ECONOMIC INPUT FOR THE 1986 AUSTRALIAN FAMILY PROJECT

Stephen K. Happel

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FAMILY PROJECT

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* Visiting Fellow, Departments of Demography and Economics RSSE, ANU.  
Associate Professor of Economics, Arizona State University.

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Abstract

The 1986 Australian Family Project recognises that the accelerating changes in the Australian family can no longer be adequately studied by a largely demographic approach. Instead it will seek to explain changes in terms of social and economic variables as well as purely demographic variables. This paper proposes questions about childbearing. The questions are based on the economic perspective of fertility that currently dominates research in developed countries, and the idea is to overcome many of the shortcomings and economic deficiencies in past household surveys.
ECONOMIC INPUT FOR THE 1986 AUSTRALIAN FAMILY STUDY PROJECT

INTRODUCTION

The Australian Family Project (AFP) will be the first nationwide survey of household formation and childbearing in Australia. The final sample will consist of approximately 5000 married and non-married women surveyed in early 1986 (before the census). The primary objective is to understand recent patterns in marriage, divorce, re-marriage, and fertility; and, in contrast to the Department of Demography's 1971 and 1977 Melbourne Surveys that dealt largely with household intentions/expectations and contraceptive techniques, the AFP will focus more on the social and economic determinants of recent demographic change.

Because of the interdisciplinary nature of the AFP, substantial input is being sought from economists in the areas of labour force participation and occupation, education and training, marriage and divorce, and childbearing. The purpose of this paper is to initiate such input by proposing questions about childbearing. Of course, I expect major revisions before the AFP is conducted -- in part due to the concerns and criticisms of other economists and those directing the project,

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1. Self-administered questionnaires will be left for males to complete.
and in part due to specific problems arising in the pre-test stage. Nevertheless, I trust that the overall direction is comprehensive and that the questions will readily lend themselves to economic analysis.

The remainder of the paper is divided into two sections. In the first, the economic perspective of fertility for developed countries is summarised, and then the shortcomings of past household surveys from this perspective are discussed. In the second, the proposed questions are presented under five organisational headings: (1) desired childbearing, (2) female human capital formation, (3) labour force histories, (4) wealth and relative income status of the household, and (5) perceived costs of childbearing.
THE ECONOMIC PERSPECTIVE AND PAST HOUSEHOLD SURVEYS

Two theoretical models currently dominate economic research on childbearing in developed countries: the Chicago-Columbia microeconomic approach and the Easterlin macroeconomic approach. In both the emphasis is on demand. Households are assumed to exercise nearly perfect fertility control from marriage until the end of the childbearing years, and children are viewed as essentially an item of consumption rather than consumption-investment. As a result, the major explanatory variables are the cost (price) of child services.


3. For example, see Easterlin (1973, 1978, 1980). This work is not to be confused with his attempts (Easterlin, 1969, 1975) to synthesize the microeconomic approach with the sociological perspective.

4. In economic terminology, children are a consumer durable good.

5. Costs play a much larger role in the microeconomic approach than in the Easterlin approach.
household income, and the female's labour force participation.

The economic perspective has, in turn, been criticised for several reasons. One is that it places too much emphasis on rational, individualistic choice. Social demographers argue that societal norms and institutions exert pressure on households and influence their fertility decisions. Also, social demographers point to supply-side factors, such as contraceptive error and fecundity impairment, as playing a key role in childbearing outcomes. Certainly such criticisms are

6. For both the microeconomic and macroeconomic approaches, the concept of income relevant to fertility decisions is not current income. In the Chicago-Columbia approach the concept full income, where a household's full income is equal to the value of non-wage income derived from asset ownership plus the value of wages (or income) earned in the market sector plus the value of members' time used in producing household commodities (like meals or children). Thus full income is a more permanent, potential measure based on household members' human capital formation and work experience. In the Easterlin approach, the relevant concept is relative income, where relative income is an intergenerational measure. According to Easterlin, as young workers contemplate marriage and childbearing, they form some notion of their current well-being relative to their parents' well-being at a similar stage in the lifecycle. If young workers feel their income is relatively large compared to their parents', they will marry sooner and have larger families. Similarly, lower relative income implies delayed marriage and postponed childbearing.

7. Although females' labour force participation is often treated as an exogenous variable when estimating completed fertility, more sophisticated work, for example Cain and Dooley (1976), formulates models in which fertility and female labour supply are determined simultaneously. Two-stage least squares, rather than ordinary least squares, is then used in the estimation process.
valid, but at the same time the pill and the IUD, easier access
to abortion, in vitro fertilisation, and other medical
breakthroughs have created far more control and choice for
couples today compared to the past. Indeed, it is the
recognition of this greater control and choice that has led to
the need to consider economic as well as social and
physiological variables.

Another criticism, and one that is far more difficult to
counter, is that the economic perspective is static rather than
dynamic when modelling household decision making: a couple is
normally assumed, by means of perfect foresight, to make all
fertility plans at the beginning of marriage. Such an
assumption is quite troublesome for, as Bracher (1981,
pp.52-58) has shown in a review of Australian and American
fertility surveys, desired or expected family size at the
beginning of marriage is typically a poor predictor of
completed parity for an individual household. Furthermore,
the assumption implies that sequential adjustments, such as
having another child because of a strong sex preference or
changing planned parity in response to "good" or "bad"
fertility outcomes, are ignored.

The economic perspective is also static in the sense that

B. Better predictive results are obtained at the aggregate
level.
the tempo — timing and spacing — of births has received very little attention. Yet, the reduction in average completed family size in developed countries (the emergence of the two-child norm) means that the tempo of births is becoming increasingly influential in population growth rates and age composition.

Economists have recently begun to construct and test microeconomic models of tempo. The timing of childbirth can be used to "smooth out" a household's consumption over the lifecycle so that consumption conforms more closely with periods of high income. Explanatory variables in the microeconomic tempo models include the nature of capital markets (perfect or imperfect), the household's wealth and the female's stock of human capital at the beginning of marriage, the female's human capital depreciation upon leaving the workforce to bear a child, the mean and dispersion of the male's income profile, and expected child expenditures.

Past fertility surveys have suffered three general shortcomings besides a deficiency of economic data. First,  

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9. For example, see Happel, Hill and Lau (1984).

10. The following surveys served as the basis for this discussion: the Growth of American Family Studies, the National Fertility Studies, the National Longitudinal Surveys, the Study of American Family Life, and the Melbourne Family Surveys.
they have focused on legally married women with children. This means de facto marriages (out-of-wedlock births) are ignored. Also, it means that if economic and social factors are contributing to delayed marriage and postponed childbearing, the inclusion of only married women with children strongly biases empirical findings. The same variables that influence married women with children influence unmarried and childless women. The AFR will eliminate such problems by sampling women irrespective of their marital status.

A second shortcoming with past surveys is that they have taken a "piecemeal" approach to a respondent's life history. For example, they frequently begin by determining a respondent's (and her husband's) date of birth, and then they ask a series of questions about place of birth, parents' ancestry, and the amount of schooling. Next, the date of marriage is determined, followed by a series of questions about employment before marriage and currently, along with questions about how long the couple dated and where they lived at the beginning of marriage. When fertility issues are finally addressed, often the first questions are about ideal family size, sex preferences, best ages for childbearing, etc. Only then are the dates of birth determined. Questions about miscarriages, stillbirths, fetal deaths, and abortions come later, as do questions about the number of divorces and re-marriages.
One obvious problem with a "piecemeal" approach is that a respondent may leave out some vital events because they are not determined sequentially. In addition, a "piecemeal" approach makes empirical analysis more difficult. The researcher has to spend a great deal of time reconstructing a respondent's demographic life history and trying to relate economic and social variables to vital events. The AFP will eliminate these problems by sequentially determining a respondent's demographic life history at the start of the survey and then asking questions later in the survey that relate to the specific events. The approximate format for the respondent's demographic life history will be:

1. Respondent's date of birth, place of birth and date she arrived in Australia if not native born.
2. Age at which the respondent left secondary school, and the amount of schooling she completed before first marriage (legal or de facto).
3. Date of first marriage if ever married, and age of husband at marriage.
4. Additional schooling completed between marriage and first pregnancy if ever pregnant.
5. Pregnancies associated with first marriage, a. First pregnancy - date of birth, miscarriage, stillbirth, fetal death, or abortion. b. Second pregnancy - date of birth, miscarriage, stillbirth, fetal death, or abortion

11. This is not the case with the 1977 Melbourne Family Study.
c. Etc.

6. Adoptions associated with first marriage.
   a. Date of first adoption and age of child at the
time of adoption.
   b. Date of second adoption and age of child at
time of adoption.
   c. Etc.

7. If divorced, date of divorce (annulment) of first
   marriage.

8. If re-married, date of second marriage and age of
   husband at marriage.

9. pregnancies associated with second marriage.

10. Adoption and foster children associated with second
    marriage.

11. Date of divorce of second marriage.

12. Etc. for subsequent marriages.

The third general shortcoming with past surveys in terms
of present fertility analysis is the time devoted to religion
and the types of contraceptive techniques used. My preference
is to limit the number of questions in the AFP devoted to
religion and contraceptive techniques, especially with regard
to the pill. The emergence of low fertility since the 1960's
implies that religion is losing its role as a key explanatory
variable; and while surveys like the Melbourne Family Studies
have provided valuable information on changing attitudes and
usage of contraceptive techniques, effective contraception is
now commonplace in Australian society.

On more purely economic grounds, past surveys have been
notoriously deficient in terms of the income and cost measures
relevant for fertility decisions. Even if one takes a static approach of the household fertility decision-making process and assumes all fertility plans are made at the beginning of marriage, current income is an extremely poor measure. At a minimum, one would like to know the household’s income and wealth at the beginning of marriage.

More completely, a static approach would require the expected income profiles for the male and female at the beginning of marriage. Some past surveys have contained occupational classifications in addition to current income, and with these classifications it is possible to construct income profiles, adjusted for age, from census data. However, in most cases the only occupational information provided is current occupation, and this necessitates the troublesome assumption that a person remains in the same occupation throughout the life of the household.

In the most complete and dynamic sense, one would like to know a couple’s relative income at the beginning of marriage (the Easterlin concept), money (or full) income for each year of marriage, and how changes in annual income, occupation and family size relate to income expectations. Obviously, to determine this knowledge from a respondent would be quite time

12. For example, see Happel, Hill and Low (1964).
consuming, and its accuracy would be highly suspect, particularly for older respondents with long marital histories.

Regarding cost, the appropriate concept is the relative cost of child services, where child services equal the quantity of children times the quality of children. Moreover, this cost is a full cost i.e. the cost of the goods plus the value of household members' time involved in the production-consumption of child services. What this means is that four types of cost (price) data are necessary for a complete study of household fertility decisions. First, there are the necessity costs associated with child quantity. Second, there are the luxury costs associated with child quality. Third, there are the time costs, namely the values reflecting the opportunity cost of time for family members. Finally, since decisions are based on the relative cost of

While the term child quality causes problems, the distinction between child quantity and child quality is an important one. In the economic perspective, child quality refers strictly to expenditures above and beyond basic necessities (i.e. child quantity expenditures like food, clothing, and shelter). Thus child quality is an input rather than output concept, and child quality expenditures include such luxury items as private schooling, piano and dance lessons, and orthodontic work. The reason the distinction is so important is that the Chicago-Columbia approach uses it to help explain declining fertility in developed countries. The argument is that as household income goes up, couples will desire to spend a great deal more on child quality. This raises the full cost (price) of children and, therefore, leads to smaller families.
child services, the prices of non-child goods and services purchased by the household.

Ideally, household surveys would furnish annual values for each of these. In actuality, past household surveys have contained practically no cost information. Child quantity costs and prices of non-child goods and services are ignored completely, as are actual child quality expenditures. However, since child quality outlays are assumed to be strongly related to income, wealth, and social status, it is possible to derive some notion of actual and expected outlays from these variables, and questions like the following can also be helpful:

Suppose you had a son/daughter about to start school, which type of school would he/she attend?

Until what age would you expect him/her to stay on at school?

Under what conditions would you allow him/her to continue full-time education in a university or a college of advanced education beyond school?

With respect to the time costs of child services, it is the wife’s opportunity cost of time that is the most

14. For example, see Becker and Lewis (1973) and Leibenstein (1974).

15. Taken from the 1971 Melbourne Family Survey.
influential time price for childbearing outcomes. The standard technique is to use the female's current wage rate to capture this cost; and if wage rate information is not available, then the female's education is used as a proxy.
PROPOSED QUESTIONS

As indicated in the introduction, the purpose for suggesting the following questions is to initiate economic input into the AFP. Fine tuning will come in the later stages of the project. The proposed questions are for the female respondents, but similar questions will be included on the self-administered male questionnaire.

Desired Childbearing

Being demand-oriented, the economic perspective of fertility for developed countries is concerned with what households would like to do at various costs and income levels, not necessarily what they actually do. Consequently, the variables to be explained are the desired number of children and the desired length of birth intervals for a household. The determination (measurement) of such desires can be extremely difficult.

Even with the recognised problems, I suppose it is necessary to ask respondents ever-married (legal or de facto respondents their expected, or planned, number of children at the beginning of each separate marriage, and to ask never-married, never-pregnant respondents if they have strong expectations about their intended number of children. Then for ever-married women, the following questions are proposed:
1. For current marriages where family size is said to be complete, and for all previous marriages:
   a. Was the actual number of children equal to the expected (planned) number?
   b. If not, why not? (coded responses)
   c. At what stage in the respondent's demographic life history did the readjustment take place?

2. For current marriages where family size is not said to be complete:
   a. Is the expected number of children still equal to the same number at the beginning of marriage?
   b. If not, why not? (coded responses)
   c. At what stage in the respondent’s demographic life history did the readjustment take place?

3. For all marriages with pregnancies:
   a. Were there expectations (plans) at the beginning of marriage about the length of interval between marriage and the first birth?
   b. If so, approximately how long? (coded responses)
   c. Were there also expectations about subsequent intervals after the first?
   d. If so, approximately how long on average? (coded responses)

4. For all marriages with first interval expectations and in which at least one pregnancy occurred:
   a. Was the actual interval between marriage and the first pregnancy approximately equal to the desired interval at the beginning of marriage?
   b. If not, why not? (coded responses)

5. For all marriages with expectations about intervals after the first birth and in which subsequent pregnancies occurred:
   a. Were the actual intervals between first birth and the last pregnancy approximately equal, on average, to expectations?
   b. If not, why not? (coded responses)

The problems here are obvious. Some households do not have concrete fertility plans at the beginning of marriage, especially where birth intervals are involved. Also, people
have a tendency to rationalise their behaviour, so asking
respondents whether desires in the past correspond to what
actually occurred can elicit false information.

Therefore, questions about contraceptive usage can prove
to be a valuable complement. As stated earlier, I do not feel
that detailed questions must be asked about the types of
contraceptive techniques used. Instead, the following
questions are proposed for ever-married women:

1. In general, does the respondent feel she has been
   able to effectively contracept and thereby control
   her fertility during married life?
2. In particular, for each marriage:
   a. Between the date of marriage and the first
      birth, did the respondent contracept in order
      to delay pregnancy?
   b. If so, at approximately what date did she stop
      contracepting in order to become pregnant?
   c. For subsequent births, did the respondent
      contracept to delay pregnancy?
   d. If so, at approximately what dates did she
      stop contracepting in order to become
      pregnant?

These questions can certainly aid in determining desired birth
intervals when actual pregnancies do not occur immediately
after the respondent wants to become pregnant.
Female Human Capital Formation

The female's human capital formation is a critical variable in the economic perspective of fertility. If a woman has a large stock of human capital at marriage, then theory suggests that she will desire a small quantity of children and that she will likely delay the first birth for some time (to reap the benefits from her human capital). Moreover, if she is increasing her stock of human capital after marriage through added schooling, training, or job seniority, delay may be even greater and the end result may be childlessness.

The demographic life history at the beginning of the AFP will specify the amount of the female's schooling before marriage and before the first pregnancy, while questions under the labour force participation heading address job seniority. Therefore, the following questions are proposed here:

1. For never-married women:
   a. Did the respondent receive any technical training after the completion of schooling?
   b. If so, what type of training and when? (coded responses)

2. For ever-married women:
   a. Did the respondent receive any technical training before she first married?
   b. If so, what type of training? (coded responses)
   c. Did the respondent receive any technical training after marriage?
   d. If so, what type of training and at what stage in the demographic life history? (coded responses)
Labour Force Participation Histories

Detailed labour force histories are critical for a complete understanding of the desired number and desired tempo of births. Unlike previous surveys, the AFP will make it possible to link the occupation and labour force participation of the female and the male to each birth interval, and the following questions are proposed:

1. For never-married women:
   a. Did the respondent work between the completion of school and the present?
   b. If so, what were the occupations, were they part-time or full-time, and what were the dates of employment in each occupation? (coded responses)

2. For ever-married women:
   a. Did the respondent work between the completion of school and first marriage?
   b. If so, what were the occupations, were they part-time or full-time, and what were the dates of employment in each? (coded responses)

3. For ever-married women with children and for each marriage:
   a. Did the respondent work between marriage and first birth, between first birth and second birth, etc.
   b. If so, what were the occupations, were they part-time or full-time, and what were the dates of employment in each? (coded responses)

4. For ever-married women and for each marriage:
   a. What was the husband’s occupation at the beginning of marriage? (coded responses)

16. This set of questions will also be asked of the male, so cross checks are possible.
b. How long was he employed in this occupation, and did he essentially work full-time?
c. What was the husband's second occupation? (coded responses)
d. How long was he employed in this occupation, and did he essentially work full-time?
e. Etc. for each occupation.

Wealth and Relative Income Status of the Household

Health, income, and relative income status of a household are interrelated concepts, but it is necessary to draw distinctions for fertility analysis. With regard to relative income in the Easterlin sense, my suggestion is that an ever-married respondent be asked how she perceived the couple's well-being in the early stages of marriage compared to what she expected before marriage, i.e. did she expect a lifestyle that was not be achieved? I would also ask, both for the beginning of marriage and the present, how the respondent feels the couple's income status compares to other married couples approximately the same age. These questions would then be followed by direct questions about money income:

17. The approach used in the 1971 Melbourne Family Survey, in which a large number (16) of income ranges were listed and per week and per year figures before and after taxes were made compatible, appears to be the best way of coding income. Once again, the male will also be asked these questions so cross checks are possible.
1. What was the respondent's money income before taxes at the beginning of marriage? Similarly, what was her husband's money income?

2. What is the respondents current money income earned from her job before taxes? Similarly, what is her husband's current money income earned from his job before taxes?

3. Does the household currently receive income from sources other than the couple's jobs? If so, from what sources and how much income?

4. In general, has the household's money income kept pace with inflation over the course of marriage up to the present?

5. For respondents where family size is not said to be complete, does the respondent expect the household's money income over the next several years to remain fairly constant, increase, or decrease?

With respect to household wealth, the following questions are proposed for each marriage:

1. At the beginning of marriage, did the couple own their home?
   a. If not, do they now, and at what stage in the demographic life cycle was it purchased?
   b. Did saving for a home cause a postponement of childbearing?

2. Besides a home, other forms of wealth include savings accounts, stocks and bonds, cars, major appliances, and jewelry.
   a. Approximately, what was the value of such wealth at the beginning of marriage?
   b. Has such wealth increased since the beginning of marriage? If so, what is the value today?
Perceived Costs of Childbearing

Of the economic determinants of fertility, the relative costs of child services is the most difficult to capture in a household survey. As indicated in earlier discussion, four types of cost data are necessary for a complete study of household fertility desires. The time cost can be calculated from the questions on schooling, human capital formation, and labour force participation/occupation. In addition, the following questions are proposed:

1. For all respondents: at present how do you value your time (in terms of money and alternative uses and relative to other women the same age).

2. For ever-married women:
   a. How did you value your time at the beginning of marriage?
   b. Has the value of your time changed from the beginning of marriage to the present? If so, how?

As for the other three costs (prices), one approach would be to construct an individual price index for child necessities, another for the luxury items associated with child quality, and a third for all other non-child goods consumed by the average household. Besides the time involved, the goods purchased across income classes vary significantly, particularly in the case of child quality. Thus, a single index would be quite inappropriate for some (many) households.
My suggestion for the AFP is to begin with some general questions about child costs:

1. For never-married women: How do the costs of having a child compare to the costs of other major household goods (such as buying and maintaining a new car)?

2. For ever-married women and for each marriage:
   a. At the beginning of marriage, how did you perceive the costs of having a child compared to other major goods (such as buying and maintaining a new car)?
   b. Did your perception of such costs change significantly before your first child? If so, how?
   c. Did your perception of such costs change significantly after the birth of the first child? If so, how?

Then I would ask more specific questions concerning child care costs and child quality:

1. For women who have had at least one child, state that "an important factor in raising a child is child care." Then ask the respondent did she:
   a. Stay at home with the child (children) until the child entered school?
   b. Have a friend or relative stay with the child until the child entered school?
   c. Send the child to a nursery or day care center. If so, what was the approximate cost per month?
   d. Have someone come into the home who was paid. If so, what was the approximate cost per month?

2. For ever-married women who have had or desire to have children:
   a. Besides the basic necessities (food, clothing, shelter) and time involved (child care costs), what other costs are involved in raising a child properly? (coded responses).
   b. Does the respondent feel that a household should spend a substantial amount of money on
children, even if it means that the husband and wife must give up certain things they desire?

c. Have the perceived costs of raising a child properly had any impact on the number of children desired? If so, how?

d. Have the perceived costs of raising a child properly had any impact on the interval between marriage and first birth? If so, how?

CONCLUDING REMARKS

The proposed questions clearly show the problems in attempting to address the economic perspective of fertility in a cross-sectional survey. Childbearing desires can differ considerably from actual outcomes, and respondents are forced to draw upon memory rather than repeatedly asked about current price and income perceptions as they progress through the childbearing years. Only with such continuous sampling for a large cohort of women can the economic perspective ever be tested completely. But regardless of the methodological problems, I anticipate that economic variables will explain a significant portion of the childbearing actions and desires of women sampled by the AYP.
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