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The Problem with Human Capital Theory—A Marxian Critique

By SAMUEL BOWLES AND HERBERT GINTIS*

Neoclassical economists have long treated labor as a commodity. They have integrated work and the worker into their analytical framework by assuming the labor-wage exchange identical to other exchanges. Because the capitalist system appears to strip the social process of work of its nonexchange characteristics, neoclassical theorists could long rest satisfied with a simple commodity interpretation of labor. And with steadily increasing levels of resources devoted to the preparation of labor, in the form of child rearing, education, health, and training, the shift toward treating the worker more precisely as a capital good seems, at least in hindsight, to have been virtually inevitable.

Human capital theory allows fundamental insights not available to earlier versions of neoclassical economics. First, it returns to and extends the Ricardian and Marxian tradition in treating labor as a produced means of production, whose characteristics depend on the total configuration of economic forces. Second, it rejects the simplistic assumption of homogeneous labor and centers attention on the differentiation of the labor force. Third, it brings basic social institutions (such as schooling and the family), previously relegated to the purely cultural and superstructural spheres, into the realm of economic analysis.

Yet this degree of success is secured at a considerable price: "labor" disap-

pears as a fundamental explanatory category and is absorbed into a concept of capital in no way enriched to handle labor's special character. One gets the uneasy feeling that the operation was successful, but the patient vanished! The only specific attributes which "labor" retains in the human capital formulation derives from the fact, stressed by Alfred Marshall, that labor is embodied in human beings.

Human capital theory is the most recent, and perhaps ultimate, step in the elimination of class as a central economic concept. Beginning with the decline of Ricardian economics in England in the 1830's, non-Marxian economic theory has moved steadily away from attributing control of factors of production to identifiable groups and toward a theory of factor payments which self-consciously abstracts from the specific nature of the productive factors involved. In modern general equilibrium theory one can hardly tell the inputs from the outputs, much less distinguish among any specific inputs. Human capital theory is an expression of this tendency: every worker, the human capital theorists are fond of observing, is now a capitalist.

We find the theory to be substantially misleading both as a framework for empirical research and as a guide to policy. Our critique is not based on some of the commonly recognized shortcomings of the theory; for example, that market imperfections, monopoly and labor unions in particular, drive a wedge between marginal products and wages. Nor will we es-

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pouse the "training robbery" interpretation of schooling. While we recognize that educational credentials perform an important function, we are not ready to reduce the school system's economically relevant activities to screening and labeling; we believe that the evidence strongly supports the view that schooling enhances worker productivity. Nor will we dwell upon the problems which arise because skills are embodied in human beings: incomplete capital markets, imperfect information, and the possible divergence of interest between decision makers (parents) and recipients of the investment (children). Nor will we base our critique on the repugnance some have expressed at the notion of placing a dollar value on human beings. Our critique is, we believe, rather more fundamental.

By restricting its analysis to the interaction of exogenously given individual preferences, raw materials (individual abilities) and alternative production technologies, human capital theory formally excludes the relevance of class and class conflict to the explication of labor market phenomena. However, in our view such basic phenomena as the wage structure, the individual attributes valued on the labor market, and the social relations of the educational process itself can only be accounted for through an explicit class analysis. (A more detailed statement of this argument and the following material, with extensive documentation and references, is presented in our forthcoming book.)

Capitalism is a system in which the means of production are owned and controlled by a small minority. The mass of individuals, cut off from control of productive resources, are forced to sell their labor power to exist. Schooling, occupational training, child rearing, and health care perform dual economic functions: they play an essential, if indirect, role in

production; and they are also essential to the perpetuation of the entire economic and social order. These processes can not be understood without reference to the social requirements for the reproduction from period to period of the capitalist class structure, the individuals who compose it, and the economic institutions that regulate it. Thus, an adequate theory of human resources must comprise both a theory of production and of social reproduction. The theory of human capital offers no theory of reproduction at all and presents a very partial theory of production, one which abstracts from the social relations of production in favor of technical relations. In the remaining sections we will argue that the failure to encompass social relations and to offer a theory of reproduction accounts for the more serious shortcomings of the standard treatments of the demand for human capital by firms, the supply of human capital, and the interpretation of the theory's central analytical concept: the rate of return to human capital.

I. The Demand for Human Capital by Firms

Our critique of human capital theory stems from a Marxian theory of the capitalist firm, one which is quite at odds with the usual neoclassical treatment.

First, we view production as a social as well as technical process. We reject the neoclassical notion of the firm as a black box whose inner workings are of interest, perhaps to the organization theorist, but not to the economist. The firm has socio-political dimensions which the economist may abstract from only at the cost of significant error.

Second, production is always joint production, constituting a transformation of raw materials into products and of workers with given skills and types of consciousness into workers with altered (or

stabilized) skills and consciousness.

Third, labor is not a commodity, but rather an active agent whose efforts on behalf of its own objectives must be channeled, thwarted, or used to generate profits.

Fourth, the structure of wage rates is not exogenous to the firm, but rather one of the instruments used to maximize profits.

In this framework, to treat the labor-wage exchange as a pure market exchange is to abstract from an essential element in the capitalist organization: the power of the capitalist over the worker. Pure exchange relations involve no explicit power relations because the coercive instruments guaranteeing the integrity of the exchange "contract" lie outside the jurisdiction of the exchanging parties. In commodity exchange "What you see is what you get," and failing this, the aggrieved party has significant legal recourse. Not so in the case of the labor exchange which is marked by the absence of a real *quid pro quo*.

We may formalize this argument by introducing Marx's distinction between "labor" and "labor power." Labor power is the capacity of the individual to contribute to the production process in its current technical and organizational form. Thus labor power is a commodity, defined by the worker's physical and mental capacities and skills, behavioral characteristics, and potential impact on the performance of others involved in cooperative production. The labor power of the individual specifies the maximum level of performance evincible from him or her by the capitalist, given current technical and organizational conditions. The market aspect of the relation of worker to capitalist is as follows: the prospective employee agrees to surrender disposition over his or her labor power to the capitalist in return for a wage. The "labor" or actual work supplied by the individual, by contrast,

is not determined in the sphere of exchange relations at all. Labor, which represents the concrete activity engaged in during the production process, depends in an essential way on the social and political structure of the enterprise.

Peak-level performance by workers benefits the capitalist rather than the worker. Actual labor productivity will normally fall short of the maximum possible with the available labor power. However, the value of the (average) product of labor will normally exceed the value of labor power (the wage), giving rise to profits. Profits on a given stock of money capital are thus maximized by exploiting the labor power of each worker to the fullest, that is, by getting as much labor as possible out of each worker. Profits are also enhanced by holding down the value of labor power, the wage. Both objectives are pursued through a judicious choice of workers and a proper specification of the technical, organizational, and political structure of the enterprise. The social organization of production is in large measure a reflection of the capitalists' need for incentive and control mechanisms which will extract labor from workers at the lowest possible wage and prevent the formation of worker coalitions which could oppose their power.

The class nature of the production process follows immediately upon observing that incentive and control mechanisms and the types of potential workers coalitions are dependent on the ownership and control structures of the enterprise. The worker attributes, which are valued by employers and which therefore constitute "human capital," are not limited to technical skills and abstract productive capacities. In particular, such ascriptive attributes as race, sex, age, ethnicity, and formal credentials, often held to be irrelevant in the logic of capitalist production, are used to fragment the work force and

reduce the potential formation of coalitions within the firm. "Modes of self-presentation," to use Erving Goffman's term, such as manner of dress, speech, personal demeanor and life-style, self-concept, and status identity, can serve the same ends, while in addition insuring a relatively undistorted transmission of directives down and information up the ladder of hierarchical authority of the enterprise. Moreover, as Richard C. Edwards has shown, such work-relevant personality traits as resignation to or approval of the structure of control and distribution of rewards in the enterprise, dependability and orientation to authority within this structure, and propensity to respond individually to incentive mechanisms are directly relevant to extracting work from workers.

The allocation of workers to job slots, the structure of jobs available, and the definition of "productive" worker attributes simply cannot be derived, as the human capital theorists would have it, from a market-mediated matching of technically defined skills with technically defined production requirements. Issues of power, and ultimately of class, enter on a rather fundamental level.

II. The Supply of Human Capital

According to human capital theory, individuals exhibiting a particular subjective rate of time preference, and faced with an array of jobs having specified pecuniary and nonpecuniary attractions and requiring certain skills, will embark upon a course of investment in personal development. The supply of human capital is the simple aggregation of these individual choices. The demand for those services which turn raw potentials into developed capacities is derived from the individual demand for human capital. These services, "education" for short, account for the treatment of labor as a

"produced means of production." In this view, the history and current state of education is the product of individual choice constrained, of course, by available educational and production technologies and the total supply of resources. Likewise, an individual's pattern of personal development (in short, how one "turns out") is depicted as the product of one's own or one's family's choices, limited only by one's "abilities," by the available learning technologies, and to a limited extent by one's family resources.

An examination of the dynamics of personal development and of the *U.S.* educational system presents a substantially different and far more complex picture. No doubt education is in part organized to produce worker traits demanded by employers. Indeed we have elsewhere sought to document the proposition that schools produce "better" workers primarily through the structural correspondence of the social relations of education with those of capitalist production, rather than through the content of the academic curriculum. Yet the social organization of schooling can in no way be depicted as the result of an aggregation of individual choices. The history of educational innovation indicates clearly that the social relations of education were rarely a reflection of popular demands, expressed either through the market or the political process. Recent research by Michael Katz, David Tyack, and others reveals that changes in classroom techniques, school finance and control, and other aspects of the organization of schools were more often than not introduced by professional elites against popular resistance.

Moreover, the production of "better workers" cannot be understood simply by reference to how individual worker-skills are related to individual worker-productivities. A highly skilled work force is not necessarily a profitable work force. Thus

the educational system does much more than produce human capital. It segments the work force, forestalls the development of working class consciousness, and legitimates economic inequality by providing an open, objective, and ostensibly meritocratic mechanism for assigning individuals to unequal occupational positions. For example, the use of *IQ* and cognitive performance measures is essential to the legitimating function of schooling. Yet the use of these tests as screening devices in education goes far beyond their objective relevance to job adequacy and probably inhibits the most rational allocation of human resources. This fact is hardly compatible with the individual choice-aggregation approach and suggests that more basic social forces may be at work.

We believe these social forces derive from a basic contradiction in capitalist development: the accumulation of capital, central to the expanded reproduction of the economic system, at the same time undermines the process of reproduction of the capitalist order through the creation of a large, potentially class-conscious body of wage-workers and through dramatic shifts in the class structure. The structure of *U.S.* education, we have argued elsewhere, evolved historically in response to struggles arising from this basic contradiction. Many of these struggles have operated, in true pluralistic fashion, through the relatively uncoordinated "investment" decisions of individuals and groups as mediated by local school boards, the market for private educational services, and other decentralized decision-making arenas.

Yet the accommodation of the educational system to a changing economic reality, however pluralistic, is in essence a process led by the changing structure of production. And the evolution of the structure of production is governed by the pursuit of profit and privilege by those

elements of the capitalist class which dominate the dynamic sectors of the economy. The process of individual choice aggregation, even when it is relevant to educational change, works within economic constraints determined almost entirely outside both the consumer's and the citizen's arena of choice.

Moreover, during critical periods in which basic institutional changes have been undertaken, 1840-60 or 1890-1920, for example, the individual choice model appears to be of dubious relevance to the changing structure and extent of schooling. Rather, an explicit class analysis seems best to explain the process of change and accommodation.

We are led to reject the individual choice model as the basis for a theory of the supply of educational services. The model is not wrong—individuals and families do make choices, and may even make educational choices roughly as described by the human capital theorists. We reject the individual choice framework because it is so superficial as to be virtually irrelevant to the task of understanding why we have the kind of schools and the amount of schooling that we do. It is no more able to shed light on why we "turn out" the way we do. The history of *U.S.* education or the process of individual development could probably be described in terms of functions measuring the returns to human capital and cost of capital. But what would be gained by this? The human capital approach, because it rigidly eschews class concepts, cannot offer a compelling explanation of the location of these functions or why they shift as they do, and thus cannot provide a useful theory of the supply of educational services.

We would like to offer two additional criticisms. First, economically relevant skills are not unidimensional; they cannot be aggregated into a single measure of which some individuals will have more

and others less. Even in a purely formal sense, the reduction of heterogenous labor to a single "human capital" measure presents serious problems in a general equilibrium framework. Quite apart from formal problems, it is virtually impossible to make sense of the economics of human development in the United States using a model which fails to recognize that families and schools teach different things to different people—not simply more or less. The graded and cumulative academic curriculum gives the appearance of a definite hierarchy of achievement. But even in the cognitive realm we suspect that different types of learning are readily identifiable; rote-learning for some, problem-solving for others, for example. And in the non-cognitive aspects of learning—the so-called hidden curriculum—different dimensions of learning are consciously either offered or imposed on children. E. B. Leacock, Jeanne Binstock, and others have shown that these differing learning contexts are closely associated with the racial, sexual, and class characteristics of the student body. Similarly, Melvin Kohn has demonstrated among families a dramatic correspondence between the objectives of child rearing and the social relations of production which confront the primary wage earner in the family.

Our second point relates to the schizophrenic usage of the word capital. The justification for the expression "human capital" is the fact that skills, like other assets, constitute a claim on future income. This usage is thoroughly in the neo-classical tradition. In the earlier, classical tradition the concept capital encompassed and unified two distinct aspects: the claim on future income and the ownership and control over the means of production. Except to the very limited extent that learning allows one to go into production on one's own, education cannot be called

capital in the classical sense. Unless one accepts John Kenneth Galbraith's view of the hegemony of the technostructure (an unlikely orientation for the human capital school!), it must be admitted that educated workers do not control, much less own, the means of production. Yet it is precisely this latter, classical sense of the word capital which provides the ideological impact to the statement that every worker is now a capitalist.

III. The Returns to Schooling

Why is there a positive net return to human resource investment? What explains the pattern of rates of return? The human capital analyst, equipped with nothing more than a black box theory of both the firm and the school, is forced to offer explanations which are either superficial (supply and demand) or misleading (the interaction of tastes, technologies, and abilities). To the extent that any more specific explanations are suggested—for example, that schooling increases worker productivity through increasing individuals' cognitive capacities, and that learning abilities differ—the theory, as we have demonstrated elsewhere, is substantially incorrect. Nor are these questions unimportant. Indeed, the interpretation of the rate of return to human capital hinges upon the answer.

Our alternative theory of human resources, sketched briefly in the previous two sections, suggests the following answer to the first question, addressed specifically to the case of schooling. In the class model of the firm sketched above, the wage may under some conditions reflect marginal revenue product. But schooling will raise marginal revenue products in a variety of ways. First, investment in education may increase the labor power of the individual, either through increasing skills and productive capacities, or through supplying credentials which enhance supervisory

authority. Second, schooling may increase the ease with which the employer can extract labor from a worker with given labor power by generating or selecting individual motivational patterns more compatible with the class-based power structure and incentive mechanisms of the enterprise. Third, the educated worker may be more valuable through his or her overall impact on the size of the wage bill, in that the segmentation of workers by income and status characteristics inhibits the formation of coalitions of workers capable of countering the power of the capitalist.

We may add that, because of the essential role of education in reproducing the capitalist order as a whole, the capitalist class has an interest in schooling which transcends any narrow calculation of marginal revenue products at the enterprise level. Because the capitalist class pursues its long-run interests through the state, and in important measure through its influence on educational policy, the structure of rates of return to education will reflect the often contradictory requirements of capitalist production and the reproduction of the class structure. It follows immediately that there is no reason at all to expect equality in rates of return, either among different types of schooling or between schooling and other forms of investment.

Even confining attention to the individual capitalist enterprise and thereby abstracting from class collusion by capitalists, our interpretation suggests a structure of rates of return which roughly corresponds to the observed pattern. The economic return to schooling and to age is in large part a return to a characteristic which allows the legitimate and effective exercise of authority over other workers. Black and female workers, who are by and large excluded from exercising authority over any but workers of their own sex and

race, are likely for this reason to earn lower returns to schooling. Moreover, less well educated workers are, for the same reason, unlikely to gain a high return to aging; and analogously, younger workers even if white and male generally must await the arrival of a few gray hairs before enjoying any substantial return to schooling. This interpretation based on the need of the capitalist to legitimate and reproduce the power structure of the firm provides, we believe, a far more compelling explanation of the actual pattern of rates of return than does the human capital theory. The distinctly *ad hoc* and not particularly compelling attempts by human capital theorists to explain the observed pattern of rates of return is to our minds symptomatic of the limitation of the entire approach.

IV. Implications and Conclusions

Our critique of human capital theory completed, if in abbreviated form, it remains only to draw out some of the implications. We will concentrate on three major areas of application of the theory: growth accounting, distribution, and public policy.

The human capital approach to economic growth exhibits the weaknesses of the theory in a particularly straightforward manner: all factors may "contribute to growth," and barring certain technical problems, these contributions can be numerically ascertained and summed. The task of human capital researchers is thus to determine the precise contribution of investment in human resources. Even were such imputation and aggregation abstractly possible (which the now well-developed Cambridge capital critique would maintain is not), it leaves the basic questions unstated, much less answered. For we must ask not only how variations in the level of investment affect the level of output and growth rates, but also how

the structure of human capital formation affects the social relations of production and the evolution of class relations. In our formulation, schooling may influence the rate of growth positively or negatively in ways which go considerably beyond the human capital theorist's notion of "labor quality": through its role in the extension and reproduction of the wage-labor system, through its capacity to attenuate class conflict and thereby to alter the rate of capital accumulation, and so on. Indeed, given that a more productive and less irrational alternative to capitalism exists, and given the role of education in reproducing the capitalist order, the contribution of schooling to growth over the last half century may on balance have been negative.

A similar narrowness is exhibited in the human capital approach to the distribution of income. Family income is the sum of returns to the various factors "owned" by the family. Thus, a measure of inequality in family income can be decomposed into dispersions in the returns to the ownership of factors and their covariances. The contribution of changes in factor endowments, say through educational equalization, to changes in the distribution of income can then be calculated. The methodological weaknesses of this approach are considerable.

First, in the human capital formulation the distribution of income is determined solely by conditions of labor supply; demand conditions are considered in a highly abstract and unenlightening manner. Macroeconomic considerations, market structure, technical change, economic dualism, and other presumably central aspects of the distribution problem are ignored. More serious, perhaps, is the naive assumption that descriptive regularities possess explanatory power. It is likely that basic regularities in the distribution of income are not directly related to human

resource differences but are structural characteristics of the capitalist economy, affected by the relative power of various classes, races, sexes, and other groups. Human resource differences facilitate the assignments of individuals to places in an array of economic positions whose income structure is determined in large measure independently of the distribution of human resources.

The relationship between schooling and the distribution of income cannot be understood with a model which lacks a theory of reproduction, for a central aspect of this relationship is the role played by the school system in legitimating economic inequality. Thus, it is illogical to suppose that the reduction in inequalities in the distribution of schooling might lead to changes in income inequality in any particular direction. Major changes in the distribution of human resources will predictably be associated with changes in the structural relationships (earnings functions) relating schooling to individual income. Indeed, an equalization of education might radically reduce economic inequality, not directly, but rather by undermining the legitimacy of inequality and thus enhancing the potential for a thoroughgoing reorganization of economic institutions based on conscious class struggles or other political conflicts.

Finally, the contribution of human capital theory, through public expenditure analysis, to a balanced social policy is minimal if not actually perverse. The human capital approach, particularly when applied to schooling, embraces one of the many well-known shortcomings of public expenditure analysis: the assumption of exogenously determined individual preferences is essential to neo-classical cost/benefit analysis, yet the educational system is a prime example of an institution geared toward the alteration of preferences themselves. Given that

economic returns to education are functionally related to its impact on other welfare-relevant aspects of the individual (personality, consciousness, self-concept, and interpersonal behavior), the traditional defense of cost/benefit analysis—the rigid separation of “economic” and “non-economic” welfare—bears little logical cogency.

Again, the error in the human capital approach lies in its partial view of production and its abstraction from social reproduction. For example, the repressive nature of schooling, hardly a contribution to human welfare, is an integral part of the production of a disciplined work force and is directly related to the social relations of production. Likewise, the perpetuation of sexism, racism, and elitism in our schools would not be said to be welfare-conducive or even welfare-neutral by most human capital theorists. Yet these aspects of schooling play an essential role in the reproduction of the capitalist order, a role inseparable from the capacity of schools to produce “good” workers. By abstracting from the social relations of production and the role of schooling in the reproduction of capitalism, human capital theorists have put forth a one-dimensional normative framework for the analysis of educational decisions which has no reasonable relationship to human welfare.

The theory of human capital, like the rest of neoclassical economics, ultimately

locates the sources of human happiness and misery in an interaction of human nature (preferences and “abilities”) with nature itself (technologies and resources). This framework provides an elegant apology for almost any pattern of oppression or inequality (under capitalism, state socialism, or whatever), for it ultimately attributes social or personal ills either to the shortcomings of individuals or the unavoidable technical requisites of production. It provides, in short, a good ideology for the defense of the status quo. But it is a poor science for understanding either the workings of the capitalist economy or the way towards an economic order more conducive to human happiness.

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