16 August 1957, Volume 126, Number 3268 SCIENCE

Collective Capitalism and Economic Theory

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The modern corporation has undermined the preconceptions of classical economic theory as effectively as the quantum undermined classical physics at the beginning of the 20th century. An equally drastic reconstruction of economic theory is due and is, perhaps, now in process. It is my purpose here to present a background for this reconstruction. This I propose to do by examining the relation between recent events and economic theory.

But first let us consider the role of theory in human action. In a basic sense man is a systematic animal. We live by systems of thought which guide our actions. Whether the particular system of thought is that of the witch doctor or the modern scientist, a system built around concepts of freedom and democracy or around a single God and the Ten Commandments, we could not live our lives effectively without such systems of thought. The real world is altogether too complex to be grasped. We build simplified systems of thought in order to aid our action. And these simplified systems are our theories about the real world.

Now it is a fundamental characteristic of our systems of thought that they never fit reality exactly. We can expect at best only a rough fit. A theory may be highly complex and logically consistent, and yet it is beyond wisdom to make it take account of *all* the real facts. As an approximation, a theory may serve us well. Newton's theory of gravity is sufficiently accurate for everyday purposes. But we should recognize that a theory can never be so complete as to give a perfect fit to reality.

In the field of the social sciences the crudeness in the fit of theory to reality is of particular importance because the social reality can itself be changing relative to the theory. I like to think of society as moving in a curve of change and a social theory as a straight line which may or may not be tangent to the curve at a particular time. When the theory is tangent to the curve, at that time the theory fits the reality well enough so that good policy can be made in terms of the theory, even though the theory does not exactly fit the facts.

In a period in which our social theories fit the facts reasonably well, we have the minimum of social tension. But then the social reality may change. The tangent of theory and the curve of reality get farther and farther apart. Policies made in terms of the theory fail to produce good results. Tensions increase, the theory itself becomes discredited, and there follows a period of groping for a new or revised theory which fits the new reality more closely. Then a new theory or set of theories emerges, and society is again squared away for a new period of effective policy and reduced tension.

I believe that we are now in a period in which society has moved out from under our older economic theories and that a new or revised set of theories is now in process of development. It is my purpose, here, to show why new theories are needed to guide policy and also to suggest some of the directions the new theories seem likely to take.

The "straight-line" character of social theory arises from the basic assumptions of any given theory. A given theory can be elaborated within the framework of its own logic, but it is confined to the limits of its own assumptions. More cannot be derived from a theory than is put in by assumption. Let us see how this works in the case of economic theory.

Types of Control over Production

For economic theorizing, we can distinguish between at least four basic types of nongovernmental production which differ as to who controls production and can imagine economic models, each made up of just one type of production.

We might assume a subsistence model in which each economic unit produces only for its own consumption and in which there is no buying and selling. In approximation, such a model describes the economic condition of the Virginia settlements before tobacco exports became a significant factor, it describes most of our early pioneer settlements as our population moved west, and it still applies to some mountain homesteads. But, more importantly, this model applies in considerable degree to more than half of the present-day population of the world—to the Indian village, to the African tribesmen, and to people in many other parts of the world. For such people the market plays a negligible role, and production is organized within the village or tribe on a collective basis to meet the needs of the producers who are also the consumers. In such subsistence economies, consumers are in control of production or, what is more significant for our present analysis, consumer, worker, owner, and management are combined in a single economic unit. As a result, production policy and the instruments of production are controlled by units which combine the interests of consumer, worker, owner, and management.

Or we might assume an economic model in which individuals produce goods for sale in the market and buy goods in the market for consumption but in which no one works directly for anyone else. In such an economy, price and the market serve to organize the production of separate economic units. This form of production is typified by most American farms—a single producer raising cash crops, selling the product into the market, and taking out of the market

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what he needs for production and for consumption. If all production were carried on by such one-man enterprises, we would have a pure atomistic economy, with the consumer no longer in direct control of production but influencing prodution only through the market. In such an economy, direct control over production policy and the instruments of production would rest with individuals who combine the interests of worker-owner-manager, while the interests of consumers would depend on market forces. It is the great achievement of Adam Smith that he presented a theory of market behavior for such an atomistic economy. I will come back to this in a moment.

A third type of economy which we might assume is one in which production is carried on under the factory system with individual factory owners managing production but hiring workers to do the main producing. In such an economy, not only the consumer but also the worker is separated from control over production policy and the instruments of production, except as consumer and worker affect production through the market. This system of production has properly been called private capitalism, and it was factory production which provided the basic assumption of Marxian theory, while the separation of the worker from control over the instruments of production provided the basis of his class struggle.

A fourth type of economic model which we might assume is one in which all production is carried on by great corporate units in which ownership is so widely dispersed that owners, as well as consumers and workers, are separated from control over production policy and the instruments of production. In such an economy, management would be in control, subject, of course, to the influence of the markets for goods, for labor, and for securities. And with the separation of ownership and control comes the possibility of great aggregations of productive activity. We now have single corporate enterprises employing hundreds of thousands of workers, having hundreds of thousands of stockholders, using billions of dollars' worth of the instruments of production, serving millions of customers, and controlled by a single management group. These are great collectives of enterprise, and a system composed of, or dominated by, them might well be called "collective capitalism."

It would be possible to elaborate other types of economy such as the Soviet Government ownership and control, or an economy of cooperatives, but those outlined here will serve the present purpose.

Actually, the history of Europe and America in the last four centuries roughly fits the pattern of these four economies, though at no period was the economy exclusively of one type or another. The feudal economy of Europe and the pioneer economies of America were primarily of the subsistence type; Adam Smith's 18th-century economy was dominantly atomistic; the 19th-century economy was dominated by the factory system; and today the big corporation gives its particular character to our modern economy. Let us then trace economic theory in relation to the curve of our changing economy.

Economic Theory and the Real Economy

We can begin with classical economic theory, which for present purposes starts with Adam Smith and comes down through Mill and Marshall but does not include Keynes. This body of theory, *in its essentials,* relates to an atomistic economy and never really grapples with the problems which make a factory economy different from an atomistic economy. This assertion may surprise some, since, certainly, the determination of wage rates was one of the classical problems. But consider that in classical theory, labor was treated as a commodity. In an atomistic economy, the shoemaker bought leather and shoe pegs and twine, combined them into a pair of shoes, and sold the shoes. And in classical theory the shoe manufacturer bought leather and shoe pegs and twine *and labor,* combined them into a pair of shoes, and sold the shoes. The factory system brought no change in theory except the delineation of a special commodity, labor, for which there were especially interesting problems of demand and supply. At the same time, the worker himself was treated as an entrepreneur seeking to market his "product"—labor.

A single example will help to underline this fact. Ever since I became aware of the limited basis of classical theory, I have sought cases where a classical scholar has made a *significant* theoretical point which would apply to a factory economy and could not apply to an atomistic economy. So far, prior to Keynes, I have found only a single case. It occurs in D. H. Robertson's brilliant little book, *Banking Policy and the Price Level* (*1*). Robertson points out that, if price and production policy in a company or an industry were made by the owners, one policy would result, whereas, if policy were made jointly by owners and workers, a different policy would result, with lower prices and larger volume, since, instead of seeking to maximize profits, the joint policy would seek to maximize the sum of profits and wages. Such a statement would make no sense in a prefactory system in which there was no separation of the worker from control over production policy.

Although there may be other examples of such a departure from the assumption of an atomistic economy, I believe they are few and far between and have not produced modifications in that theory. They do not stand in the way of the conclusion that, for practical purposes, classical theory is built on the basic assumption of an atomistic economy; we apply the classical analysis and classical conclusions to a factory or corporate economy at our peril.

Karl Marx took a big step forward in building his economic theory on the assumption of a factory economy and private capitalism. He recognized the separation of worker from control over the instruments of production and rejected the idea of treating labor as a commodity. In this he was more realistic than the classical theorists. On the other hand, he built a body of theory which has clearly been proved wrong in this country and certainly has not been supported so far by events in the Soviet Union. In this country, instead of progressive exploitation, there has been remarkable improvement in the workers' lot—the poor have become richer—while in the Soviet Union the workers are being exploited for the purposes of the state, with a real question whether the people are better off as a result. For Marx' theory, the superiority of his basic assumption of a factory economy does not make up for the weakness in his theoretical analysis.

As for collective capitalism, no comprehensive economic theory has been developed in terms of such an economy, in spite of the fact that the collective enterprise of our great corporations sets the tone of today's economy. As a result, we stand with a great deal of economic theory, but a major part of it was built on an obsolete base, and another part was disproved by events. It is clear to me that a major reconstruction of economic theory is in order. We must create a body of theory which applies to collective capitalism and modify it to the extent necessary to allow for the fact that not all enterprise is collective enterprise.

Steps toward the Reconstruction of Economic Theory

The first step in a reconstruction of economic theory is to define its scope in modern terms. As long as economics dealt only with a pure atomistic economy (or with the theoretical equivalent, a factory economy with labor treated as a commodity) the scope of economic theory could be limited to the market mechanism and to a consideration of the

ways in which individual behavior affected and in turn was affected by the market. For such an economy, an analysis of the market is also an analysis of the way in which the activities of separate individuals are coordinated in using resources to satisfy human wants. Some economists would like to limit the scope of economic theory today to the operation of the market mechanism. But today, with the great role played by corporate management in coordinating the activity of separate individuals within an enterprise, it is obvious that the market mechanism is not the only coordinating device. If we limit economic theory to the market, we are leaving out a major part of economic coordination. I believe that economic theory must be given the broader scope and that it must deal with economic coordination within enterprises as well as between enterprises. It must be concerned with the coordination of individual action in using resources to satisfy human wants, however that coordination is brought about.

If we accept this broad scope for economic theory, the second step is to investigate the various means by which economic coordination is brought about. So far, I have been able to discover four distinct and important ways by which the economic actions of individuals can be coordinated. The first and most obvious is the market mechanism. I do not need to point out how the market can coordinate the productive activity of thousands of individuals. A second and equally obvious method of coordination is by administrative direction. The manager tells *A* to do one thing, *B* another, and *C* a third, and, because the manager planned it that way, the separate actions of the three fall into a common pattern. But there are two other devices of coordination which are not so obvious, and yet they are particularly important for a democratic society. These devices are what might be called canalizing rules and the acceptance of common goals.

We are all familiar with the canalizing rules—the laws, rules, and customs—which help to coordinate daily living. The rule that one drives on the right side of the road or the custom that bills are sent out at the end of the month helps to bring order into individual behavior. Or consider two people getting into an elevator. It is much easier for a man and a woman to enter than it is for two polite men to do so. These are perhaps trivial examples. More important are the custom of accepting money in exchange for goods, the laws enforcing contracts, and the rules and regulations set up by a corporation to facilitate its activity. The canalizing rules play a major role in coordinating the activities of separate individuals.

The fourth coordinating influence is the acceptance of common goals. We had an outstanding example of this during World War II. There was a nation-wide acceptance of the aim of winning the war. And, in the light of this common goal, any number of people did things or put up with things in ways to contribute to the war effort without being told. Or take a more homely example. A family decides to go on a picnic and, without specific instructions, various members in the family start to prepare. Some make sandwiches, some get the car ready, and others get out the picnic hamper. Once the picnic goal has been accepted, coordination can come simply as a result of the thinking and action of each individual as he sees how his effort can be coordinated with that of others. Business enterprise is constantly using goals both to stimulate and to coordinate production and sales. We will come back later to the coordinating role of common goals.

For our present analysis, what is important is that there are at least four ways in which the action of individuals can be coordinated to a greater or lesser degree, and, in any concrete situation, coordination may involve two or more of these different methods. I believe that economic theory must take account of all four.

With this background, let us consider the various areas of economic theory and the direction in which they are developing or should develop because of the facts of collective capitalism. For this purpose I will distinguish between the following four major areas of economic theory: the theory of employment; the theory of the firm; the theory of allocation; and the theory of economic planning.

Employment Theory

The term *employment theory* is relatively new, but classical theory dealt with the problem of underutilization of resources under the heading of Say's law and in the equilibrium equations of Walras. According to both, the only condition of equilibrium in an atomistic economy is one of full use of resources. As Mill pointed out, according to classical theory, general overproduction was impossible—except, of course, temporary overproduction, which would quickly correct itself.

Actual events—the long American depression of the 1890's, Britain's long depression in the 1920's, the world-wide depression of the 1930's, and the long history of business fluctuations—finally broke the hold of Say's law and the belief in a self-correcting mechanism that would maintain reasonably full employment. Keynes came forward with a new theory of employment which he believed would explain the possibility of equilibrium at less than full employment in a competitive and flexible-price economy (*2*). For many years this theory found wide acceptance and helped to make theoretically respectable the rejection of Say's law. But in spite of the brilliance of Keynes' analysis, it rested on an assumption that is no longer generally accepted by economists—the assumption that the only way a change in the real stock of money could affect the level of demand and employment is through changes in the level of interest rates. I cannot go into detail here. It is sufficient to say that the statistical evidence does not support Keynes' assumption. Keynes has not supplied an explanation of unemployment for an economy of flexible prices and wage rates. For such an atomistic economy, the only condition of equilibrium would appear to be one of full employment; Say's law would still seem to hold for an atomistic economy.

But our present-day economy is not an economy of flexible prices and wage rates. The factory system and the modern corporation have brought changes which must be taken into the basic assumptions of theory. Labor is not a commodity, and wage rates are not flexible but a form of administered prices. In addition, administration of enterprise has extended into the goods market, and we also have administered prices for goods. When economic theory is rebuilt on the basis of administered prices and administered wage rates, I believe the inapplicability of Say's law and the Walrasian full-employment equilibrium will be obvious.

First let us consider wage rates. Classical theory had no difficulty picturing a commodity market for wheat or oranges with suppliers and demanders brought into adjustment by price. But have you ever run across a theoretical description of a market for labor in which the wage rate equates the demand and supply of labor? I never have, and I have never been able to envisage such a market. Would each worker come into the market each day and offer a basket full of "labor," and would employers "buy" a fresh lot of labor each day? This just does not make sense. A worker cannot sell his labor apart from himself; an enterprise cannot use labor apart from the persons who constitute it. And an essential part of the value of "labor" to an enterprise is the familiarity of the persons constituting "labor" with the equipment or affairs of the enterprise employing them. This means that a free market and flexible prices for labor are not feasible if big factory or corporate enterprise is to be efficient.

In actual fact, as I have said, wage rates are a form of "administered price." Before labor became organized, the typical procedure for establishing wage rates was administrative. In starting up a factory, the manager decided on what wage rates he would pay for each type of work and sent out word that jobs were available. If the supply of job seekers at those wage rates was larger than the number he wanted to hire, he would turn some away. If the supply was not as large as he wanted, he would send word farther afield, or perhaps he would send out recruiting agents to bring in workers. Thus the wage rates set by the manager would equate supply and demand only by chance. In most cases, either demand or supply would be in excess. And, what is most important for employment theory, the fact of a discrepancy between the supply and demand for labor would not lead the manager to alter his wage rates unless the discrepancy was considerable. Similarly, once a factory was in operation, if the manager needed fewer workers, he would lay off a part of his labor force. But he was unlikely to reduce his schedule of wage rates unless there was a very large increase in unemployment or unless his own firm was being seriously squeezed by competition. Thus, under the factory system, and even without labor organization, wage rates were administered and tended to be relatively inflexible, seldom closely equating the supply and demand for labor.

Whether or not the organization of labor has increased the inflexibility of wage rates is not clear. During the great depression of the early 1930's, wage rates dropped more in the clothing trades in which labor organization was strong than they did in such durable-goods industries as automobiles and electric equipment where unemployment was greater, labor was weak, and wage rates were administered by the corporate management. On the other hand, negotiated wage contracts certainly limit the power of management to change wage rates for periods of time. For present purposes it is immaterial whether the organization of labor increases the inflexibility of wage rates or simply confirms a behavior which management would have adopted in any case. What is important is that the factory system and the corporate system involve wage rates which do not behave like the classical commodity prices.

Administration of prices has also come to be a dominant characteristic of our factory and corporate economy (*3*). A company will set its price for a product and hold it constant for a period of time, selling whatever amount is demanded at the administered price. Demand at the administered price may be in excess of supply, as was recently the case with steel. Or demand may be less than the company is willing to supply at the administered price. As a result, an administered price will equate supply and demand only by chance, while an excess of supply or demand of considerable magnitude may develop without resulting in a revision of an administered price.

The classical theorists were familiar with administered prices, but, so far as I know, administered prices were never introduced as a basic assumption in classical economic theory. Their effect was treated as a matter of "friction" which slowed up but did not prevent the process of automatic adjustment. But today a large proportion of all labor and commodity transactions in this country take place at administered prices. Certainly most retail distribution, including a large part of food distribution, is at administered prices. So are most manufactured products and most of the services. Only in farm products and raw materials is the classical market price the general rule, and even here there are many exceptions. Thus, the factory and corporate systems provide us with administered prices, as well as administered wage rates, both of which lie outside of classical theory.

Once one introduces administered prices and wage rates as basic assumptions in employment theory, it is not difficult to explain equilibrium at less than full employment. Keynes did this, not as a theory, but as a device of exposition. When he analyzed the effect on employment of changes in the propensities to consume and invest, he first assumed that prices and wage rates were fixed. This was only a device to make it easier to follow his analysis, and he has made it clear that his conclusions on employment did not depend on this temporary assumption. Yet perhaps his greatest claim to fame will be this inadvertent introduction of a formulation of equilibrium with fixed prices and wage rates.

Of course, administered prices and wage rates are subject to change, and the new theory of employment must take account of the successive readjustment of prices and wage rates as the discrepancy between supply and demand exceeds some threshold of administrative action. The theory must be concerned both with the magnitude of this discrepancy and with the magnitude of the price revision when it is made. What is immediately important is that, when administered prices and wage rates are assumed, it is easy to construct economic models which reach short-run equilibrium at less than full employment and in which automatic forces operate toward full employment so slowly that they are not important. Thus, in one plausible model which I constructed, the automatic forces would restore full employment only after an infinite regression in time.

Here, then, is a major reconstruction of economic theory required by the actual characteristics of our economy. Fortunately, our practice in seeking to maintain full employment has run ahead of dependable theory. But a dependable theory of employment could greatly clarify the essential role of government and greatly increase the efficiency of practice in this field.

The problem here is to develop a statement of short-run economic equilibrium on the assumptions that some prices are of the classical type and that some are administered. We have the Walrasian formulation of equilibrium for an economy of perfectly flexible prices. We have the Keynesian formulation with its ambiguity about price, but it is capable of stating an equilibrium with prices fixed. What we need is a Walrasian-like formulation which will state the condition of equilibrium if some prices are administered and some prices are flexible, and indicate how changes in the equilibrium-determining factors will alter the equilibrium result.

Theory of the Firm

A second area of economic theory which needs reconstruction because of the modern corporation is the theory of the firm. This presents a many-issued problem, one that is at the heart of economic theory, since assumptions about the behavior of the firm enter into all other areas of economic theory.

Classical economics has given us a highly elaborated theory of the behavior of a firm—and here I include not only the classical line through Marshall but also the somewhat arid analyses of Chamberlin and Robinson (*4*). This theory is concerned with the firm as a buyer, combiner or producer, and seller of goods. And because labor is treated as a commodity, it applies primarily to an atomistic economy. The theory itself starts with the assumption that the entrepreneur is seeking to maximize his profit and works out the different patterns of behavior which would maximize profit under various known conditions.

This theory, when it is applied to imperfect competition, has always given me a good deal of trouble, even as applied to an atomistic economy. But let us assume that the classical theory of the firm does apply to the small entrepreneur in an atomistic economy or is so modified that it does apply and ask what modifications are needed to make it fit the corporate firms of collective capitalism.

The first change is implicit in our dis-

cussion of employment theory: the new theory of the enterprise must account for the well-nigh universal presence of administered prices and wage rates and their respective behavior. There is nothing in the classical theory of the profit-maximizing firm which would lead one to expect administered prices or administered wage rates.

A second change was pointed out by Adolf Berle and me in our book, *The Modern Corporation and Private Property* (*5*), in which we indicated how the separation of ownership and control in most of our big corporations undercuts the function of profits to owners as a stimulus to more efficient operation of the enterprise. Consider first the profits going to those stockholders who do not in fact control the enterprise or make policy. Such profits cannot act as an incentive to better operation of the enterprise. And if, instead, profits over and above the amount necessary to induce investment were to go to the controlling management so they would induce more efficient operations, as profit theory would require, the courts would find this illegal, because the profits "belong" to the stockholders.

On the other hand, how much do profits from ownership act as a stimulus to those in control of a big corporation whose stock is widely dispersed? It is often said that, even though a controlling group may own only a small proportion of a company's stock, their ownership interest and the incentives arising from it can still be large because of the size of the company. Let us look at this for a minute. Consider, for example, a memorandum recently circulated by the Atchison, Topeka, and Santa Fe Railway Company giving the stockholdings of the directors of the company who are, in effect, in control of that corporation. In combination, the directors hold one-tenth of 1 percent of the outstanding stock. The average stockholding per director has a current market value of approximately $50,000, and the largest holding by a director is just under $200,000. These are sizable amounts of investment. But do they really supply a significant inducement to strive vigorously to increase the company's profit? Suppose that, by more vigorous direction, the company could be made to yield 20 percent higher profits. Assuming that this would mean a 20 percent higher dividend, the average director would get $600 more in dividends, while the director with the largest stockholding would get 4 times this amount. And since most of the directors, if not all, are already paying income taxes at the more robust rates, only a part of the $600 would be a reward. My own belief is that the directors of such a well-run railroad as the Santa Fe try to run it well for the same reasons that the trustees of a great university seek to run the university well. In the case of the Santa Fe, profits are a symbol of successful operations, but I question how far the receipt of profits by the controlling directors *through their ownership* is a dominant stimulus to efficient operation.

I am not here suggesting that profits do not play an important role in big corporate enterprise. I am suggesting that their role may be quite different from that attributed to profits in the representative small firm of classical theory. As a minimum, we can say that profits cannot perform their traditional role where ownership and control are separated, for this traditional role depended on the assumption that ownership and control were combined. We should start fresh and ask just what are the motivations of top corporate management—to increase their personal incomes, to serve the stockholders, to expand management's power, to foster the status of the corporate collective, to serve the public interest? Clearly, a new theory of the firm to apply to the corporate collective must start with an analysis of motivation in the big business bureaucracies. Such an analysis must be based on actual observation. This will not be easy, because motivation is itself elusive. Perhaps such investigations will require the joint action of economist, political scientist, psychologist, and anthropologist. Until such studies are made, our basis for assuming motivation is inadequate.

In the meantime, I offer the suggestion that a study of motivation in the top management of a great university would throw more light on the motivation of top corporate management than any amount of study of small private enterprises. Like a university, the great corporate collective is a "going concern" with its own momentum and its own internal drives and internal conflicts. Literature is beginning to reflect this in such books and plays as *Executive Suite* and *The Solid Gold Cadillac*. How far is the task of top management in the corporation that of generating and sustaining group thinking and group decision-making? And what factors actually enter into top management decisions?

There are also problems of motivation in the lesser ranks of management. Are the pressures for conformity and compromise in the group activities of management reducing initiative and enterprise, either by suppressing it or by selecting away from it? Are the great corporations creating a new "economic man"—the "organization man"—with new characteristics which the economist will have to understand, analyze, and take into account? (*6*). And can the "organization man" be adequate to fill the shoes of top management?

The bureaucratization of industry requires still another extension of the theory of the firm—the study of the bureaucracy itself. How are the great corporations actually run? How are the activities of 100,000 persons coordinated within a single enterprise? What kind of organization makes for effective use of resources; what kind, for wasteful use? With so much of the coordination of individual activity brought about through administrative action within single units, how does this affect the use of resources in the satisfying of wants? In some degree this aspect of enterprise theory must deal with the same problems of administration as those dealt with by political theory in its analysis of government bureaucracy, but in other respects, particularly in its focus on the impact of administration on the use of resources, this will be a new kind of allocation theory in which the unseen hand of Adam Smith is replaced by the visible hand of business bureaucracy.

The reconstituted theory of the firm will also have to take account of corporate politics as well as corporate economics. The modern corporation is more than a legal framework of enterprise. It is an institution for interrelating the interests of security holders, workers, consumers, and management. As such, it is a focus for conflicting, as well as common, interests, and it is the focus of power conflicts. Just where in these power conflicts economics leaves off and political science begins is not at all clear. Perhaps what we need is a new joint science which gives new content to the old term *political economy* and applies it to the politicoeconomic formation of policy in the great corporate enterprises as well as in government.

Finally, the theory of the corporate firm will have to consider the public responsibility of corporate management arising from size and from the separation of control from consumer, worker, and owner alike. In our book on the modern corporation, Berle and I (*5*) suggested that, if the controlling management of the big dispersely owned corporations adopted the role of arbiter between stockholders, workers, and consumers, the courts might accept such a role. Certainly there is considerable evidence that the larger corporations are accepting some degree of social responsibility as a step toward their own long-run status and survival. The theory of the collective firm must therefore consider under what conditions, if any, an enterprise can operate to serve the public interest without itself assuming any social responsibility; and also under what conditions an enterprise is so large or so relates investors, workers, and consumers that it must take into account, or be made to take into account, considera-

tions of social interest as well as those of corporate profits.

When we have an adequate theory of the collective corporate firm, we will be able to picture an economic model of big corporate enterprise. Such a theory, combined with adequate theories of the firm for an atomistic and for a factory economy, should give us the basis for understanding most firm behavior in our actual complex economy.

Allocation Theory

The third great branch of economics I propose to discuss is allocation theory. Classical allocation theory rests on or includes the traditional theory of the firm and is concerned with the process by which scarce resources are allocated to different uses. It starts with the assumption of full employment and deals with the way in which prices and the market mechanism operate to direct resources into the production and distribution of the goods most in demand. Marshall's *Principles* represents the greatest formulation of this theory (7). It has been much elaborated since Marshall's time, but a great deal of the elaboration is to be found, at least in embryo, in Marshall's footnotes.

Certain basic assumptions of this theory are clear. Besides the assumption of full employment, the theory postulates Marshall's representative firm with ownership and control combined in a single owner or partnership. It treats labor as a commodity. And it assumes flexible prices which adjust to equate supply and demand. With these postulates, Marshall purports to show that, in general, prices (including wage rates) will so adjust that price and marginal cost will tend to be approximately equal, resources will tend to be used in the most productive manner, and the rewards to the factors of production will tend to be close to their respective marginal contributions to production. This theory is of great importance today, because a great deal of private and public policy is built upon it, either consciously or unconsciously.

Now I do not wish to raise here the question of whether the conclusions of this theory logically flow from its postulates. The significant question is whether these same conclusions would flow if we postulated, not Marshall's representative firm, but the modern corporation with its vast size and the separation of ownership and control; if we postulated, not labor as a commodity, but labor as a group of human beings; if we postulated, not flexible prices which equate supply and demand, but administered prices under which supply and demand can be different. As far as I know, there is no one who has developed a coherent theory which rests on such modern postulates and develops their implications.

I have not done much work in the field of allocation theory, having been primarily concerned with employment theory, but I can at least lay down some questions which should challenge attention.

Let us consider an economic model in which all economic production is carried on by 400 huge corporations. Let us also say that, at the outset, while each company produces many products, there are only four companies producing each particular commodity and that each has its own particular brands with their own characteristics; that labor, unlike a commodity, has created labor unions, and that wage rates are made by collective bargaining between unions and individual companies; and that the individual companies offer and promote the sales of their products at administered prices which are seldom changed except as quite large changes in costs or demand occur; and finally, that we start with full employment. How would such an economy run?

You will notice that I have excluded price wars by assumption. With only four producers of a commodity and with a considerable degree of product differentiation, competition can express itself in greater advertising expenditures, increased product differentiation, product improvement, and other means which seek to take business away from competitors or to expand the market. But the knowledge that a price cut will be met or surpassed by a competitor will inhibit price cuts, except to adjust to a considerable change in cost or demand.

I would also raise the question whether even a major change in demand would affect price. At a recent meeting of businessmen and economists, the head of one of our big retail and manufacturing enterprises argued that demand had no influence on prices and challenged the economists present to show how an increase in the demand for the products of his company would lead to his charging higher prices. In his thinking, prices were determined by costs and probably, for his particular firm, he was essentially right. Of course, it was easy to suggest that many raw materials have flexible prices which are sensitive to changes in demand and that, when the demand for his products increased, he increased orders and thereby increased the demand for raw materials somewhere back along the line and that this ultimately raised his costs. But, suppose that raw materials were produced only by a few companies and these companies also operated with inflexible, administered prices. Under what conditions would changes in demand have an effect on prices? How large a change in demand would be necessary to trigger a change in price? And what relation could be expected between marginal cost and price?

Then consider the question of profits or rate of return on capital. Traditional theory suggests that, with only four producers and no price wars, the rate of return on captital would tend to be abnormally high in relation, say, to interest rates or to the current costs of capital. Is this in fact true? What would place a roof on excessive earnings? Would strong labor unions prevent too high rates of earnings? Or would labor and capital gang up on the consumer? And if this happened equally for *all* industries, would it make any difference, since the high money prices could be met out of high money incomes? Would competitive advertising and promotion so increase selling costs as to absorb excessive profits, keeping costs and prices in line, not by reducing prices but by increasing costs? Would the threat of new entrants into a given market keep profits in bounds? And if profits were not kept in line, who would benefit from high rates of earnings, stockholders who do not control the enterprise or management that does? Also, would it be possible to maintain full employment in such an economy and avoid inflation?

An even more fundamental question is whether, in our economic model of a few great collectives, resources would be well allocated. Here we have to deal not only with the determinants of relative prices which help to guide the flow of resources into different uses but also with the direction of resources within the great collectives. It is often said that consumers direct the use of resources by what they purchase. Yet how great is consumer choice? If you want to buy a new American car this year you have, as far as I can see, very little real choice. What you are offered is a longer, heavier car with fins. I am reminded of a recent cartoon in which two men are looking down at the rear of a new high-finned car and one says to the other, "You don't like fins and I don't like fins. What would happen to the American economy if nobody liked fins?" In some ways, our big American producers are the most efficient in the world. But if finned cars are a temporary matter and are not really wanted by the people who will have to buy them secondhand, the resale value of finned cars will be low and the reduction will reflect inefficiency in the use of resources which could offset a good deal of efficiency in production. The problem of the allocation of resources through corporate enterprise is both a matter of efficiency in production

and importantly a matter of what is produced. A consumer veto over wasteful use of resources is by no means the same as consumer control over their use.

Here I have raised questions about how allocation in an economy made up of big enterprises could be expected to take place. I could go a lot further in asking specific questions. But what is important here is that the questions are of a sort which cannot be answered by any amount of study of Marshallian theory, including Marshall's footnotes. Clearly a new, coherent body of allocation theory is needed if we are to understand our actual economy and make wise decisions in such matters as antitrust policy, government regulation, and economic planning. Such a new, coherent body of theory would derive many of its parts from older theory. Other pieces for such a theory which cannot be derived from Marshallian theory are already developed or in the process of development. But, as far as I am aware, no coherent theory has been produced which would effectively describe allocation in a model economy of collective capitalism or for our actual economy, which is so largely composed of big collective corporate enterprises.

I could go on into other fields of economic theory and point to other changes in theory required by the factory system and collective capitalism: the inapplicability of the classical mechanism of international trade adjustment, the irrelevance of a wage theory which relates wage rates to the marginal product of labor, and the minor importance of a growth theory which builds on private individual invention. But to go into them would take too much space.

There is, however, one major field of theory which has been added by the development of collective capitalism and which was quite absent from traditional theory—the theory of economic planning.

Need for a Theory of Economic Planning

There has been a great deal of confusion about economic planning—particularly, its relation to dictatorship. This is understandable, since economic planning has been most highly developed in the U.S.S.R. and is directly tied to government operation of industry. But economic planning itself can be an important tool in a democracy. It can facilitate more effective use of resources without dictating those uses.

Consider for a moment our recent transition from a war to a postwar economy. For the first time in a long history of business fluctuations, a postwar depression was avoided. How did it happen that demand and employment were sustained after the war? Partly it was the result of the pent-up demand and fiscal expansion which have always accompanied major wars. But I believe it was partly the result of economic planning (in which the Committee for Economic Development played an important role), as a result of which both government and industry were already prepared to make a quick shift from war to civilian production, and the potential goals of production were set for a full-employment economy. How this was done is a long story, but that it was done and that it did contribute to the prevention of a postwar depression, I am certain.

We find economic planning being encouraged by businessmen in connection with our foreign economic aid. Thus, one well-known business leader recently suggested that, in providing economic aid to the less-developed countries, we should require that any country to be aided should prepare a well-worked-out plan for economic development.

And, of course, we are undertaking a form of economic planning in our governmental agencies concerned with the maintenance of full employment, particularly in the Council of Economic Advisers and the Federal Reserve Board.

We also need to consider the potentials of economic planning in bringing about a better use of resources. I believe that, when an adequate theory of allocation is worked out for collective capitalism, it will show a very considerable degree of indeterminacy in the allocation of resources insofar as purely economic forces are concerned and that, if we are to have a high degree of effectiveness in the use of resources and avoid the pressure for government direction, we must have a clearer picture of what seems likely to constitute effective use of resources as a background against which private, corporate, and government decisions can be made. This would be economic planning without compulsion.

Conclusion

Finally, I want to express my enthusiasm for collective capitalism. I believe that it is, to a major extent, responsible for the high levels of living which we enjoy in this country. I believe that we are still some way from understanding how it really works and what its imperatives are. We have started meeting some of these imperatives in our social security programs, in government action to clear the way for the organization of labor, and in our acceptance of government responsibility for full employment. Our problem now is to understand its operation so well that we can make it provide not only full employment and high productive efficiency but effective use of resources, equitable distribution of income, freedom to the individual to develop his resources, and the continued growth which is a potential of collective capitalism. I do not believe that this can be achieved if we base our policies on economic theories built on the postulates of Marshall's representative firm, flexible prices, and labor treated as a commodity.

As I said at the outset, I believe that our position today is very much like that of the physical scientists 50 years ago when the reality and importance of the quantum had been accepted but was not a postulate of current theories. We need an economic Niels Bohr, a de Broglie, a Heisenberg, and a Dirac to reconstruct or revolutionize economic theory as these men revolutionized physical theory. Such new theory seems to me likely to be quite different from classical theory, because so many of its underlying parts would be new. It would have to take full account of the implications of administered prices, the new status of profits, the concept of countervailing powers. I believe that such a theory would indicate the great economic and social advantages of the great corporate collectives but that it would also bring out the ways in which the economic results fall far short of being satisfactory and suggest ways in which improvement could be made. But, even more important, I believe that it would greatly clarify the character of the responsibilities which the managers of our great collectives have assumed and are only now beginning to be aware of and would provide an improved basis for public policy under our system of collective capitalism.

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