On Two Schools of the Economics of Fertility

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Since the beginning of the last decade, American economists interested in the determinants of fertility have been divided into three rival camps. Richard Easterlin and Gary Becker headed the two major factions, while those who agreed with neither side formed the third group. The following discussion reports on the current status of the conflict between the two main parties. The task I undertake is analogous to that of a war correspondent wiring from the front the news of how the battle is progressing.

The conflict between the groups, although never very heated, has run quite deep. The research produced by members of the contending factions is clearly separable. No ideas suggested by members of one group have been seriously entertained in the literature by members of the other. (To appreciate the utter lack of serious communication between the two contingents, one need only investigate the references to the work of Easterlin in the conference volume edited by Schults,\(^1\) a supporter of the Becker camp, and the references to the works of the Becker group in the papers of Easterlin on economic-demographic interactions.\(^2\)) Indeed, the conflict has spread beyond the confines of fertility analysis with attacks recently being made by members of the Easterlin school on the economic foundations of the work of the Becker school.\(^3\) To the non-specialist, the schism between the two schools of thought must certainly appear to be at least as wide now as it was a decade ago.

Within the past few years, however, the differences between the two groups of economists have considerably narrowed and on a few of the
most important issues of substance there is already a rough consensus. This is not to say that there are no remaining areas of disagreement; it is only to say that the remaining divisive issues are mostly those of style rather than substance. A scholar who would begin work today on the economic determinants of fertility would find that there is a large common ground on which he could work in relative safety from snipers from either side.


In order to understand the extent of the current implicit consensus between the two rival parties, it is necessary to understand how the schism originated. In 1960, Becker published an article in which he claimed that variations in completed fertility could be understood within the same framework economists used for the analysis of the demand for durable goods. His argument rested on two traditional economic postulates: (1) that the representative household behaves rationally on the basis of unchanging tastes, and (2) that the prices of commodities desired by the representative household are unaffected by that household’s consumption decisions.

In 1966, Easterlin challenged the early Becker formulation by showing that the movements in the age-specific fertility rates of young women over time were positively related to the movements in an index of “inter-generational relative income,” or the ratio of the current income of young married couples to the income level they had experienced as adolescents in their parents’ household. The explanation Easterlin gave for this covariance explicitly rejected the notion, still held as sacrosanct by many economists, that tastes ought always to be treated as immutable and replaced it with a mechanism through which tastes change systematically according to one’s upbringing. This introduction of the concept of socialization into economic model-building represented a radical departure from standard economic theory and still is not accepted by many economists who study fertility. In contrast with his novel treatment of tastes, Easterlin accepted the traditional assumption that the prices of commodities desired by the representative household are unaffected by the household’s consumption decisions. Thus, Easterlin rejected one of the two basic assumptions upon which Becker’s early analysis was based.

With the publication of the Becker article in 1960 and the Easterlin article in 1966, the distinction between explanations of fertility behavior based on pure economic theory and those based on the alloy of economic theory with sociology was clear-cut. The schism between the two groups of economists was based in part on the substantive details of their explanations and, unfortunately, in part on the issue of purity, as well.
The Situation at the End of 1973

In the period from 1966 to 1972, the division between the two camps of scholars was the deepest. It was not until 1973, with the publication of two articles from the Becker group, one by Becker and Lewis, and one by Willis, that the gap between the parties closed appreciably. In essence, the Becker school of thought moved considerably closer to the views held by Easterlin and his followers.

When Becker and Lewis successfully analyzed the model of fertility suggested by Becker in a footnote in 1960, they found that it also differed significantly from the traditional model of demand. Whereas Easterlin had modified the assumption of stable tastes and maintained the assumption of constant prices for desired commodities, the Becker model did just the reverse. It accepted the assumption of stable tastes, but maintained that the relative price of children and the relative price of goods consumed per child are not independent of household decisions. Thus, by 1973, the two factions took exactly parallel stances with regard to the early Becker formulation. In brief, the Easterlin contingent discarded postulate 1 and accepted postulate 2, while the Becker contingent accepted postulate 1 and discarded postulate 2. The simple early Becker argument that the observed relation between income and fertility ought to be positive is now no longer maintained by either group and not even by Becker himself.

The dependence of prices on household decisions in the Becker model is the result of a specification that may be appropriate for the analysis of fertility decisions, but whose applicability to the demand for consumer durables is dubious. The specification in question is the assumption that the family cares about its average level of expenditures per child, but not about its expenditures on each child taken separately. Parents are assumed by the Becker group to desire three things: commodities for their own consumption, children, and commodities for their children's consumption. As the parents' incomes increase, they are assumed to want to spend more both on themselves and on each of their children. It is this positive relation between desired expenditures per child and parental income that causes children to be more expensive for wealthier parents than for poorer ones.

If we consider houses instead of children, the unusual nature of this specification becomes clear. Suppose a couple who owned a $50,000 house decided to buy a $20,000 summer cottage in the mountains. The Becker model would tell us that the summer cottage would be a source of utility, but the fact that the couple spent less on their summer cottage than on their permanent residence would be a source of disutility because their average expenditure per house would have declined. But this is clearly unrealistic. People feel no qualms about buying a summer cottage that
costs less than their main residence, nor about buying a second car that costs less than their first. The model when applied to children, however, seems more appropriate. It is plausible that parents could suffer some disutility from not being able to spend as much money on, say, a third child as the average amount they spent on the first two. The assumption that this is the case, however, is not derived from pure economic theory. Rather, it is, like Easterlin’s assumption of changing tastes, a special assumption that is necessary to create a plausible model of fertility behavior.

As of 1973, not only did the models of the rival factions take symmetric positions with regard to Becker’s early work, but also, the major operative forces in their models were remarkably similar. In both groups of models, the observed relationship between fertility and income may be either positive or negative. These ambiguous results arise from essentially the same circumstances in each model. Both schools assume that, keeping enough things constant, the underlying relation between fertility and income is positive, but they proceed to show that, when income changes, something else is likely to change that has an offsetting effect on fertility. The major source of disagreement between the two scholarly camps at that time was the nature, not the existence, of this offsetting force.

The Easterlin group held that the force which offsets the underlying positive income effect is related to parents’ aspirations for their own material standard of living. Over time, both current income levels and aspiration levels rise, leaving the net effect of these two forces on fertility unclear. The Becker group held that the force which offsets the underlying positive income effect is related to parents’ aspirations for their children’s material standard of living. As parents’ incomes rise, they want to increase their average expenditures per child, thus increasing the cost to them of an appropriately raised child. The increasing cost of children raised with higher standards of living would offset the effects of higher income and render the observed relation between fertility and income again unclear. By 1973, the specification of the force that offsets the underlying positive income effect was the main territory contested by the two rival parties.

The Situation at the End of 1976

In 1976, members of both schools published important articles. Although the major question of the nature of the offsetting force was not resolved, a further narrowing of the differences between the rival groups was apparent. Easterlin explained the decline in the fertility of rural women in the United States in the nineteenth century by use of a model in which farm families desired to leave as a bequest to each child as much wealth in real terms as their own parents gave them. The addition of a level of
desired bequests per child to the Easterlin camp’s formulation parallels the Becker camp’s concept of a desired level of expenditures per child. The two specifications differ now only in that, holding other things constant, the Becker group expects the desired level of expenditures per child to be positively related to parental income, while the Easterlin group expects desired bequests (and expenditures) per child to be independent of parental income. It is likely that this point will be resolved soon by empirical tests.

In 1976, Becker and Tomes added a new concept to the Becker school model, which brought it closer to Easterlin’s formulation. This addition is based, in part, on a distinction between the sources of influence on what Becker has called “child quality.” “Child quality” in the Becker-Tomes model depends on the level of expenditures per child and on a host of other influences over which the parents have little or no direct control. The contribution of the Becker-Tomes paper is in its explicit attention to the latter set of influences, which they call “child endowment.” One advantage of this extension is that the Becker-Tomes model can be used to analyze fertility in an intergenerational context, a task that had previously only been addressed by members of the Easterlin camp. Indeed, Becker and Tomes do provide some intergenerational fertility analysis. In the context of a discussion of this aspect of their work, the authors make a remarkable statement that also constitutes the first reference to the work of Easterlin in a paper written by Becker. It reads:

Our conclusions about the effects of economic growth on the number of children are similar to those reached by Richard Easterlin in his important work on fertility. . . . Both Easterlin’s and our own analysis are based on changes in the economic position of children relative to their parents.

Thus, yet another difference between the works of the two schools has been substantially reduced.

The two papers published in 1976 demonstrate clearly the emerging consensus. This is not to say that the two groups do not vigorously attack each other over the remaining differences. What is important is that the scope of these differences is now considerably narrower than it was before 1973 and that the area of agreement between the two sides now exceeds the area of disagreement.

The Future of the Conflict

The major difference between the two groups is now, as it was in 1973, the nature of the force that offsets the presumed positive income effect. But even this conflict between competing specifications of the offsetting
force is unnecessary. It is possible to entertain both the hypothesis that parents' aspirations for their own standard of living and bequests for their children depend, in part, on their background and the hypothesis that parents' aspirations for their children's standard of living as well as their own depend, in part, on their current income. Indeed, other scholars who wrote before the rift had no difficulty in seeing that the two notions were closely interconnected. In 1893, John S. Billings, one of America's foremost nineteenth century demographers, wrote:

[One] cause [of the fertility decline] is the great increase in the use of things which were formerly considered as luxuries, but which now have become almost necessities. The greater temptations to expenditure for the purpose of securing or maintaining social position, and the correspondingly greater cost of family life . . . lead to the desire to have fewer children in order that they may be each better provided for. 18

To Billings it was natural to join the ideas subsequently developed separately by the Easterlin school and the Becker school in a single paragraph.

In 1954 J. A. Banks, in Prosperity and Parenthood, went even further, summarizing the basic ideas of the two schools of thought in a single sentence. He wrote, "... it cannot be denied that the attitude toward the material comforts of modern existence and the growing expensiveness of children and adolescents contributed their share to the acceleration in the fall of family size." 19 Although the Easterlin school concentrates on the "attitude toward the material comforts of modern existence" and the Becker school concentrates on "the growing expensiveness of children and adolescents," there is no particular reason why the two notions should not be considered as portions of a single explanation. Indeed, historically the types of arguments put forward by members of the Easterlin school and the Becker school were often considered together as components of a full explanation of fertility variations. Their division into competing hypotheses only occurred in the 1960s.

It is now fairly clear, I hope, that the basic ideas of the Easterlin school and the Becker school are similar and complementary. There is no inherent conflict between them. Economists interested in fertility have, for the most part, followed Easterlin's lead in discarding the simple economic model of fertility put forward by Becker in 1960. Out of the ashes of the old model have grown two more realistic models, one of which stresses the effect of taste formation on secular fertility trends, the other of which stresses the effect of differences in the cost of children on cross-sectional fertility differentials.

The Easterlin framework and the Becker framework can easily be merged into a single model that would formalize the words of Billings, Banks, and others. Indeed, I have already done so. 20 Today, a student of
economic demography has at his disposal a number of closely related economic models. The choice between them should depend on the details of the particular study. Choosing between the Easterlin and Becker frameworks on any general grounds, however, is almost guaranteed to be counterproductive. It would be like removing one blade from a scissors or deleting either the concepts of demand or supply from an economist's tool kit. The initial Becker model was an attempt to break with the past and to emphasize the unique contributions of traditional economic theory. In more recent work, the situation has been reversed. The discipline of attempting to use economic theory to analyze fertility decisions has led to new developments in economic models that have made them more consistent with the views held by demographers and sociologists. This same discipline has also brought together economists whose views were initially quite disparate.

Thus, the news that I can report from the front lines is good news. The worst part of the battle is over. The remainder of the decade, I conjecture, will see the progressive reconciliation of two factions, and by 1980 their differences will largely be only of historical interest. Better yet, it is even possible to hope that our understanding of the determinants of fertility behavior will prove to have been strengthened by the conflict.

Notes

1. Theodore W. Schultz, ed., Economics of the Family: Marriage, Children and Human Capital, a conference report of the National Bureau of Economic Research (Chicago: University of Chicago Press, 1974). In this entire conference volume the substance of Easterlin's work is never mentioned and even the existence of his work is rarely noted.


5. A translation of these two conditions into a language more familiar to economists would read, (1) the existence of a stable and well-behaved utility function for the representative household, and (2) a budget constraint for that household which is linear in the arguments of the utility function.

6. In Easterlin, “On the relation of economic factors to recent and projected fertility changes,” intergenerational relative income was operationally defined as the ratio of mean money income of families with head 14–24 years old to the mean money income of families with head 35–44 years old five years earlier. All income data were converted to a 1959 base and calculated as three-year averages. In Easterlin, “Relative economic status and the American fertility swing,” the intergenerational relative income relevant to fertility in year \( t \) was operationally defined as the ratio of a five-year average centered on year \( t - 5 \) of annual mean money incomes of families with head 14–24 years old to a seven-year average centered on year \( t - 7 \) of annual mean money incomes of families with head 45–54 years old. Again all income data were converted to real dollars.


10. In the Becker model, the shadow price of children is \( \pi q \) and the shadow price of expenditures per child (called “child quality” by Becker) is \( \pi n \), where \( \pi \) is a price index for goods consumed by children, \( q \) is expenditures per child, and \( n \) is the number of children. Since Becker assumed that \( n \) and \( q \) were arguments of the utility function, the shadow prices of children and “child quality” in his model are not independent of household consumption decisions.


12. A variety of economic models of fertility behavior including two in which parents are assumed to obtain utility from expenditures on each child taken separately are presented in Sanderson, cited in note 4.

13. Becker has used the shorthand phrase “child quality” to refer to expenditures per child. Since the commonly understood notion of quality and expenditures need not be closely related (parents may make substantial expenditures on a terminally ill child), this terminological convention caused substantial misunderstanding. The broader definition of “child quality” given by Becker and Nigel Tomes in 1976 in “Child endowments and the quantity and quality of children,” Journal of Political Economy 84, no. 4, part II (August 1976): S143-S162, accords more with its usual interpretation.

14. Willis, cited in note 8, suggested another possible offsetting force. Since childbearing takes time as well as money, the cost of a child raised at an appropriate standard of living depends not only on the quantity and price of goods consumed by children, but also on the quantity and price of time spent on children. Under a set of reasonably plausible conditions, Willis demonstrated that the relative cost of raising a child could increase as parents’ income rose, even if parents did not desire to increase the standard of living of their children as their own standard of living increased. On a theoretical level, both
camps are essentially in agreement with this aspect of Willis's work.


