p. 284). Their

underestimation (overestimation) of a product's value is the profit (loss) from its production. The profit is as unpredictable and indeterminate as the events that determine the error in product value predictions. Profit depends not on the risks assumed or judgement of those who assume them but on the "luck" of the enterprise, the extent to which chance events favor it.

Whereas the profit made in individual enterprises depends on the accidents of circumstance, that made in all enterprises, the net profit of industry, depends on the business outlook of entrepreneurs. If they are "optimistic about business prospects," if they tend to "overestimate" the values of factors' products, their revenue will fall below their costs. Instead of acquiring wealth, the entrepreneurial class will acquire debt.

Entrepreneurs, as a group, can make profit only if they have a "pessimistic" business outlook (Knight, p. 364). Profit becomes an income share, the "produce of society divides into two kinds of income, contractual (rent) and residual (profit)," when entrepreneurs discount the chances of their success. They make profit when they do not expect to make it.

Since entrepreneurs expect success, are "optimistic, confident, and venturous," they will probably "lose more than they make" (Knight, p. 364). A positive level of profit is possible, but not probable. The profit of industry, of the "entrepreneurial class," is as unlikely in the uncertain world of Knight's theory as it is in the certain one of Walras's. Neither the presence of the profit share nor its size can be explained in terms of the uncertainty of economic life.

If the profit share does not develop under Knight's uncertainty condition then neither does the class which receives it, the "entrepreneurs." Production in an uncertain world may require the entrepreneur's presence. Without entrepreneurs and their profit pursuit risky ventures might not be taken. But if production does not become profitable with the uncertainty of its results, something more than this uncertainty is necessary for its risks to be borne by entrepreneurs.

The Organizations Framework

Profit, the "peculiar income of the entrepreneur," was the primary concern of Knight's theory. The firm was identified with the pursuit and receipt of profit. It was the "residual income claimant" and explaining its presence meant explaining the possibility of profit.This is not the case in the recent formulations of the uncertainty theory of the firm.

As the uncertainty theory developed, its focus shifted from the firm's profits to its internal structure. The organization of economic activity within the firm became the primary concern. This change in the theory's direction begins with Coase's 1937 contribution.3

For Coase, the problem of the firm is the problem of its presence in a market governed economy. In market economies the price mechanism is supposed to regulate production. Economics tells us that prices coordinate the production activities of individuals and direct the use of their factors of production. They move their factors from the production of good a to the production of good b when the price of b rises relatively to the price of a. The market allocates the productive factors, performs the resouce allocation function.

While in theory markets allocate resources, in reality much of the resource allocation is done by firms. In many cases factors move from one line of production to another because they are "ordered to do so" by their employer, the entrepreneur. As has been recognized in economic thought, the entrepreneur directs ("coordinates") the productive factors, decides how they are used.

Within the firm production is "administered," planned in the same way that it is planned in a socialist economy. The "visible hand" of the entrepreneur replaces the "invisible hand" of the market. This "supersession of the price mechanism" is the "distinguishing mark" of the firm. The firm represents the economic planning method of coordinating production.

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3 "The Nature of the Firm," Economica, 1937.

If firms do what markets do, why do we have firms in market economies? Why does production need to be organized if its factors are directed by the prices of its products? This question is the central one for Coase and his followers. Explaining the firm means explaining the need for planning in market production.

Coase suggests that the presence of production planners, factor "coordinators," in a market economy is due to the costs of exchange, of "using the price mechanism." These "transaction" costs are the costs of 1) discovering the information relevant to the exchange, such as the alternative sources of a good's supply, the lowest (highest) price for which it can be purchased (sold) or the values of its substitutes, 2) negotiating the terms of the exchange, the provisions of the exchange contract, and 3) "concluding" it, writing the contract and monitoring its execution. When these costs are significant the firm can be a less costly ("more efficient") way of coordinating production than the market.

Production activities can be coordinated consciously, by ("within") firms, or unconsciously, by ("across") markets. Which of these coordination methods is used, "chosen" by economic agents, depends on their relative costs. The firm appears when and where it reduces the cost of coordinating production.

The relative costs of the firm and market methods of coordinating production are examined in the work of Oliver Williamson4 and the other recent followers of Coase (such as Alchian and Demsetz5). In this work the choice between the firm and market is viewed as a choice between "alternative contracting modes" (Williamson, p.xi). The firm is a particular system of exchange, a way of organizing exchanges, "carrying out transactions."

The difference between the firm and market modes of contracting lies in the relation between the contracting parties. Exchange across markets is exchange between "autonomous economic

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4 Markets and Hierarchies: Analysis and Antitrust Implications, New York: The Free Press, 1975.

5 For references to their work see Williamson's bibliography in Markets and Hierarchies.

entities." Independent agents negotiate and carry out the terms of the exchange; none has any power or authority over any of the others.

Within the firm, exchange is not a relation between independent agents, but a relation between an organization's members. A "single administrative entity," the firm, "spans both sides of the transaction." Those that transact within the firm transact not for themselves but for the firm. They are its employees, "subordinates;" the transactions that firms effect are "hierarchical."

The "internal organization" of exchange does not have to be hierarchical. There can be exchange within "peer groups." But the firm is not a peer group. Entrance into the firm is effected by agreeing to work under its direction, through signing an employment contract.

The employment contract specifies the employee's obligations in "general terms only." The particularities of the job are left open, to be determined later by the employer. He decides how the contracted service is used. In agreeing to the contract, the employee agrees to follow the dictates of the employer in the matters and times covered in the contract. This "voluntary subordination" of the employee to the employer is the essence of their contractual arrangement.

When resource allocation is carried out within the terms of employment contracts we have the firm method of coordinating production. It differs from the market method in terms of the way factor services are contracted. If the use of the factor service is fully specified in the contract, if what is acquired through the contract is not the service itself but the result of one of its uses, a product, then the factor is directed by the market. Markets allocate resources when their services are sold through sales contracts; firms allocate them when their services are sold through employment contracts.

Since sales contracts are detailed, "complete" contracts, they are difficult to negotiate and execute in an uncertain world. This is especially the case for long-term sales contracts,

for these are executed in the future. They must cover future contingencies, and in an uncertain world this requires providing for the occurrence of all possible courses of events, "states of the world."

Even if all the information necessary to effect a contingent claims contract existed, its execution would be problematic. Transactors can take in only a certain amount of information; their reasoning ability is not "unlimited." If the information needed to effect exchange exceeds the amount that transactors can absorb, exchange is infeasible. If the requisite information can be absorbed, but absorbing it is difficult, exchange is "costly." It uses a lot of the mind's limited reasoning capacity.6

The firm arises in response to the exchange difficulties that uncertainty creates. It is an instrument for reducing the information requirements of exchange, a way of "economizing on" the reasoning ("computational") powers of transactors. If these powers were "unbounded" or if exchange could be effected without spending them, as would be the case in an unchanging, certain world, there would be no need for the firm.7

Because employment contracts are "incomplete," do not specify the particular uses of the service contracted, they can be effected without anticipating the future. They do not have to cover all possible contingencies; the use of the service can be adapted, in a sequential manner, to changing market circumstances. The firm mode of contracting requires less information than the market mode, consumes less of the mind's scarce reasoning capacity.8

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6 While short term ("recurrent") market contracting requires less information than long term market contracting, it is not a viable solution to the exchange problems of an uncertain world. Short term market contracting under uncertainty runs up against the problems of "information impactedness" and "opportunism," the uneven distribution of information among the contracting parties and their unwillingess to disclose it.For a discussion of these problems see Williamson (1975, chapter 2).

7 The neo-Austrians also view the firm as a solution to the information problems of exchange. See Kirzner's Competition and Entrepreneurship.

8 Transactions within firms are also easier to monitor than transactions across markets. This is emphasized in the work of

Under the conditions of uncertainty and bounded rationality the firm "supplants" the market. It becomes a more efficient way of coordinating production. While the firm would not develop without uncertainty, it develops under uncertainty not because production is risky but because its coordination through the market is costly.

In neoclassical economics today the firm is not an economic agent, the "entrepreneur." It does not act in its own interest, has, in fact, no interest to act for, no end of its own. It is, instead, a way of meeting the ends of economic agents, of organizing their activity. The theory of the firm is a theory of organizations, "teams" and "hierarchies."

While the firm is certainly an organization, and in its modern corporate form cannot be identified with any particular individual, it is not just an organization. The activities it organizes are geared to the realization of a specific end: profit. Profitability decides the resource allocation question within the firm; it moves ("orders") its employees into those lines of production that appear the most profitable.

As Knight says, the firm is "in the business of making money." The transactions it effects are carried out in the course of its profit pursuit. They serve the end of wealth acquisition, and it is the end which they serve rather than the form which they take that distinguishes them. The exchange relations of the firm are the relations of value expansion.

When the firm is separated from the profit pursuit, it loses the end that determines its activities and direction. It becomes subject to the whims ("preferences") of its members or those that have power within it (its managers, stockholders, workers, etc.). It takes on the attributes of an instrument; becomes something that agents choose and use. It ceases to have a direction or life of its own.

Alchian and Demsetz, which focuses on the difficulty of obtaining the information needed to determine whether transactors live up to the terms of their contracts.

Firms and Markets in Neoclassical Economics

What moved the neoclassical theory away from its original identification of the firm with the profit pursuit was the difficulty of reconciling this pursuit with the consumption ends of neoclassical transactors. In neoclassical economics want satisfaction is the reason for exchange and the principle of its operation. Buying in order to sell, money making and wealth acquisition, is not what exchange is about.

Neoclassical transactors exchange in order to increase the use-value ("utility") of their holdings ("endowments"). They sell in order to buy, and buy in order to consume. The goods acquired through exchange are acquired for the purposes of consumption. Their value to both their sellers and buyers is their utility.

Individuals who value goods in terms of their usefulness do not acquire goods for the sake of acquiring them. They acquire them only because they have to be possessed before they can be used. Ownership is not an end in itself and while property is owned, the amount that is owned, the monetary value of holdings, has no significance.

To consumption oriented individuals, property is not an asset but a resource; its worth resides in its use. Thus, in neoclassical economics, properties are resources and property incomes are rents. The income from a property ("factor") comes from its use and, in fact, measures its usefulness, is equal to its contribution to want satisfaction, the value of its "marginal product." Valuable properties are "productive."9

If property is not sought for its own sake then neither is profit. Insofar as the profit end is the wealth acquisition end it has no place in an economy where property is a resource and consumption is the end of all action. In such an economy profit is just income, something to live on, a means of support. It is

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9 It is because neoclassical economics equates the income from a property with its usefulness that it conceives of the entrepreneur as "propertyless." Entrepreneurial income, profit, cannot be a property income if property income is received in return for a service rendered, is "deserved" or "earned." For an extended discussion of the neoclassical conception of property see David Levine (1985).

pursued for the sake of obtaining (or sustaining) a certain standard of life.

The difficulty of reconciling the profit pursuit with the neoclassical principle of exchange is reflected in the impossibility of profit when this principle governs the market's operation. If markets value commodities according to their utility productive factors will be valued in terms of the values of their products. The usefulness of a factor is its usefulness in production, and the latter is the utility and thus value of the goods it generates. Markets that price in terms of utility "impute" the values of products "back" to their inputs, equate product prices and costs.

When markets operate "perfectly," in conformance with the neoclassical conception of their operation, they eliminate all profits (and losses). Profit is impossible under the conditions that sustain the neoclassical conception; it can be made only in the absence of these conditions, in "imperfect markets." The problem of profit in the neoclassical tradition is the problem of identifying conditions that impede the market's operation (such as uncertainty or "product differentiation").

The consumption and profit ends of exchange are not just different. They are also inconsistent. Transactors that seek profit cannot find it in a consumption driven market system. We can have either profit making firms or "perfectly competitive markets," and it is because we cannot have both that the neoclassical theory of the firm is not about the activities of "actual" firms.10

Wealth Accumulation

In classical economics the properties owned by transactors are not their resources but their wealth. Property is valuable in and of itself. It is pursued for its own sake and its pursuit is central to both the market's operation and its economic performance.11

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10 Both the main criticism and defense of the neoclassical theory has been that it is not about the behaviour of real firms. See Machlup (1967) and Nelson and Winters (1982, chapter 3).

11 This is emphasized in Levine (1985).

While exchange can take the form of selling in order to buy, exchanging goods for other goods, this "simple" circuit of commodity exchange is not the exchange circuit of a developed exchange economy. In this economy commodity exchange ("circulation") takes, instead, the form of "buying in order to sell dearer" (Marx, 1965 p. 155). Money begins the process, ends it, and expands itself through it. The exchange circuit is the circuit of "capital," self-expanding value.

The distinctiveness of the "capitalist" exchange process lies in the unlimited nature of its end. Profit is a quantity and quantities always can be greater than they are. When profit is desired for its own sake rather than for the sake of the consumption goods it can buy, no amount of profit, however high, can satisfy the desire:

> Capital as such creates a specific surplus because it cannot create an infinite one all at once, but it is the constant movement to create more of the same. The quantitative boundary of the surplus value appears to it as a mere natural barrier, as a necessity which it constantly tries to violate and beyond which it constantly seeks to go (Marx, 1973 p. 334).

The money that ends the capital circuit begins it again. Those that "personify" the circuit, the capitalists, use their profits to make more profit. They want not to "maximize their profits," but to expand them indefinitely, to acquire "ever more and more wealth" (Marx, 1965, p. 152).

The boundlessness of the profit pursuit gives the capitalist economy its dynamism. Profit seeking activities build up the nation's productive capacity and increase its productivity. Wealth acquisition furthers production by developing its conditions, the "productive powers of society."

Instead of being a way of dealing with economic change, with the production or exchange problems it creates, the firm is a way of carrying it out. Economic progress comes with the development of firms. The firm is the agent of technical change and the necessity of technological development is the reason why we need it:

> Development of the productive forces of social labour is the historical task and justification of capital (Marx, 1966, p. 259).

The classical argument for the dependence of innovation on the firm's presence begins with Smith's Wealth of Nations. As its title indicates, this work investigates the nature of wealth and its sources ("causes"). It is concerned more with the question of the economy's development than with the issue of its growth. How a nation becomes wealthy, how man transcends the poverty of his natural ("savage") state, is the central concern.

Smith finds the sources of a nation's wealth in the extent and productivity ("skill and dexterity") of its labor force. Men are poor when their labor is unproductive, and their labor is unproductive when it is unspecialized, when each man produces himself all the goods that he needs. Process innovation in the form of labor specialization brings about those increases in labor productivity that make nations wealthy. The economy develops through the division of labor.

The firm's presence in the economy becomes a part of the investigation of its development in chapter six of book one. Here Smith considers the property relations of a developed economy and identifies the firm's presence with these relations. In a developed economy, in society's "advanced state," we have private property in both land and "stock." Stock consists of goods of all kinds, both producer goods and consumer goods, and the "revenue" (money) that can buy them. Its "accumulation in the hands of particular persons" marks the firm's appearance in economic life.

Entrepreneurs, the "capitalists," are the large stock owners, those who have more stock than their subsistence requires. That part of their stock which is dispensable is invested in production. It is "advanced to industrious people in order to make a profit by the sale of their work." The stock which stock owners do not need for their own maintenance brings them a "revenue," is their "capital."

In exchange for advancing their stock to the workers the capitalists receive a part of the workers' product. Before the accumulation of stock, in the "early and rude state of society,"

the "whole produce of labour belonged to the labourer." After the accumulation, in the "advanced" state, the laborer "must share" his product with the stock owner that employs him. Its value divides into the wages of labor and "profits of stock."12

The accumulation of stock changes not only the product's distribution but also the extent of its production. This dependence of labor's product on the stock of the capitalists appears in book two, which connects the division of labor to the accumulation of stock. Stock accumulates as the economy develops because its development is impossible without this accumulation.

A worker cannot specialize his labor, become, for example, a "baker" or "tailor," unless his or "someone else's" stock can supply him with the "materials and tools" of the trade and maintain him until the completion and sale of its product. Although the product's inputs and the consumption goods he needs can be bought with the proceeds from the product, it cannot be sold until he makes it and he cannot make it without its means of production and the goods that sustain him. These must be "stored up behorehand," accumulated before he specializes his labor (Smith, p. 259).

Not only does the division of labor require the accumulation of stock. It is also limited by the extent of this accumulation. The degree of labor specialization in "every branch of business" depends on the number of workers in it. The greater their number, the greater can be the "subdivision" of their labor. But their numbers cannot expand without an expansion in the stock that employs them. The size of this stock limits the division of their labor as much as the size of the market for their product.

The productivity of any particular labor, such as bread baking or pin making, increases with the labor's division and the machinery that "facilitates and abridges" the labor. Both of these process innovations require an increase in the stock

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12 Although in chapter six of book one the real value of a good is no longer the labor embodied in it, labor is still the process of its production. The products of production are the "produce of labour." The labor theory of value drops out of the analysis, but the conception of production that underlies it remains.

invested in the labor. The number of machines a stock or its profits can buy (its owner "can afford") depends on its size, the same factor that determines the number of workers it can maintain.13

Whether labor productivity grows through advances in the labor's division, or through additions to the machines that aid the labor, it grows with the stock advanced to the workers who perform the labor:

> The quantity of industry, therefore, not only increases in every country with the increase of the stock which employs it, but, in consequence of that increase, the same quantity of industry produces a much greater quantity of work (Smith, p. 260).

Technical progress is "embodied" in the stock invested in production.

The investment that heightens the productivity of the nation's labor force is increased by "parsimony." It is financed out of the savings of individuals. The revenue that an individual spends on his own consumption cannot be "advanced" to others, invested in production. Individuals can capitalize revenue, add it to that part of their stock which "brings them a revenue," only if they save it.

The saving that investment depends on can be done only by those who have revenue "to spare." An individual whose revenue is just sufficient to maintain him has none to save. Those that have revenue to spare are those whose revenues come from their properties, the landlords and capitalists (Smith, p. 317). These are the ones who have enough "stock" to advance some to others (and also enough to secure loans from others). Because some are

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13 The machines that aid the labor are developed, "invented," in the course of its division. As this division advances the workers' operations become "simplified" to the point where they can be performed mechanically (Smith, p.260). Because the mechanization of these operations follows and presupposes their simplification, the division of labor is the essential condition of productivity advances.

Smith's conception of industry's mechanization is developed by Marx in Capital (Volume 1, part 4). Marshall also relates the development of machinery to advances in the division of labor (see chapter 9 of his Principles).

wealthy, have properties ("stocks" and lands) that "bring them a revenue," the labor of others can be productive.

Although individuals can save without investing or loaning their savings to investors, Smith assumes that they will not do so. More precisely, he assumes that individuals save for the "sake of the profit" that investment brings. They save in order to "better their condition," better their condition by "augmenting their fortune," and augment their fortune by investing, accumulating capital (Smith, pp. 324-25).

Instead of saving to consume "tomorrow," individuals save to invest today. Their savings are "destined to maintain productive hands," spent "immediately" on labor and its requisites. The "propensity to save" is the propensity to invest, and the "frugal" are those that would rather have their wealth increase than their consumption.

For the wealth of nations to expand, individuals must both have wealth "to spare" and want to have more. Those that do are the capitalists. These are the frugal members of the propertied class, and it is their spare revenue that finances the economy's development.

It is not so much the wealth of the capitalist as it is his wealth pursuit that makes his presence essential to the economy's development. Others, the landlords, also have spare revenue and could, presumably, fund investment. But others do not have the capitalist's desire for wealth. The desire to "better one's condition," while natural, is not felt equally by all. Some feel it more than others, and those that feel it the most are those who have bettered their condition in the past, the capitalists.

The workers produce the wealth of nations, but the capitalists make its production possible. Without "thrift," the profit pursuit, the stock accumulations that productivity advances depend on would not occur. Yes, the capitalists live off the labor of others; their profits are "unearned." But as long as

they invest ("save") them they are "entitled" to them, for they further the economy's development.14

Smith's argument for the firm assumes that wealth can be expanded through its investment in production. Since the capitalist invests to "augment his fortune," he will not invest unless investment is profitable. And he will not invest in production, advance stock to workers, unless sales revenues exceed costs. If (or when) there are no lucrative investments in production, capitalists will invest their spare revenue elsewhere (in real estate or financial assets) or not invest ("save") at all.

The capitalist will carry out his historical mission only as long as production is profitable. This is recognized by Smith, as is the possibility of the exhaustion of investment opportunities in production. Yet he takes the profitability of production in all but the "very long run" for granted. In spite of the numerous discussions of profit in the Wealth of Nations, we do not come away from the work with a clear understanding of the profit generation process.

Profit and Innovation

The question of profit, its source and determinants, is the central one in Marx's development of classical economics. He takes from the classical school its labor principle of value and attempts to explain profit on its basis. The result is a profit theory that strengthens the classical argument for the firm. As Robinson emphasizes, with Marx we get "a very robust justification of capitalism."15

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14 "The new rich of the nineteenth century were not brought up to large expenditures, and preferred the power which investment gave them to the pleasures of immediate consumption. ... If the rich had spent their new wealth on their own enjoyments, the world would long ago have found such a regime (capitalism) intolerable. But like bees they saved and accumulated, not less to the advantage of the whole community because they themselves held narrower ends in prospect." Keynes, The Economic Consequences of the Peace, pp. 18-19.

15 Joan Robinson, "The Disintegration of Economics," in Robinson, 1980.

The crux of the profit problem for Marx is the divergence of the value of labor from the value of its products when both sell at their full market ("real") values. This, of course, would be impossible if markets imputed the value of products back to the labor which produced them (their "inputs"). It, however, also would be impossible if markets imputed the value of labor "up to" its products, if they were valued in terms of their labor costs. Thus it seems that regardless of whether the laws of exchange are those of the neoclassical or classical theory, their operation precludes the development of profit.

Marx finds the solution to the conundrum of profit's development in the peculiar way in which labor is marketed. Unlike other inputs (such as iron, wheat, lathes, etc.), the labor input cannot be obtained through its own purchase. Labor itself, the "productive expenditure of human brains, muscles, and tissues," is not available in the marketplace. Only the results of the activity, the products of labor, and the capacity to perform it, "labor power," can be bought. Thus labor is acquired not by buying it but by buying the "power to do it."16

Because labor is purchased through the purchase of labor power its price can be different than that of its product. For when the cost of labor is the cost of labor power, its cost is not the price of the labor that goes into the product's production, but the price of the labor that maintains the worker's ability to perform this labor. Labor power's value depends on the labor requirements of its production, not on those of the product's, and while the latter has to have the same value as the product, the former does not.

Since the amount of labor that goes into the worker's maintenance can be less than the amount he expends on products, he can sell his labor "services" at their full market (labor)

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16 The impossibility of selling labor itself seems to be the result of the fact that the activity cannot be separated from the individual who does it. One cannot get labor, "baking," "weaving," etc., without getting a laborer, a "baker," "weaver," etc. Insofar as labor comes in the form of a laborer, its sale would entail the enslavement of the worker.

value and still be "exploited," not be paid for all the labor he performs. His exploitation can occur without any "cheating in exchange," fraudulent practices on the part of capitalists, or imperfections in the market mechanism. Profit can be explained on the basis of exchange once the peculiarity of the labor commodity is recognized.

While the price of labor can be less than that of its product, it need not be so. Its relation to the product's value, the price-cost relation, depends on the conditions of the labor commmodity's sale and production. These conditions, the contracted or customary hours of labor ("work day"), the goods that enter into the worker's consumption, those that "produce" his labor power, and the labor requirements of their production, determine whether, and the extent to which, the prices of products exceed their labor costs.

If the length of the working day is the length of time it takes to produce the goods that the worker consumes in a day, the amount of labor he performs "for the capitalist" will be the amount that goes into his maintenance. His product will have the same value as his labor power; none of his labor will be "unpaid." He will produce value, but not any "surplus value."

For surplus value (profit) to materialize, the hours of labor have to exceed the labor requirements of maintaining the worker that performs them. Either the hours of labor have to be extended beyond the time needed to produce the goods that sustain the worker's existence, or the labor requirements of producing these goods have to be reduced below the hours of his labor. Surplus value is generated and expanded, "produced," by increasing the hours of labor and/or its productivity.

Whereas the hours of labor are increased through extending the working day, the productivity of labor is increased through developing new methods of production. Process innovation, and especially the mechanization of production, reduces the value of labor power. It increases the difference between this value and that of labor's product, the "rate of exploitation," and makes the worker's exploitation possible in situations where labor

productivity is too low for him to perform any "surplus labor," where the production of his subsistence consumes all of his labor power.17

The process innovation that enhances the profits of capitalists is undertaken in the course of their profit pursuit. The individual capitalist enlarges his profit margin by improving the methods of his product's production. While the value of his product falls with the labor requirements of its production, these are determined not by the methods he employs but by those prevalent in the industry. As long as his process innovations are not carried out by his competitors, they reduce his unit labor costs without reducing the value of his product. Those that are the first to advance the product's technology are those that get the most profits out of its production.

Since all capitalists strive to expand their profits, all attempt to be the first to innovate. Each tries not only to "copy" the new methods introduced by his rivals but to improve them. The result of this techological competition is the "cheapening of commodities," the reduction of the labor requirements of their production. Innovations in a product's technology become the prevalent methods of its production and spark the development of new advances in its technology.18

As the value of the products of labor falls so does its price. The competition engendered by the profit pursuit "cheapens" the goods that the worker lives on and/or the raw materials and equipment employed in their production. It increases the productivity of the labor that enters "directly" or "indirectly" into labor power's "production."

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17 This argument for the dependence of the profits of production on changes in its methods is taken over by Schumpeter in The Theory of Economic Development. Here the argument is formulated in neoclassical terms. Innovation makes profit possible by disrupting the "value imputation process," the market's imputation of the value of products back to their factors of production.

18 This conception of competition and its macroeconomic implications are developed by Steindl in Maturity and Stagnation in American Capitalism.

The relation between innovation and profit is two-sided. While the profits ("savings") of capitalists finance the innovation process, innovation enlarges their share of the product (the "rate of exploitation"). Technical progress is "endogenous," inherent in the capitalist production process:

> There is immanent in capital an inclination and constant tendency, to heighten the productiveness of labor, in order to cheapen commodities, and by such cheapening to cheapen the labourer himself (Marx, 1965, p.319).

Effective Demand

For Marx, an increase in profit per unit of output, the profit margin, was an increase in profits. Although Marx recognized and, indeed, emphasized the fact that the revenue from production depends on the demand for its products, effective demand was not a variable in his profit equation. The rate of exploitation along with the "organic composition of capital" (capital intensity of production) determine the profit rate.

The effect of an increase in the profit margin on the profit rate depends on the demand effects of this increase. Marx's case of profits rising with the profit margin can occur only if 1) expenditure on the product does not fall with an increase in its profit margin or 2) falls by a lesser amount than the fall in its wage bill. The first is the relation between demand and the profit margin that Marx envisioned. He assumed that the "cheapening of the laborer" would not reduce his "hours of labor," the value of his product.

Marx's relation between demand and the profit margin, while possible at the level of the individual firm or industry, is not possible at the level of the *economy* as a whole. When the average level of the profit margin in industry increases the real income of workers falls, and when their real income falls so does their consumption expenditure. Since the wage is both a cost of production and a source of demand for its products, any change in the wage changes not only the costs of producers but their revenues as well, the level of aggregate demand.

The amount by which aggregate demand will fall when wages fall depends on the propensity to consume out of wage income. If

this is equal to one, as it is in classical economics, the fall in aggregate demand will be equal to the fall in wages. Waqe cuts will reduce the revenue from production by the same amount as they reduce its costs; profits will not increase with the "cheapening of the laborer."

At the level of the economy as a whole, the profitability of production depends not on the level of its costs, but on the level and structure of the demand for its products.19 In particular, the realization of a positive level of aggregate profits requires the expenditure of funds other than those received for services rendered to production. If all product purchases were financed with earned income, wages or other "factor payments," aggregate demand and thus the revenue from production could not exceed the sum of producers' costs.

Since the income earned in production is its costs, its costs cannot fall below its revenues unless its revenues rise above the income earned within it. And its revenues cannot rise above this income unless unearned funds are spent on its products. Capitalists "get what they spend," their profits rise with their consumption and investment expenditure, because what they spend is unearned funds, profits and bank loans.

It is not, then, the difference between the prices of products and their production costs which determines the magnitude of the capitalists' profits. It is, rather, the difference between the amount of unearned funds spent on industry's products and the amount of earned funds not spent on them, the savings of workers ("factor owners"), which determines the level of aggregate profits. Under the worker saving assumptions of classical economics, the profits of capitalists will be at the same level as the expenditure of unearned funds. Profits will equal the sum of the capitalists' investment and consumption expenditure, the government's deficit and profit tax

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19 This is emphasized in the post Keynesian theory of profit. See Michal Kalecki, Theory of Economic Dynamics.

financed expenditure, and foreign countries' "net expenditure," the net export component of aggregate demand.20

While the profit margin does not determine the amount of profits made in production, it does limit the amount that can be made. The profit margin measures the profit potential of industry, indicates the maximum possible level of profit. If the average full capacity profit margin in industry is m, industrial profit cannot be greater than m times the full capacity output (Y). Profit generation through aggregate demand increases in situations where aggregate demand exceeds aggregate costs by an amount greater than (or equal to) mY runs up against the "inflation barrier." In such situations increases in aggregate demand reduce the value of money instead of increasing the level of profit.

A positive level of aggregate profits is impossible without a positive level of the profit margin. If the operation of product or factor markets kept the prices of products at the level of their production costs, if the competition of firms brought the value of products down to the value of their inputs or the cooperation of workers, their organization in trade unions, brought their wages up to the value of their product, the expenditure of unearned funds could not generate profit. If no profit is "produced," none can be "realized." It must be possible to produce goods at costs lower than their prices for their sale to bring their owners a profit.

The conditions of labor's "exploitation," those that must be met for the prices of inputs to be below the prices of their products, are the microeconomic conditions of profit generation. While these are not sufficient conditions, others must be met for profit to materialize, they are necessary ones. Profit generation is both a microeconomic and a macroeconomic process.

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20 It should be emphasized, here, that the profits of capitalists do not depend on their spending alone. They can make profits without investing (or consuming), for others also can spend unearned funds. Even the workers can do so. They can spend "more than they get," contract debt, and when they do spend more than their income they increase the profits of the capitalist class.

The Technical Dynamism of the Capitalist Economy

The most compelling conception of the firm is the classical conception. It takes in not only the distintiveness of the firm's profit objective, but also its actual practices, the realities of capitalist production. The growth strategies of the modern industrial corporation, its investment in "research and development" and diversification into new "high technology" industries, speak loudly in favor of the classical conception, as does the innovation record of capitalism. Indeed, its technological achievements would be unintelligible if it were not "inherently dynamic."

While the classical conception of the firm is compelling, the profit theory that supports it is not. It considers only the conditions of profit's "production," the microeconomics of profit generation. And because the macroeconomic conditions of profit generation are not considered in the theory its argument for the dependence of profits on improvements in production methods is questionable.

Improvements in the methods of production can enhance its potential profitability, the profit margins of individual firms and industries. They can increase, and historically have increased, the capitalists' share of the product ("rate of exploitation"). But they cannot increase the level of the capitalists' profits, for this depends on the demand for their products. Profit cannot be generated through labor productivity advances alone.

Insofar as the profits of production depend on the amount of unearned funds spent on its products, profit can depend on innovation only if it effects the expenditure of unearned funds. Innovation will increase profits if, and only if, it increases the capitalists' investment or consumption expenditure, the government's deficit or profit tax financed expenditure, net exports, or the workers' consumption debt. The issue of the importance of innovation in the profit generation process is the issue of its place in demand creation, in market growth and development.

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