THE ECONOMIC WAY OF LOOKING AT LIFE*

Nobel Lecture, December 9, 1992

by

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1. *The Economic Approach*

My research uses the economic approach to analyze social issues that range beyond those usually considered by economists. This lecture will describe the approach, and illustrate it with examples drawn from past and current work.

Unlike Marxian analysis, the economic approach I refer to does not assume that individuals are motivated solely by selfishness or gain. It is a *method* of analysis, not an assumption about particular motivations. Along with others, I have tried to pry economists away from narrow assumptions about self interest. Behavior is driven by a much richer set of values and preferences.

The analysis assumes that individuals maximize welfare *as they conceive it,* whether they be selfish, altruistic, loyal, spiteful, or masochistic. Their behavior is forward-looking, and it is also consistent over time. In particular, they try as best they can to anticipate the uncertain consequences of their actions. Forward-looking behavior, however, may still be rooted in the past, for the past can exert a long shadow on attitudes and values.

Actions are constrained by income, time, imperfect memory and calculating capacities, and other limited resources, and also by the available opportunities in the economy and elsewhere. These opportunities are largely determined by the private and collective actions of other individuals and organizations.

Different constraints are decisive for different situations, but the most fundamental constraint is limited time. Economic and medical progress have greatly increased length of life, but not the physical flow of time itself, which always restricts everyone to twenty-four hours per day. So while goods and services have expended enormously in rich countries, the total time available to consume has not.

Thus, wants remain unsatisfied in rich countries as well as in poor ones.

* This lecture is dedicated to the memory of George J. Stigler, who died almost exactly one year ago. Nobel Laureate, outstanding economist, very close friend and mentor, he would be as happy as I am had he lived to see me deliver the 1992 Nobel Lecture in Economics.

For while the growing abundance of goods may reduce the value of additional goods, time becomes more valuable as goods become more abundant. Utility maximization is of no relevance in a Utopia where everyone's needs are fully satisfied, but the constant flow of time makes such a Utopia impossible. These are some of the issues analyzed in Becker [1965], and Linder [1970].

The following sections illustrate the economic approach with four very different subjects. To understand discrimination against minorities, it is necessary to widen preferences to accommodate prejudice and hatred of particular groups. The economic analysis of crime incorporates into rational behavior illegal and other antisocial actions. The human capital approach considers how the productivity of people in market and non-market situations is changed by investments in education, skills, and knowledge. The economic approach to the family interprets marriage, divorce, fertility, and relations among family members through the lens of utility-maximizing forward-looking behavior.

2. Discrimination Against Minorities

Discrimination against outsiders has always existed, but with the exception of a few discussions of the employment of women (see Edgeworth [1922], and Faucett [1918]), economists wrote little on this subject before the 1950s. I began to worry about racial, religious, and gender discrimination while a graduate student, and used the concept of discrimination coefficients to organize my approach to prejudice and hostility to members of particular groups.

Instead of making the common assumptions that employers only consider the productivity of employees, that workers ignore the characteristics of those with whom they work, and that customers only care about the qualities of the goods and services provided, discrimination coefficients incorporate the influence of race, gender, and other personal characteristics on tastes and attitudes. Employees may refuse to work under a woman or a black even when they are well paid to do so, or a customer may prefer not to deal with a black car salesman. It is only through *widening* of the usual assumptions that it is possible to begin to understand the obstacles to advancement encountered by minorities.

Presumably, the amount of observable discrimination against minorities in wages and employment depends not only on tastes for discrimination, but also on other variables, such as the degree of competition and civil rights legislation. However, aside from the important theory of compensating differentials originated by Adam Smith, and a few major studies like Myrdal's *American Dilemma* [1944], there was little else available in the 1950s to build on to analyze how prejudice and other variables interact. I spent several years working out a theory of how actual discrimination in earnings and employment is determined by tastes for discrimination, along with the degree of competition in labor and product markets, the distribution of discrimination coefficients among members of the majority group, the

considerations, and did not commit crimes even when they were profitable and there was no danger of detection.

However, police and jails would be unnecessary if such attitudes always prevailed. Rationality implied that some individuals become criminals because of the financial rewards from crime compared to legal work, taking account of the likelihood of apprehension and conviction, and the severity of punishment.

The amount of crime is determined not only by the rationality and preferences of would-be criminals, but also by the economic and social environment created by public policies, including expenditures on police, punishments for different crimes, and opportunities for employment, schooling, and training programs. Clearly, the type of legal jobs available as well as law, order, and punishment are an integral part of the economic approach to crime.

Total public spending on lighting crime can be reduced, while keeping the mathematically expected punishment unchanged, by offsetting a cut in expenditures on catching criminals with a sufficient increase in the punishment to those convicted. However, risk-preferring individuals are more deterred from crime by a higher probability of conviction than by severe punishments. Therefore, optimal behavior by the State would balance the reduced spending on police and courts from lowering the probability of conviction against the preference of risk-preferring criminals for a lesser certainty of punishment. The State should also consider the likelihood of punishing innocent persons.

In the early stages of my work on crime, I was puzzled by why theft is socially harmful since it appears merely to redistribute resources, usually from wealthier to poorer individuals. I resolved the puzzle (Becker [1968, fn. 3] by recognizing that criminals spend on weapons and on the value of the time in planning and carrying out their crimes, and that such spending is socially unproductive - it is what is now called “rent-seeking” - because it does not create wealth, only forcibly redistributes it. The social cost of theft was approximated by the number of dollars stolen since rational criminals would be willing to spend up to that amount on their crimes. (I should have added the resources spent by potential victims protecting themselves against crime.)

One reason why the economic approach to crime became so influential is that the same analytic apparatus can be used to study enforcement of all laws, including minimum wage legislation, clean air acts, insider trader and other violations of security laws, and income tax evasions. Since few laws are self-enforcing, they require expenditures on conviction and punishment to deter violators. The United States Sentencing Commission has explicitly used the economic analysis of crime to develop rules to be followed by judges in punishing violators of Federal statutes (United States Sentencing Commission [1988]).

Studies of crime that use the economic approach have become common during the past quarter century. These include analysis of the optimal

lems (see, for example, Grossman and Hart [1983]). The implications of specific capital for sharing and turnover have also been used in analyzing marriage "markets" to explain divorce rates and bargaining within a marriage (see Becker, Landes and Michael [1977], and McElroy and Horney [1981]), and in analyzing political "markets" to explain the low turnover of politicians (see Cain, Ferejohn and Firoina [1987]).

The theory of human capital investment relates inequality in earnings to differences in talents, family background, and bequests and other assets (see Becker and Tomes [1986]). Many empirical studies of inequality also rely on human capital concepts, especially differences in schooling and training (see Mincer [1974]). The sizeable growth in earnings inequality in the United States during the 1980s that has excited so much political discussion is largely explained by higher returns to the more educated and better trained (see, e.g., Murphy and Welch [1992]).

Human capital theory gives a provocative interpretation of the so-called "gender gap" in earnings. Traditionally, women have been far more likely than men to work part-time and intermittently partly because they usually withdrew from the labor force for a while after having children. As a result, they had fewer incentives to invest in education and training that improved earnings and job skills.

During the past twenty years all this changed. The decline in family size, the growth in divorce rates, the rapid expansion of the service sector where most women are employed, the continuing economic development that raised the earnings of women along with men, and civil rights legislation encouraged greater labor force participation by women, and hence greater investment in market-oriented skills. In practically all rich countries, these forces significantly improved both the occupations and relative earnings of women.

The United States' experience is especially well-documented. The gender gap in earnings among full-time men and women remained at about 35 percent from the mid-fifties to the mid-seventies. Then women began the steady economic advance which is still continuing; it narrowed the gap to under 25 percent. Women are flocking to business, law, and medical schools, and are working at skilled jobs that they formerly shunned, or were excluded from.

Schultz and others (see, e.g., Schultz [1963], and Denison [1962]) early on emphasized that investments in human capital were a major contributor to economic growth. But after a while the relation of human capital to growth was neglected, as economists became discouraged about whether the available growth theory gave many insights into the progress of different countries. The revival of more formal models of endogenous growth has brought human capital once again to the forefront of the discussions (see e.g., Romer [1986], Lucas [1988], Barro and Sala-i-Martin [1992], and Becker, Murphy and Tamura [1990]).

countries do indicate that the marriages of richer couples are much more stable (see Becker, Landes and Michael [1977]).

Efficient bargaining between husbands and wives implies that the trend in Europe and the United States toward no-fault divorce during the past two decades would not raise divorce rate and, therefore, that contrary to many claims, it could not be responsible for the rapid rise in these rates. However, the theory does indicate that no-fault divorce hurts women with children whose marriages are broken up by their husbands. Households headed by unmarried women with children now comprise about one-fifth of all households with children in the United States and other advanced countries.

Economic models of behavior have been used to study fertility ever since Malthus's classic essay; the great Swedish economist, Knut Wicksell, was attracted to economics by his belief in the Malthusian predictions of over-population. But Malthus's conclusion that fertility would rise and fall as incomes increased and decreased was contradicted by the large decline in birth rates after some countries became industrialized during the latter part of the nineteenth century and the early part of this century.

The failure of Malthus's simple model of fertility persuaded economists that family-size decisions lay beyond economic calculus. The neo-classical growth model reflects this belief, for in most versions it takes population growth as exogenous and given (see, for example, Cass [1965], or Arrow and Kurz [1970]).

However, the trouble with the Malthusian approach is not its use of economics per se, but an economics inappropriate for modern life. It neglects that the time spent on child care becomes more expensive as countries become more productive. The higher value of time raises the cost of children, and thereby reduces the demand for large families. It also fails to consider that the greater importance of education and training in industrialized economies encourages parents to invest more in the skills of their children, which also raises the cost of large families. The growing value of time and the increased emphasis on schooling and other human capital explain the decline in fertility as countries develop, and many features of birth rates in modern economies.

Why in almost all societies have married women specialized in bearing and rearing children and in certain agricultural activities, whereas married men have done most of the fighting and market work? The explanation, presumably, is a combination of biological differences between men and women - especially differences in their innate capacities to bear and rear children - and discrimination against women in market activities, partly through cultural conditioning. Large and highly emotional differences of opinion exist over the relative importance of biology and discrimination in generating the traditional division of labor in marriages (see, for example, Boserup [1970]).

The economic analysis of this division of labor does not determine the relative importance of biology and discrimination, but it shows how sensitive the division is to *small* differences in either. Since the return from

investing in a skill is greater when more time is spent utilizing the skill, a married couple could gain a lot from a sharp division of labor because the husband could specialize in some types of human capital and the wife in others. Given such a large gain from specialization within a marriage, only a *little* discrimination against women or *small* biological differences in child-rearing skills would cause the division of labor between household and market tasks to be systematically related to gender. The sensitivity to small differences explains why the empirical evidence cannot readily choose between biological and "cultural" interpretations. This theory also explains why many women entered the labor force as families became smaller, divorce more common, and earning opportunities for women improved.

Relations among family members differ radically from those among employees of firms and members of other organizations. The interactions between husbands, wives, parents, and children are more likely to be motivated by love, obligation, guilt, and a sense of duty than by self-interest narrowly interpreted.

It was demonstrated about twenty years ago that altruism within families enormously alters how they respond to shocks and public policies that redistribute resources among members. Becker [1974] showed that exogenous redistributions of resources from an altruist to her beneficiaries (or vice versa) may not affect the welfare of anyone because the altruist would try to reduce her gifts by the amount redistributed. Barro [1974] derived this result in an intergenerational context, which cast doubt on the common assumption that government deficits and related fiscal policies have real effects on the economy.

The "Rotten-Rid Theorem" - the name is very popular even when critics disagree with the result - carries the analysis of altruism further, for it shows how the behavior of selfish individuals is affected by altruism. Under some conditions, even selfish beneficiaries - of course, most parents believe that the best example of this is selfish children with altruistic parents - are induced to act as *if* they are altruistic toward their benefactors because that raises their own selfish welfare. They act this way because otherwise gifts from their benefactors would be reduced enough to make them worse off (see Becker [1974], and the elaboration and qualifications to the analysis in Lindbeck and Weibull [1987], Bergstrom [1989], and Becker [1991, pp. 9-13]).

The Bible, Plato's *Republic,* and other early writings discussed the treatment of young children by their parents, and of elderly parents by adult children. Both the elderly and children need care - in one case because of declining health and energy, and in the other because of biological growth and dependency. A powerful implication of the economic analysis of relations within families is that these two issues are closely related.

Parents who leave sizable bequests do not need old-age support because instead they help out their children. I mentioned earlier one well-known implication of this: under certain conditions, budget deficits and social security payments to the elderly have no real effects because parents simply

obligation, duty, and filial love that indirectly, but still very effectively, can "commit" children to helping them out.

Economists have too narrow a perspective on commitments. "Manipulating" the experiences of others to influence their preferences may appear to be inefficient and fraught with uncertainty, but it can be the most effective way to obtain commitment. Economic theory needs to incorporate guilt, affection, and related attitudes into preferences in order to have a deeper understanding of when commitments are "credible" (see section 2 of the appendix for a formal discussion).

Parents who do not leave bequests may be willing to make their children feel guiltier precisely because they gain more utility from greater old-age consumption than they lose from an equal reduction in children's consumption. This type of behavior may be considerably more common than suggested by the number of families that leave bequests, for parents with young children often do not know whether they will be financially secure when they are old. They may try to protect themselves against ill health, unemployment, and other hazards of old age by instilling in their children a willingness to help out if that becomes necessary.

This analysis of the link between childhood experiences and adult preferences is closely related to work on rational habit formation and addictions (see Becker and Murphy [1988]). The formation of preferences is rational in the sense that parental spending on children partly depends on the anticipated effects of childhood experiences on adult attitudes and behavior. I do not have time to consider the behavior of children - such as crying and acting "cute" - that tries in turn to influence the attitudes of parents.

Many economists, including myself, have excessively relied on altruism to tie together the interests of family members. Recognition of the connection between childhood experiences and future behavior reduces the need to rely on altruism in families. But it does not return the analysis to a narrow focus on self-interest, for it partially replaces altruism by feelings of guilt, obligation, anger, and other attitudes usually neglected by models of rational behavior.

If parents anticipate that children will help out in old age - perhaps because of guilt or related motivations - even parents who are not very loving toward their children would invest more in the children's human capital, and save less to provide for their old age. (For a proof, see section 3 of the Appendix.)

Equation (12) of the Appendix shows that parents always prefer small increases in their own consumption to equal increases in their children's *if* the only way they can get greater consumption is by making children feel guiltier. This means that altruistic parents who take steps to make their children feel guiltier always underinvest in the children's human capital. This shows directly why creating guilt has costs and is not fully efficient.

Altruistic family heads who do not plan to leave bequests try to create a "warm" atmosphere in their families, so that members are willing to come to the assistance of those experiencing financial and other difficulties. This

conclusion is relevant to discussions of so-called "family values," a subject that received attention during the recent presidential campaign in the United States. Parents help determine the values of children - including their feelings of obligation, duty, and love - but what parents try to do can be greatly affected by public policies and changes in economic and social conditions.

Consider, for example, a program that transfers resources to the elderly, perhaps especially to poorer families who do not leave bequests, that reduces the elderly's dependence on children. According to the earlier analysis, parents who do not need support when they become old do not try as hard to make children more loyal, guiltier, or otherwise feel as well-disposed toward their parents. This means that programs like social security that significantly help the elderly would encourage family members to drift apart emotionally, not by accident but as maximizing responses to those policies.

Other changes in the modern world which have altered family values include increased geographical mobility, the greater wealth that comes with economic growth, better capital and insurance markets, higher divorce rates, smaller families, and publicly-funded health care. These developments have generally made people better off, but they also weakened the personal relations within families between husbands and wives, parents and children, and among more distant relatives, partly by reducing the incentives to invest in *creating* closer relations.

6. Concluding Comments

An important step in extending the traditional analysis of individual rational choice is to incorporate into the theory a much richer class of attitudes, preferences, and calculations. This step is prominent in all the examples that I consider. The analysis of discrimination includes in preferences a dislike of - prejudice against - members of particular groups, such as blacks or women. In deciding whether to engage in illegal activities, potential criminals are assumed to act as if they consider both the gains and the risks - including the likelihood they will be caught and severity of punishments. In human capital theory, people rationally evaluate the benefits and costs of activities, such as education, training, expenditures on health, migration, and formation of habits that radically alter the way they are. The economic approach to the family assumes that even intimate decisions like marriage, divorce, and family size are reached through weighing the advantages and disadvantages of alternative actions. The weights are determined by preferences that critically depend on the altruism and feelings of duty and obligation toward family members.

Since the economic, or rational choice, approach to behavior builds on a theory of individual decisions, criticisms of this theory usually concentrate on particular assumptions about how these decisions are made. Among other things, critics deny that individuals act consistently over time, and question whether behavior is forward-looking, particularly in situations that

differ significantly from those usually considered by economists - such as those involving criminal, addictive, family, or political behavior. This is not the place to go into a detailed response to the criticisms, so I simply assert that no approach of comparable generality has yet been developed that offers serious competition to rational choice theory.

While the economic approach to behavior builds on a theory of individual choice, it is not mainly concerned with individuals. It uses theory at the micro level as a powerful tool to derive implications at the group or macro level. Rational individual choice is combined with assumptions about technologies and other determinants of opportunities, equilibrium in market and nonmarket situations, and laws, norms, and traditions to obtain results concerning the behavior of groups. It is mainly because the theory derives implications at the macro level that it is of interest to policymakers and those studying differences among countries and cultures.

None of the theories considered in this lecture aims for the greatest generality; instead, each tries to derive concrete implications about behavior that can be tested with survey and other data. Disputes over whether punishments deter crime, whether the lower earnings of women compared to men are mainly due to discrimination or lesser human capital, or whether no-fault divorce laws increase divorce rates all raise questions about the empirical relevance of predictions derived from a theory based on individual rationality.

A close relation between theory and empirical testing helps prevent both the theoretical analysis and the empirical research from becoming sterile. Empirically oriented theories encourage the development of new sources and types of data, the way human capital theory stimulated the use of survey data, especially panels. At the same time, puzzling empirical results force changes in theory, as models of altruism and family preferences have been enriched to cope with the finding that parents in Western countries tend to bequeath equal amounts to different children.

I have been impressed by how many economists want to work on social issues rather than issues forming the traditional core of economics. At the same time, specialists from fields that do consider social questions are often attracted to the economic way of modelling behavior because of the analytical power provided by the assumption of individual rationality. Thriving schools of rational choice theorists and empirical researchers are active in sociology, law, political science, history, anthropology, and psychology. The rational choice model provides the most promising basis presently available for a unified approach to the analysis of the social world by scholars from the social sciences.

APPENDIX

1. To show this formally, suppose that each person lives for three periods: youth (y), middle age (m), and old age (o), and has one child at the beginning of period m. A child's youth overlaps his parents' middle age, and a child's

middle age overlaps his parents' old age. The utility parents get from altruism is assumed to be separable from the utilities produced by their own consumption.

A simple utility function of parents (V,) incorporating these assumptions is

Each person works and earns income only during middle age. It is possible to save then to provide consumption for old age (Z_{op}) by accumulating assets with a yield of R_k. Parents influence children's earnings by investing in their human capital. The marginal yield on investments in human capital (R_h) is defined as

$$\frac{\quad}{\quad} \qquad (2)$$

where E_c is the earnings of children at middle age. This yield is assumed to decline as more is invested in children:

$$Z_{mp} + h + \frac{Z_{op}}{R_k} + \frac{k_c}{R_k} = A_p,$$

$$u'_{mp} = \beta R_k u'_{op} = \lambda_p, \qquad (4)$$

where λ_p is the parents' marginal utility of wealth. Another condition determines whether they give bequests,

$$\beta a V'_c \leq \frac{\lambda_p}{R_k} = \beta u'_{op};$$

nutrition of children presumably do yield a very good return. As long as parents are not completely selfish - as long as $a > 0$ - then such a condition does always imply positive investment in human capital. For completely selfish parents, equation (6) would be an inequality.

Equation (4) determines the accumulation of assets to finance old-age consumption. Whether parents leave bequests or want old-age support from their children is determined by the inequality in (5). If this is a strict inequality, parents want support and would not leave bequests.

That inequality can be written in a more revealing way. If children also maximize their utility, then the envelope theorem implies that

$$au'_{mc} < u'_{op} \text{ whenever } aV'_c < u'_{op} \text{ since } V'_c = u'_{mc}. \quad (7)$$

Equation (7) has the intuitive interpretation that parents do not give bequests when the utility they get from their children consuming a dollar more at middle age is less than the utility they get from a dollar more of their own consumption at old age. Obviously, such an inequality holds for completely selfish parents since the left-hand side of equations (5) and (7) are zero when a is zero. The weaker the altruism (the smaller a) the more parents want from children.

Combining equations (5) and (6) gives

$$\frac{\lambda_p}{R_h} \leq \frac{\lambda_p}{R_k}, \text{ or } R_h \geq R_k. \quad (8)$$

Equation (8) implies that the marginal rate of return on human capital equals the return on assets when parents give bequests, and it is greater than the asset return when parents do not give bequests. Parents can help children either by investing in their human capital or by leaving them assets. Since they want to maximize the advantage to children, given the cost to themselves - parents are not sadistic - they help in the most efficient form.

Consequently, if strict inequality holds in equation (8), they would not give bequests, for the best way to help children when the marginal return on human capital exceeds that on assets is to invest only in human capital. Parents leave bequests only when they get the same marginal return on both (some of these results have been derived in Becker and Tomes [1986]).

2. To analyze in a simple way the influence of parents over the formation of children's preferences, suppose parents can take actions x and y when children are young that affect children's preferences when adults. I use the assumption of separability to write the utility function of middle-aged children as

$$V_c = u_{mc} + H(y) - G(x,g) + \beta u_{oc} + \dots. \quad (9)$$

I assume that $H' > 0$ and $G_x > 0$, which means that an increase in y raises the utility of children, but an increase in x lowers their utility. For concreteness, interpret H as "happiness," and G as the "guilt" children feel toward

their parents, so that greater x makes children feel guiltier. The question is: why would non-sadistic parents want to make their children feel guilty?

The variable g is the key to understanding why. This measures the contribution of children to the old-age support of parents; let us assume that children feel less guilty when they contribute more ($G_g < 0$). If $G_{gx} > 0$, then greater x both raises children's guilt and stimulates more giving by them.

The budget constraint of parents becomes:

$$Z_{mp} + h + x + y + \frac{Z_{op}}{R_k} + \frac{k_c}{R_k} = A_p + \frac{g}{R_k}. \tag{10}$$

The first-order condition for the optimal y is

$$\beta a H' \leq \lambda_p. \tag{11}$$

Since $H' > 0$, it is easy to understand why an altruistic parent may try to affect children's preferences through y since an increase in y makes children happier.

The first order condition for x is more interesting, for even altruistic parents may want to make their children feel guilty if that sufficiently raises old-age support. This first order condition can be written as

$$\frac{dV_p}{dx} = \frac{dg}{dx}\beta(u'_{op} - au'_{mc}) - \beta a\frac{dG}{dx} \leq \lambda_p, \tag{12}$$

where dG/dx incorporates the induced change in g. The second term in the middle expression is negative to altruistic parents because greater x does raise children's guilt, which lowers the utility of these parents ($a > 0$). However, guilt also induces children to increase old-age support, as given by dg/dx. The magnitude of this response determines whether it is worthwhile for parents to make children feel guiltier.

Increased old-age support from children has two partially offsetting effects on the welfare of altruistic parents. On the one hand, it raises their old-age consumption and utility, as given by u'_{op}. On the other hand, it lowers children's consumption, and hence the utility of altruistic parents, as given by $-au'_{mc}$. This means that altruistic parents who leave bequests never try to make children feel guiltier, for $u'_{op} = au'_{mc}$ for these parents. Since $dG/dx > 0$, they must be worse 05 when their children feel guiltier.

3. Combine the first order conditions in Equations (5) and (6) to get

$$\frac{u'_{op}}{au'_{mc}} = \frac{R_h}{R_k} \tag{13}$$

Both sides of this equation exceed unity when parents do not give bequests. Since greater old-age support from children lowers the left-hand side by lowering the numerator and raising the denominator, the right-hand side must also fall to be in a utility maximizing equilibrium. But since R_k is given by market conditions, the right-hand side can fall only if R_h, falls, which