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A MODEL OF THE ENDOWMENT OF HUMAN WEALTH

OR

LET'S LOOK AT SOCIAL POLICY THROUGH THE
EYES OF THE TWENTY-FIRST CENTURY'S ADULTS

Harold W. Watts



UNIVERSITY OF WISCONSIN - MADISON

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A MODEL OF THE ENDOWMENT OF HUMAN WEALTH

ABSTRACT

This essay argues the need for greater analytical attention to the process by which human wealth is formed and transmitted between generations and provides a framework within which that process may be studied. Economic and social inequalities, particularly for the poor, have major roots in the distribution of human wealth. In order to reduce those inequalities more knowledge must be gained about how successive generations are "endowed" with human wealth. The theoretical framework can accommodate a substantial amount of recent work in household economic and demographic behavior.

A MODEL OF THE ENDOWMENT OF HUMAN WEALTH

OR

Let's Look at Social Policy Through the Eyes of the Twenty-first Century's Adults

The fundamental fact about society as a going concern is that it is made up of individuals who are born and die and give place to others; and the fundamental fact about modern civilization is that it is dependent upon the utilization of three great accumulating funds of inheritance from the past, material goods and appliances, knowledge and skill, and morale. Besides the torch of life itself, the material wealth of the world, a technological system of vast and increasing intricacy and the habituations which fit men for social life must in some manner be carried forward to new individuals born devoid of all things as older individuals pass out.

--Frank H. Knight¹

Introduction

The essay that follows represents an attempt to provide a framework for understanding an important part of the process that gives continuity and sometimes progress to a society. It is a framework that may unify or at least envelop a number of concepts and submodels that have developed in the microeconomics of the household during the past decade, and perhaps give some guidance about where future analysis would be especially fruitful.

But there is another motivation behind this attempt at system building. One important aspect of our social policies, active or passive, lies in their effect on children--on how they grow and develop into future adults and parents of succeeding generations. While the

¹Knight, Frank H., 1921, Risk Uncertainty and Profit (Houghton Mifflin, Boston), p. 375.

primitive notion that there is something uniquely important about children and their development has a clear and generally acknowledged validity, no comparable framework of analysis elucidates or demonstrates that importance. It is not difficult for an orator to incite emotional assent to the proposition that our children are our only social legacy, and few legislators are able to resist supporting programs (however symbolic and unproved) that promise to brighten the lives of deprived children. But when we, as economists, come to analyze existing or proposed policies, we do not have a theory that explicitly distinguishes children from "people in general" or that yields an explanation of why children and the process of their nurture and rearing may deserve the rapt attention of orators and political representatives. This essay will indicate a possible approach to the development of such a theory, and thereby provide a more coherent analytical structure for considering current issues of policy.

I have become convinced that children do form a useful category of humanity for economic analysis or public policy, and the main burden of this essay is to pass to pass that conviction on. The critical link is the concept of human wealth--that cornerstone of permanent income theory that has already done so much to revitalize our thinking about the dynamic behavior of households. Clearly, childhood is when a great deal of capital formation is happening. I interpret experts in child development as saying that some kinds of human capital can only be acquired in childhood and that some part is analogous to the "infrastructure" kinds of physical capital that are required if subsequent investment is to be fruitful. Hence policies toward children are, from an economic point of view, the

primary instruments by which the endowment of human capital to successive cohorts of adults can be altered. The variety and malleability and inequality of that capital endowment as distributed to individuals is, in turn, an important component of both the potential productivity of a cohort and its contribution to future social and political stress.

It is perhaps useful to recognize that present groups of "children" (0-18 years) will be aged 25-43 at the close of the twentieth century. Our present college students mostly will have found their level of mediocrity and will be striving to consolidate it, while they pay for educating their children. The vital and innovative cohorts as we enter the twenty-first century are now on our laps and in our schools. How, we might ask, will they view their legacy of human capital, again in terms of variety, malleability, and inequality? Will they wish that less human potential had been wasted, will their social policies be preoccupied with immense disparities in earning capacities, will they find themselves vulnerable to skill obsolescence or "structural" unemployment, and so forth?

A part of what I want to urge is that this process of working backward from a desirable end point or steady state can give us useful guidance for present-day policies. The possibility of such insights is hardly in question, and the techniques of dynamic programming give some hope that explicitly stated problems can be solved. But my present objective is much more modest than the explicit calculation of an efficient subspace. I want to assert and explore the proposition that an appropriate economic specification of the problem of choice among policies toward children should focus on how alternative policies

affect the endowment of wealth in a cohort of children and on how that endowment--with all the potential and problems it contains--promotes or hinders that cohort's individual and collective efforts to achieve societal goals.

There are many issues of policy facing our society that have a relatively direct impact on children and many others that are indirect but no less powerful. We have allocated resources to compensatory education, but we do not have a satisfactory basis for judging whether such policies should be abandoned or intensified. How higher education should be financed is another live issue, and the confusing area of day care and preschool education is moving toward some sort of (probably) massive public involvement. These are among the policies that have an immediate effect on children. We must consider the grand macroissues as well, since the effects of unemployment and diminished purchasing power do not fall equally on childless and childed families, nor even on the parents of young versus older children. Because of these factors, the chances for full development of many children may be diminished well beyond our ability to compensate. Likewise, other conditions of employment--hours, occupational hazards, and compulsory relocation--may be unnecessarily harmful to parental effectiveness.

In sum, this essay is an attempt to outline an improved theoretical framework that can provide a crucial and dynamic perspective on the role and possible effects of alternative programs, and that can at the same time encourage more efficient inquiry into human behavior and the effects of alternative institutions and policies.

Parts of the Model that Now Exist

As already mentioned, the basic concept is human wealth--a concept that has been thoroughly introduced. I will here recognize a difference between human wealth, which is a value aggregate, and human capital, which is the real "commodity" and may take a variety of forms and dimensions. The price of types of human capital may change, causing a change in wealth without a corresponding change in those human capacities that we think of as capital. For the most part I will be considering issues of investment in capital--building capacities out of potentials--without reference to the aggregate of wealth or the prices that define it. But expectations about those prices do condition the choices considered later, and the eventually realized "wages" are the ultimate arguments of the social welfare function.

The development in recent years of a "New Home Economics," as named by Nerlove, has produced a large amount of theoretical and empirical work that is directly relevant to the concerns of this essay. This line of inquiry has been the subject of three National Bureau of Economic Research conferences and is, at this point, a very significant fraction of ongoing economic research and publication. A central concept in this work is the value of human time--a variable that affects and is affected by fertility choices and that is also central to most household production, labor supply, and consumption choices. The relation of time value to human wealth should be clear--it is simply the flow that corresponds to that wealth stock. When we observe behavior that implies that the value of time has increased, we should infer that human wealth has increased by a similar proportion.

It would not be far-fetched to propose that the value of time is a welfare indicator of a more relevant and meaningful sort than is, say, per capita GNP or consumption of market goods. The value of time is not dependent upon how the time is allocated to market and non-market uses. Subject to the qualification of involuntary unemployment, the value of time gives a better notion of the range of choices available than does realized income.

We already have a well-developed set of measures and arguments about how the income distribution might enter a social welfare function. What we do not have is a very happy definition of the concept of income we would like to measure and argue about. The framework developed here will suggest strongly that the distribution of human wealth or the value of time among individuals at the point of achieving emancipated adulthood--22-25 years, say--should be a major focus of policy, along with the monitoring of how that distribution is changed by unforeseen price or policy changes as the cohort becomes older. We should not be so concerned with the outcomes of voluntary choices about how time of a given value is utilized except where those choices prejudice the full development of the time value of someone in a succeeding generation.

A further point and possible conflict having to do with aggregate wealth and the output flow it produces ought to be noted here. Most people would favor policies that promote "full" development of the potential capacities of children--few favor deliberate stunting or maiming. Such development, of course, increases individual and aggregate real human wealth in the sense that individuals become capable of performing more and/or more valuable services. Assuming

that people will want to exercise at least part of their increment of productive potential, and that we want to provide employment for all who desire it, we must expect to observe economic growth--in terms of both potential and realized output. Those who propose a no-growth society should carefully consider whether they want to depress either the development of human capacities or the freedom to utilize those capacities once acquired.

What are the Determinants of an Individual's Human Wealth?

As a first step in developing the theory, it may be useful to list and categorize the influences that bear upon the amount and value of human capital an individual brings into adulthood. Frank Knight characterized the process as "a world where individuals are born naked, destitute, helpless, ignorant and untrained, and must spend a third of their lives acquiring the prerequisites of a free contractual existence." Let us consider further what determines the outcome of that "gestation period."

To begin with, we must recognize some biological inheritance and immediately admit that we know very little about how or even whether genetic factors enter the process of acquiring the learned responses we associate with human capital. Certainly there is some genetic determination of purely physical attributes (and no small amount of environmental influence as well) that affects human capital (height, lung capacity, and so forth). It is certainly possible that some cognitive capacities and affectional dispositions are similarly innate. But there are no direct measures for these at birth, and their reflection

in measurable behavior, which is inevitably learned by interaction with an environment, remains quite ambiguous. There can be no ambiguity, however, about the importance of environment in the development in children of human capacities. The fact that I am quite unemployable as a TV repairman has very little to do with the genes I inherited but a great deal to do with the history, including chance elements, of my growing up and formal education. We cannot know, and surely will never experience, how much inequality of human capital of various kinds would exist if environmental factors were absolutely constant. But given the unquestionable leverage of environmental influences, there is not much operational significance in the question to begin with. Similarly we have no reason to think that any constant or variable innate capacity limits have been reached by our halting gropes toward optimal human development, and there is always the possibility of completely unexplored human potential awaiting eventual discovery and exploitation.

But let us reserve the possibility, some would say likelihood, that there is a substantial genetic influence on an individual's potential for development of various capacities, and let us turn to the environmental influences, for which we have both evidence of potency and a better chance of purposeful change. Most of the early influence comes via the family--involving parents or surrogate parents. This nurture is an intensively private and individual activity. The child-rearing household can be thought of as a productive organization capable of producing the goods and services--shelter; nutrition; security; physical, psychic, and intellectual interaction and stimulation; and so forth--that serve as inputs to a child's development. The human wealth of the parents or other adult members of a child's

family is an important determinant of the quantity and quality of nurture that the child will receive. Clearly, two parents well endowed with human capital will be able to provide ample material inputs without using up all of their time and energy and with enough time and energy left over to provide the direct labor and affection input required to nourish, stimulate, and protect a developing child. One parent, or two with low human wealth, will find it much more difficult to provide a satisfactory level of nurturing services.

Household technology is also an important influence on the amount and kind of nurturing a household is able to provide. This applies both to "hard-goods" technology such as appliances, textile innovations, and convenience foods, and to the softer technology of know-how and technique in the production of the services needed by developing children, or in the judicious use of outside services available for either routine or emergency use.

From the testimony of psychologists and others specializing in child development it appears that a great deal of a child's future personality and approach to learning are determined in the earliest years of childhood. Certainly those are the years when an enormous range of responses and behaviors are learned, and the predominant influence comes from the parent or parents and the human and material elements of the immediate family setting. Even during later years when schooling takes up part of the day for part of the week for part of the year, a great deal of the "input," whether it be food for thought or for the belly, still originates in the family and parental circle.

To these considerations we should add the evidence from the Coleman Report that family background is a more important determinant of variation in school achievement than are the quantity and quality of school inputs. We could also note that attempts to secure durable changes in cognitive achievement among children who are "behind" their peers have been successful mainly where some modification has been made in the amount or quality of a child's stimulation in the home and/or from his parents. A relatively conventional conclusion is suggested--namely that influences originating in the family, and especially in the child's interaction with parents, are tremendously important in a child's development.

It should be explicitly noted that a suspicion about where a large amount of the capital formation happens is a long way from knowledge of just how it happens and what can be done either by parents or by legislation to affect the detailed outcomes. We may be able to use weak average correlations to suggest that where greater amounts of input (parental time, material goods, qualitative factors) are available the children develop greater amounts and/or varieties of capabilities and hence end up with greater human wealth. I would argue that "weak" results of this sort are about the most we can hope for and that much further study and analysis^{is} needed to establish quantitative reliability even for such aggregate tendencies. More detailed causal models providing foolproof blueprints for producing standard or "customized" adults seem so far beyond the reach of our understanding that the problem of what to do with such power is not worth much discussion. We can nevertheless recognize family and parental influence as being the source of much variation not amenable

to further explanation and an additional portion due to parental response to influences that can be manipulated exogenously.

Moving outside the family-household sphere, but not too far outside, the child encounters the immediate neighborhood and community (if any). A number of important influences derive from that setting. Other people, and especially other children, are met mainly in one's neighborhood, and the perceived "suitability" of those persons is probably the main criterion for a parent in judging the quality of a neighborhood. There are also institutions--especially schools, but also libraries, day care facilities, clinics, churches, and so forth--that are present in greater or lesser density and together form an important part of the influences absorbed by a child and determine the availability of services that the child's parent may require in the provision of nurture. This is where encounters with organized society begin and where the survival value of skills and procedures learned at home can be tested and perfected.

The schools, as part of the neighborhood influence, need little emphasis as important inputs into the development of a child's human capital. The question may be whether schools should be treated as a separate major category. The answer is that schools, because they exist solely for the purpose of doing something with or to children, are most often overemphasized. The knowledge and skills that the schools are somewhat specialized in providing are very important as components of human capital and are in some part crucial to further development of some kinds of capabilities. But it is too easy to overlook the many things that are being learned and the amount of coincidental experience that comes outside the school during the years.

of compulsory attendance. Both the home and the wider neighborhood make large inputs to a child's development, and these surely interact in complex ways with experiences at school.

As for understanding of the causal process involving these neighborhood influences, we are at least as uncertain about the specifications of optimality as we are about the family inputs. Some neighborhoods are simply physically dangerous, others may be too stimulating for some children, and still others may be so bland and homogeneous that understimulation is a problem. We are probably able to place some lower bounds or identify some generally harmful conditions, but beyond that we must again recognize individual variations in both children and parents in their interaction with a given neighborhood environment. But we must insist that the richness and variety of intellectual, physical, and emotional stimulation offered by the community is a substantial influence on a child's development, and we must also protest against the supposition that such activities are monopolized by the schools.

A final category of influences must be mentioned, involving a somewhat broader ecology than the neighborhood. One can think of society as a whole, or the state, nation, or world, but it is perhaps more fruitful to consider how these broader contexts are conveyed to the child.

Consider instead communication, transportation, and mobility as the more immediate sources of influence. Clearly television has had a substantial effect on how children spend their time and no doubt on their conception of the world outside their home and community. As for an assessment of television's impact on the

development of human capital, there is not much conclusive evidence to date. The usual situation holds of being able to agree on a few features of television that are "bad" or "harmful" and, for the rest, falling back on individual variation in the absence of any clear criterion of optimality.

Of course, the other mass media also share in bringing a wider range of experience to children, and it may be correct to include the recording industry here along with written and broadcast messages.

The ease of transportation and the fact of geographic mobility of families affect the likelihood that a child will directly experience different environments or, at the very least, will encounter age peers who have originated somewhere else. This is another way in which information and broadened competence, both of which augment the fund of human capital, can be imparted.

To review, we have enumerated the sources of influences that affect a child's development of the capacities we term human capital. Starting with a biologically given bundle of potentials for development, the parents and family are seen as the prime source of the nurturing goods and services and probably the major source of variation in the final result. The neighborhood and community become more important for children as they become older and begin to interact with a wider society of age peers and others in schools and less organized settings. Finally, television and other media augment personal or "eyewitness" sources of information and experience about the world beyond the immediate family and neighborhood (the reliability of the image of the world is not being considered here).

What Are the Basic Mechanisms in the Process of Building Human Capital?

In the discussion of influences the primary inputs to human capital formation have been mentioned implicitly if not explicitly. Now it is time to consider how inputs are allocated and what the potentials and limitations are of various policy approaches for changing the level and/or distribution of human capital. This is approached by reviewing first the critical choices that are made privately, usually within a family and constrained by prices and incomes. This is followed by a discussion of general areas of public choices that either affect child development directly or operate through incomes, prices, and so forth on family and parental decisions.

Our society leaves in the hands of the parents a great many of the detailed choices that are relevant to a child's development. Indeed, the choice of whether a child will be conceived (and increasingly, if conceived, whether born) is essentially a private choice. Hence, if we regard the gross additions to a social human wealth aggregate as a function of the quantity and quality of the annual cohort of new adults, we see that the cumulative decisions of their parents over the previous 20-25 years comprise a very large part of the "causal" influence on that gross investment.

Our economic models of household behavior, including the "New Home Economics," generally analyze parental choices as current consumption--which may be appropriate from the parents' point of view--rather than as a wealth transfer, which would be a more appropriate category from the viewpoint of the "developed" child entering his/her own adulthood. Whether that future wealth status of the child is fully

internalized as a source of present satisfaction for the parents is an open question. But regardless of the characterization of the motivations of parents--selfish, hedonistic, altruistic, sacrificing--they have the authority and responsibility for allocating resources within the family between functions that accumulate the elements of human capital in their children and other possible uses. It may be useful to consider some of the major parental choices that seem likely to affect the child's development.

The decision to become a parent (and how many times and at what intervals) is one of the most basic choices. While the degree of control of fertility on the part of individuals may have been subject to qualification and debate in past decades, there is no longer much question that the means for such control are quite generally available, and the knowledge and disposition required for their use are spreading rapidly as well.

A great deal of analytical talent has been devoted to the study of human fertility by economists and demographers, and some promising hypotheses and models are available. But the interest in such models for our purposes lies in their use to determine important aspects of the environment in which a given child develops. Clearly the relationship between income and birth probabilities affects how many children are born into families with scanty material resources and how many into relative abundance. Again, holding constant the earning rate of the parents, the number and spacing of siblings directly affects how many shares must be made from available resources at various times during childhood.

The number and spacing of children in a family also has a great deal to do with the sharing of human services within the family. In larger families the time, effort, patience, and affection of a mother and/or father simply have to be spread over a larger number of children. At the same time, the interactions among siblings and the possible substitution of sibling services for parent services suggest that the relation of fertility rates to the availability of inputs for child development is a bit more complex than simple division of a fixed pie among available mouths.

Another decision of parents is crucial to at least the nature, if not the outcome, of the child-rearing process. This is how parents deploy their time in outside activities for purposes of earning income. The "classical" nuclear family in which the father specializes in work outside the home and the mother specializes in work inside the home can no longer be regarded as a norm, but it is still quite prevalent and is useful as a point of departure because speculative thinking about families usually presumes that model. The most common variation is for the mother to engage in outside employment--usually as a "secondary" earner. Clearly this departure from the stereotype is a matter of degree depending on whether the mother works full- or part-time and all or part of the typical year. But it is becoming more and more common for mothers, especially in small families, to work at some time during their child's developing years, although it is still relatively uncommon while the children are infants, or when there are many children.

The other major departure is the single-parent family. There is no possible division of labor within such families; the solitary

parent usually must choose between some sort of dependency (welfare) status that allows full-time parenting and independence achieved through outside employment in combination with most of the burdens of parenthood. Of course, for many single mothers the choice is severely constrained by limited earning capacity and/or opportunity.

In either case, the departures from the cozy stereotype may involve some need for alternate caretakers for children on a regular basis. This need is met in a variety of ways: intrafamily arrangements using older children and spouses; extended family members enlisted as sitters, hired nannies; day care homes, or organized day care centers. From the point of view of the child's development, this involvement of nonparents is a significant departure from the pattern we associate with the "Dick and Jane" stereotype.

While this choice of in-home versus out-of-home activities is most salient for mothers at the present time, movements toward sexual equality may come to involve more fathers in the same allocational process. But in any case, the issue of quantity and quality of the direct human service input to a child's development is related to the choices parents make about their own time. It should not be assumed that there is any simple conclusion about whether more or less personal parenting is "good" for children. Surely there is a great deal of individual variation in parental ability and disposition, and we should always expect a wider choice, exercised with judgment, to lead to a happier, if not a "better," result.

Still, another area of decision making appears critical from a number of points of view--the choice of residential location. A large number of services are not distributed uniformly, and certainly the

nature of the physical environment is location-specific, and hence the choice of location is a determinant of a lot of other influences on a child's development. As mentioned above with regard to neighborhood influences, we can feel reasonably confident that some environments are generally "bad" ones for childrearing--no positive features of lead paint and cockroach infestations have been proposed. Fewer people now than in the past are inclined to promote without qualification the benefits of a rural setting. Certainly, a reasonable preparation for adulthood in the urban setting, which will be the destiny of most children, ought to include something besides vocational agriculture. There is, of course, plenty of room for individual differences, since there are lots of locations and lots of children.

This leads into yet another area of choice, one which to some extent subsumes all of the others--that of "style" of upbringing. There is no one-dimensional measure of "style," of course. But there is some sense in which the tradition expressed in the parents' own upbringing is modified, adapted, or departed from in the pattern adopted for their own children. In part these elements of style or strategy are expressed in the choices about becoming a parent, decisions to work, where to live, and so forth. But even within family size, type, and location categories, there will remain substantial variation in the way in which parents interact with children and prepare them for eventual adulthood.

The existence of substantial amounts of variation in the way children are raised might itself be interpreted as evidence against any simple prescription for optimal child development. It should suggest that there are a lot of ways to "succeed" both in the sense of

many ways to secure a given goal and in the sense of a great many possible goals. Put another way, the production function and the output set are both extremely complex. We must recognize this complexity and appreciate how preferences, talents, and opportunities may interact in a given parental choice process that yields one or several new entrants in upcoming cohorts of new adults.

Much has been said here about the choices made by parent households that bear on the development of children. So far we have not considered the constraints on the choices. There are first of all the conventional constraints of an economic nature--the choices available to a poor parent are simply more restricted. The disparities among children in terms of the income available to their parents is very wide indeed, and a much larger fraction of all children are below the poverty threshold than is the case for non-aged adults (currently 14 percent versus 8 percent). Certainly the overall resource constraint is the most pressing one for most parents, but there are other constraints that should be noted. One has to do with unequal availability of services--some areas are doctor-poor even for those who can afford doctors. Similar situations have been claimed for child care services. Lack of information and/or uncertainty probably restricts further the choices perceived by parents.

Public Choices

By contrast, the choices available to shapers of social policy for affecting human wealth formation seem relatively weak and indirect. There is very little that public policy can do directly with the very young child so long as the basic autonomy and dominance of the parents

and the family is maintained. The primary exception is, of course, compulsory education for children between age 6 and age 16 (usually). Here services are provided directly and (largely) free of charge. Children are required to accept the services or secure a certified equivalent at added expense. No doubt the compulsory feature could be extended to other services or ages, but there does not seem to be much enthusiasm for such an extension.

But public choices also include direct provision of goods or services on a noncompulsory basis. Kindergarten and the final years of high school are two examples. Health services are generally not compulsory (except for some immunizations); this is an area of increasing collective activity. There is also a wide variety of social services that can be and, in various places and times, are being provided free of charge or on some means-tested fee schedule.

Short of full subsidization, it is possible to change the effective relative prices of goods or services by partial subsidies. It is possible to view food stamps in this way--a reduction in the relative price of one important category of goods, aimed at improving nutrition. In the case of food stamps the degree of subsidization or price reduction is also graduated by income. However, where food stamps are not available in freely variable quantities, their effect is more like a simple income subsidy combined with a side condition of minimal food purchase.

Direct income subsidies have been available for children for many years via a number of public programs. Much of the early activity concerned the child deprived of a male breadwinner by death, divorce, or abandonment. So far legislators have shown decided reluctance to

subsidize intact families with an employed breadwinner. Unemployment and in some cases underemployment of a father has recently become an acceptable basis for subsidizing children in low-income families, and the Food Stamp Program--regarded as an income subsidy--is conditioned only on income and allows low-wage intact families to benefit. Of course, the provisions of the personal income tax grant an exemption for children--one that is most valuable for high-income taxpayers--and also allow deduction of child care expenses for low- and middle-income parents where these are costs of earning income. Finally, the medical expenses of children (as well as those of adults) may be deductible if they are a large fraction of income. These items are some of the provisions that accomplish income redistribution both from the rich to the poorer and from the childless to the childed family units. In both dimensions this is one of the most important and pervasive ways public choices affect child development. Besides the provision of free or subsidized services and the redistributive activities, public policies in the form of family law (marriage, divorce, adoption); regulations concerned with employment conditions (including government's role as a major employer); and regulation of broadcasters, drug manufacturers, and so forth form yet another category of policies that use the coercive powers of the state to prohibit or promote activities which may have a bearing on children. In the spirit of general equilibrium, all policies, of course, must have some impact, but it is possible to rank some as of greater apparent importance in changing the conditions in which children grow up--in their families, in their neighborhoods, and in their contacts with the broader reaches of

society. Clearly we must look beyond those programs that have "Child" somewhere in their title.

Elements of the Model

It may be useful to regard the child as a repository for accumulating elements of human capital, which are produced by inputs of goods and services according to some "accumulation function." Choices are made as to input mixes and output goals by parents in the early years, with a growing participation by the child as it grows toward adult autonomy. But the choices are made in the context of resource constraints that vary across households and depend on existing price structures. Public policy can affect the choices by changing the distribution of disposable resources, through tax and transfer policies, by changing relative prices of "merit" goods with subsidies, and by directly providing goods and services to families with children, with or without compulsion.

A child's "accumulation function" can be specified more precisely as determining the change in a vector of stocks of various forms of human capital depending both on the current levels of such stocks and on the current flows of capital-building services. Realism might urge allowing also for accidental injury or vicious practices that diminish capital stocks.

The next element needed could be termed a service supply function. It would yield the flows of capital-building services as functions of predetermined family variables and relevant policy parameters we shall regard as exogenous. These flow equations should be regarded as

reduced form relations that subsume the household's production function for services of all kinds; the constraints that come from adult human wealth employment opportunities; public tax, transfer, and subsidy policies; the public's more direct provision of educational and other services; and all of the above interacting with the preferences of the parent(s) who makes the allocational choices.

Now assuming that the two aforementioned sets of relationships can be specified and even estimated, we would have a means of linking individual capital accumulation patterns to parental characteristics, including their human wealth, and to public policy parameters. One obvious question to be considered at this point is the stability properties of the human wealth distribution. Are the transmission-of-wealth elasticities so large that, unless diluted by public policies, better-endowed parents would provide an even greater relative advantage, on average, to their offspring? Similarly, would the poorest be constrained (or inclined) to leave their children even less well equipped to earn a share of society's total product? While an unstable system would provide a uniquely compelling rationale for intervention in the human capital investment process, a stable system need not move toward a satisfactory level of capital investment or toward a degree of inequality in human wealth that is acceptable on ethical or aesthetic grounds. Again intervention can be justified.

Within the relations determining the supply of human capital investment services there is a great deal of room for partitioning off submodels of household choice behavior in the several areas discussed. Particularly in the fertility and labor supply areas, there is a

substantial amount of theory and empirical work in existence and in progress.

Investigations of the allocation of time and expenditure budgets for families with children are clearly important parts of the "investment" function. Here it must be emphasized that major attention should be given to exploring behavioral response to variables that can be affected by public policy--that is the critical link in establishing a basis for forecasting the dynamic consequences of policy choices.

The "accumulation" function needs a lot of work. So far most of the attention has been given to only one category of inputs--schooling--and one output--cognitive ability as measured by I.Q. tests. We need to begin working with a broader range of inputs and a wider variety of outcomes or types of human capital.

Unfortunately, there is not a readily available set of measures of human capacities, nor even of concepts for which approximate indicators can be sought. No doubt my own incomplete development handicaps me in suggesting plausible categories, but I have observed that concerted efforts of psychologists and educators so far have not been successful in defining a more comprehensive set of outcomes for the Head Start program and similar compensatory efforts. There is a general agreement that I.Q. is inadequate and rapidly loses predictive power beyond the years of formal schooling, but promising additional dimensions have not yet been found. Here, clearly, is an area that needs much more development of concepts, measures, and models. It is also an area where the input of other disciplines is imperative. Economists may be able to structure the kinds of questions that need answering, but they are usually ill-equipped for finding the answers.

Reverting to the original title of this essay, a word must be said about the wealth and income that ultimately result from the market's evaluation and the possessor's exercise of these elements of human capital. A complete model of wealth will have to include a demand side, and, since many human investment decisions are made with long lags or gestation periods, a model of expectations about future prices of human services must also be considered and implemented if we are to complete the wealth transmission process.

Concluding Remarks

To repeat, the purpose of this essay is to suggest a framework into which a large amount of contemporary microeconomic thought can be unified and tied to the notion of social progress or growth, and to give an economic interpretation to the recurrent notion that society ought to be concerned about what happens to children and that this concern should be a basis for ordering social priorities. In outlining this structure, several gaps and lines for further study have been identified. But perhaps more important than the ways in which old economic models can be reinterpreted and new extensions can be devised is the focus that a concern for the human wealth endowment can give to social policy. By emphasizing the human capital investments in children, we are directly in touch with the fundamental determinants of the quality and inequality of existence in future generations. We are brought more directly into confrontation with the pivotal importance of parents and families in that process. We can note further that only a small part of the adult population is

involved in active "parenting" at any one time (and some persons never are) and that that minority gets a much smaller than proportional share of total economic resource flows with which to carry on that child-rearing process. Another interesting change of perspective takes place when one concentrates on those future adults--one is roughly four times as interested in what happens in a four-child family than in what happens in a one-child family. Clearly, when one considers differences in family size one can find a very small minority of current adults responsible for the capital investment decisions for a majority of the new adult crop of, say, 1995, and again with a quite meager budget to allocate to those activities.

Without entering the discussion of whether more or less inequality of human wealth is desirable, it would be generally agreed that the process by which wealth is transmitted across generations is affected by public policy and that the quality and inequality of that wealth is a major determinant of social welfare. Consequently, a more explicit treatment of that dynamic process would permit a more focused discussion of policies that affect children, as well as a more sensitive indicator of social progress.