

Women's Status and Fertility in Developing Countries

Son Preference and Economic Security

Mead Cain

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FOREWORD

This paper is one in a special series of World Bank Staff Working Papers on population change and development. Prepared as background papers for the World Development Report 1984, they provide more detailed treatment and documentation of the issues dealt with in Part II of the Report. The papers cover a range of topics, including the effects of fertility and mortality, the links between population growth and internal and international migration, and the management, financing, and effectiveness of family planning programs. They include several country and regional studies of fertility change and population policy.

The background papers draw on a large number of published and unpublished studies of individual researchers, on Bank policy analysis and research, and on reports of other organizations working on population and development programs and issues. The papers are the work of individuals and the views and interpretations expressed in them do not necessarily coincide with the views and interpretations of the Report itself.

I hope these detailed studies will supplement the World Development Report 1984 in furthering understanding of population and development issues among students and practitioners of development.

Nancy Birdsall
Staff Director
World Development Report 1984

Some of the Papers in the Population and Development Series

- Ainsworth, Martha. Family Planning Programs: The Clients' Perspective. World Bank Staff Working Paper no. 676.
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- Zachariah, K.C., and Sulekha Patel. Determinants of Fertility Decline in India: An Analysis. World Bank Staff Working Paper no. 699.
- Zachariah, K.C. The Anomaly of the Fertility Decline in India's Kerala State: A Field Investigation. World Bank Staff Working Paper no. 700.

Abstract

This paper examines the relationship between women's status--defined in terms of the degree to which they are economically dependent on men--and fertility in developing countries. The paper adopts a particular theoretical perspective regarding fertility determinants in developing countries and explores the implications of women's status within that context. This perspective gives special attention to the value of children as security assets in settings where public welfare assistance is minimal or non-existent and financial and insurance markets are poorly developed. In this context, women's economic status, and the institutional factors that create a particular degree of dependence, determine the relevance of sex of children in defining security goals. In societies where women are highly dependent on men, security goals will, of necessity, be defined in terms of surviving sons; where women are relatively independent economically, it is more likely that children of either sex can serve security goals. Given similar security needs, and other things being equal, fertility will be considerably higher in settings where there is a strong preference for sons than in settings where son preference is weak. A cross-national empirical analysis is presented that lends support to this argument.

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Condensé

Cette étude examine le rapport qui existe entre la situation de la femme - définie selon son degré de dépendance à l'égard de l'homme - et la fécondité dans les pays en développement. Partant d'un certain point de vue théorique en ce qui concerne les éléments dont dépend la fécondité dans les pays en développement, elle analyse les implications qu'il comporte pour la situation de la femme. Selon ce point de vue, dans un contexte où l'aide sociale est minime ou inexistante et où les marchés financiers et l'assurance sont peu développés, l'enfant revêt une importance particulière en tant que source de sécurité. A cet égard, l'importance du sexe des enfants pour la définition des objectifs en matière de sécurité est fonction de la situation économique de la femme et des facteurs institutionnels qui créent pour elle un certain degré de dépendance. Dans les sociétés où les femmes sont fortement tributaires des hommes, l'objectif de sécurité se traduit nécessairement par le nombre de fils vivants; en revanche, lorsque les femmes jouissent d'une certaine indépendance économique, le sexe des enfants a moins de chances d'intervenir dans la définition des objectifs de sécurité. Toutes choses étant égales par ailleurs, si l'on suppose des besoins de sécurité similaires, la fécondité sera beaucoup plus élevée dans une société qui accorde une nette préférence aux fils que dans une autre où cette préférence est moins marquée. Une analyse empirique effectuée dans plusieurs pays corrobore ce point de vue.

Extracto

En este documento se examina la relación entre la situación de la mujer --definida en función del grado en que dependen del hombre en el aspecto económico-- y la fecundidad en los países en desarrollo. Se adopta una determinada perspectiva teórica con respecto a los determinantes de la fecundidad en estos países y se exploran las repercusiones de la situación de la mujer en ese contexto. Con esta perspectiva se presta especial atención al valor de los hijos como elemento de seguridad en situaciones en las que la asistencia pública en asuntos de bienestar es mínima o inexistente y los mercados financieros y de seguros están poco adelantados. En este contexto, la situación económica de la mujer y los factores institucionales que crean un determinado grado de dependencia determinan la importancia del sexo de los hijos para definir metas de seguridad. En las sociedades en que las mujeres dependen mucho de los hombres, las metas de seguridad se definirán, necesariamente, en términos del número de hijos varones que sobrevive; cuando las mujeres tienen una relativa independencia económica, es más probable que los hijos de ambos sexos sirvan a estos fines. Con necesidades similares de seguridad y a igualdad de los demás factores, puede considerarse que la fecundidad es más elevada en ambientes en que hay una marcada preferencia por los hijos varones que cuando esta preferencia es débil. Se presenta un análisis empírico en varios países que apoya este argumento.

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I. Introduction

The task of assessing the significance of the "status of women" as a determinant of fertility in developing countries encounters certain difficulties that are common to all reviews of the relationship between a particular explanatory variable and fertility. In all cases one is confronted by a large body of literature, with no common theoretical foundation, which includes work at different levels of analysis, from different parts of the world, of widely varying quality. The majority of empirical work is oriented toward generating measures of statistical association between variables; however, interpretation of statistical relationships is impeded by the lack of theory and a generally poor understanding of local cultural and institutional contexts. Additional complications arise in a review of work in which "the status of women" is the variable of primary interest. In part these derive from the elusiveness of the concept itself -- there seems to be no common or ready understanding of what is meant by "the status of women" -- and in part because work in this area often produces an uneasy mixture of positive analysis and normative prescription.

This paper adopts a particular theoretical point of view regarding fertility determinants and examines the implications of women's status for fertility within that context. The theory, which is briefly outlined in the first section of the paper, gives special attention to the value of children

as security assets in developing country settings. This perspective can be contrasted with conceptual frameworks that put great emphasis on the near-term costs of children to parents, often to the exclusion of later security concerns. The paper also focuses rather narrowly on one dimension of women's status -- women's economic dependence on men -- that is particularly relevant to reproductive behavior in the context of the "safety-first" model of fertility. Women's economic dependence is viewed as a consequence of patriarchal structure: elements of the institutional setting that serve to restrict the economic independence of women. The relationship between women's economic dependence and fertility, and the relevance of family structure to this relationship, are discussed in the second major section of the paper. Women's economic dependence is thought to influence fertility primarily through associated parental preferences for the sex of children. The final section presents a cross-national analysis of women's status, its social structural antecedents, and fertility with the use of World Fertility Survey data.

This paper does not attempt to systematically survey the literature on women's status and fertility. For such a survey the reader is referred to an excellent recent critical review by Mason.¹

II. A Partial Theory of Fertility²

1. Children as security assets. In those parts of South Asia that I have studied, all indications -- from individual responses to such questions as why sterilization is delayed until a particular parity and child-sex composition have been achieved; from instances of misfortune befalling aging

parents who do not have a surviving son to depend on; or from evidence of the insecurity of property rights, widespread failure of financial and insurance markets, and absence of important extrafamilial welfare institutions -- point to the salience of parental security concerns for reproductive strategies.³

In rural South Asia (and, indeed, most other parts of the developing world), where financial and insurance markets are poorly developed and there is no tradition of extrafamilial welfare institutions, children have a number of desirable properties as security assets. Most importantly, with respect to security for elderly parents, they fulfill the need for an annuity. Uncertainty about length of life and the period and severity of debility that may precede death requires an investment that yields an assured income for an indefinite period. A strategy of asset accumulation followed by dissaving is not responsive to this requirement. Although the accumulation of wealth will clearly contribute to security in old age, one can rarely be certain that contingencies, such as unusual longevity, will not arise for which the sale of a fixed quantity of assets will prove to be inadequate.

Many amenities and necessary services illustrate the desirability of receiving "annuity payments" in the form of labor, and argue for the superiority of children as a security investment. A partial list might include health care, food preparation, and companionship. (The labor in these instances is more likely to be provided by a son's wife than by a son.) Although one could conceivably obtain some of these services in the market, they would be highly imperfect substitutes for those provided by kin.

Children, of course, are neither costless nor risk-free investments. They may die or become disabled; and they may refuse to honor their

obligations to parents. Despite the risks entailed in investing in children as security assets, however, they embody qualities that set them apart. First among these is the quality of support they provide to parents, which is another way of acknowledging the central position of the family in developing societies. Life without family is barely worth living. Although the maintenance of an adequate level of subsistence in old age represents an important goal, individuals aspire to a good deal more. They may aspire as much or more to their due as elders: deference from others, comfort, peace, and companionship. For such "commodities" there are clearly no substitutes for their children and their children's families. Second is the versatility of children as security assets in settings where insecurity is rife and derives from many different sources, of which the process of aging is only one. Third, in many settings the security of land, a potential alternative to children as a "second best" annuity, and of income derived from land is in doubt. In such circumstances, children may, in fact, serve as an important means of insuring against property loss.

2. A safety-first model of fertility. Accepting the proposition that parents in most developing countries place a high value on children as security assets, how does one best incorporate this into models of reproductive decision-making? One class of decision models, which draws partially on bounded rationality theory, seems particularly promising in application to old-age security concerns and reproductive decisions: lexicographic decision rules based on the criterion of "safety-first" (LSF).⁴ Developed to study innovation adoption behavior of farmers, LSF models assume that farmers, in making production decisions, are motivated not only by a

desire to maximize net returns, but also by the condition that net returns not fall beneath some specified "disaster level."

In the case of reproductive decisions, assume that parents wish to maximize "utility" subject to the chance constraint that the probability of inadequate support and quality of life in old age is less than or equal to some target probability. Here, the first priority is to make adequate provision for the future with reasonable certainty. Only after this constraint is satisfied do parents concern themselves with the fertility implications of the more familiar time and commodity costs and benefits of children.

The LSF model as applied to reproductive decisions suggests that parents define minimum requirements for old-age security in terms of a certain number of surviving children. Suppose, for example, that this minimum is one healthy and loyal surviving son. The fertility level that is consistent with this goal will depend primarily on the probability of child survival and the probability of child default. The higher the level of child mortality, the greater the fertility necessary to achieve the goal. Similarly, concern over child default should induce higher fertility than if there were no such concern.⁵ Mortality and default risks may cause the operational "rule of thumb" to be revised upward, such that two sons surviving through infancy becomes the goal. In particular developing societies, the way in which targets are defined, and thus their implications for fertility strategies, will depend on several factors. For example, societies vary in the extent to which sex of offspring is relevant to framing targets. For some societies, only sons will do, while in others it may only be necessary to have x surviving children, irrespective of sex.

The target may be adjusted upward in response to the need for additional insurance against other contingencies.⁶ For example, if the security of property rights is dependent upon strength in numbers, the target may be raised from two sons to three. Culturally determined restrictions on the economic activities of women may create dependency that places them at extraordinary risk in the event of widowhood or divorce, and thus have a similar effect. The presence of additional sources of risk would not necessarily require an adjustment in the target, however. It could well be that the target set for old-age security is sufficiently high to satisfy additional needs. Nevertheless, multiple sources of risk would serve to reinforce reproductive goals and increase the significance of attaining them.

3. Economic development and fertility decline. How would one's expectations about change in fertility in response to economic development differ with the LSF model as compared to competing theories?

According to the relative child cost framework developed by Peter Lindert⁷, an improvement in infant and child mortality should have an unambiguous negative effect on the relative cost of children because time costs in particular are heaviest in the first few years of a child's life, while the returns from child labor do not begin to accrue until after the period of highest mortality risk. On the other hand, in the LSF model an improvement in infant and child mortality would, other things being equal, reduce the number of births needed to achieve the security target. Unless this number exceeded the level of natural fertility, one would expect an improvement in mortality to have a negative effect on fertility.

According to the LSF model, change in the time and commodity costs of child rearing or in the value of child labor can be expected to exert a negative influence on fertility only if fertility exceeds the level associated with the security target. If fertility is less than or equal to the target level, such change should have no impact on demand for children or fertility. Suppose, for example, that the absolute value of children (considering only costs and returns up to age 15 or 20) is negative. One can imagine several sources of change that would make children even more costly: for example, an increase in female wages or labor force participation that raises the time costs of children, or technological change that erodes the market for child labor, thus reducing the potential contributions of children. These changes, however, could quite plausibly leave the target unaffected, and thus have no effect on fertility: the cost of insurance will have risen; yet the need for insurance will remain. According to the Chicago School microeconomic theory of fertility, on the other hand, an increase in the absolute or relative cost of children should, ceteris paribus, decrease the demand for children and result in an appropriate adjustment in fertility. The operation of a security constraint, such as described by the LSF model, may help to explain the disappointing results of empirical tests of microeconomic models in developing countries, and the failure to discover, for example, a consistent and significant relationship between women's work activity and fertility.⁸

Reductions in the target itself could be produced by elimination or moderation of sources of risk, or the replacement of children by other sources of insurance, or some combination of these. Administrative and political development, for example, may eliminate the need for the political

self-insurance that a large family provides. Growth in income and savings opportunities may reduce dependence on children for security. However, even with income growth, as long as insurance and financial markets remain badly incomplete, children will not be easily displaced as primary sources of security.

In settings characterized by multiple sources of serious risk for which children represent the best or only means of insurance, the target for surviving children may be particularly resistant to change. If little separates the targets implied by different sources of risk, then all sources must be moderated in order to induce a fertility response.

The LSF model suggests a different pattern of fertility transition from that experienced in the West and depicted by conventional demographic transition theory. The latter describes a smooth and irreversible transition from high to low fertility. By contrast, the LSF model suggests a two-stage transition. In the first stage, fertility adjusts to a new mortality regime. The very sharp and nearly global improvements in mortality that followed World War II in many cases decreased the level of fertility necessary for achieving security goals. (The targets themselves need not have been altered.) The extent of fertility decline in the first stage will vary from society to society depending on the extent of mortality decline and the level of the security target. The second stage of fertility transition is triggered by change that reduces the target itself: that is, improvement in the environment of risk and/or development of alternative sources of insurance. In exceptional cases, postwar economic development will have been so rapid that the two stages merge together and produce an unbroken transition from high to low fertility (as in Singapore, for example). More