ECONOMIC ASPECTS OF FERTILITY : AN APPRAISAL

By

Dr. ATEF M. KHALIFA

Institute of Statistical Studies and Research, Cairo University.

INTRODUCTION

Economic deterministes or materialists in Sociology and Demography, substantially emphasize the economic factors in fertility. Some go so far as treating fertility phenomenon entirely within the framework of the economic theory. They intentionally ignore social and psychological factors. Within the micro-economic model, Becker (1963), as an example, lumps all such factors under two variables, namley, tastes and preference of the couple [see Easterlin (1969)]. Dealing with a macro-economic model, they entirely by-pass such factors as religion, percentage farmers... and the like on the social and psychological dimensions. [Examples of that, Kirk (1960)].

On the other hand, some sociologists may take the other extreme, they substantially emphasize social factors such as religion, farm background, education, social mobility, etc... They may go so far as explaining fertility differentials by socio-economic status in terms of only one variable. An example of that is the strong form of the social mobility hypothesis of fertility ; that is «differntial fertility by socio-economic status, social class, or some similar type of variable is completey explained by social mobility». [Duncan and Blau (1967)]. However, social demographers who are single-factor determinists are very few and safe to ignore.

The majority of social demographers however, fall in between these two extemes. They do take all factors, economic, social, and psychological into consideration. They believe in the over-complexity of fertility as a social and biological phenomenon. This does not mean that different social scientists do give same weights to different factors.

On the contrary some believe in the supremacy and priority of economic factors, for example J. Simon (1969). They may give more weight to social or psychological factors [westoff and other (1961)].

With all these different directions in mind regarding the main factors that explain fertility differentials, it seems uneasy to formulate one acceptable general theory of fertility. What we find in literature does not go beyond two types :

(a) Middle-range theories characterized by a low level of abstractness and generality, in a sense that not all assumptions are acceptable or realistic, nor general enough to be applied beyond certain space, or time, or both. Most of these theories are not able to predict the phenomenon nor view systematically the interrelations among the variables. An example of that is Becker's framework that has been bitterly criticized by J. Blake (1968) as well as others.

(b) «The empirical studies» constitute the second type and the bulk of literature on fertility differentials by socio-economic status. On one hand they are charactrized by a narrow level of applicability (within certain time or space), and on the other hand they produce contradictory findings.

In the remaining part of this paper I shall attempt to develop certain criteria (in a dichotomic form) that may explain these contradictory findings. In doing so, I shall review some literature and state my own stand when possible.

First : Static Vs. Dynamic Studies :

We have to distinguish two types of empirical studies regarding economic factors in fertility.

A.—*Static* or cross-sectional studies. In these studies, a sample is to be drawn from a given population in a certain area. It is simply classifying population according to some criteria to economic classes and then assessing their corresponding fertility. One of the most usable criterion is income. If we consider income, we have to determine what we mean by it. There are, the permanent income concept that, «can be viewed as emphasizing that it is the potential income flow through time that is pertinent to household decision-making», and that of observed income or income at the time of the study (Easterlin 1969). Another distinction when we deal with income is, absolute and relative

income. The former is more or less the observed amount while the latter is what this absolute amount means to the family (Freedman and Coombs : 1966).

Then, the first source of contradictory findings lies in the concept of income used. Freedman and Coombs have mentioned that «it is reasonable to think that in long-range decisions such as those about family size, expectations about future income may be as important as present income. Permanent income is the income a man expects to have over his lifetime, may be positively correlated with fertility while current income is not». (Ibid 1966). In the same study they concluded that current income is not related to expected or preferred family size, but it is strongly related to the timing of demographic events such as the age at marriage and spacing. At the same time, wives who expect to have a large income, expect more additional children than others. Another important source is how does the family regard their income. Do they regard it «adequat» ? do they perceive it as higher than that of friends or other significant comparison groups ? If the answer is yes, then we expect such families to expect and prefer more children than others. (Freedman and Coombs, Ibid, have studied this type of questions in detail and confirmed these expectations).

In sum, we cannot make unambiguous predictions about the effect of income (and accordingly most of the economic factors) on fertility without clearly specifying the time structure of the weights for income.

B.—The *dynamic* studies (or time series) take into consideration the lagged effects of the economic variables such as income, systematic changes in taste for children and the others. As we will see later this can be on the micro or the macro level. Kirk (1960) has analysed on macro level the infleunce of economic fluctuations on marriages and births respond sensitively to changes in economic conditions in the developed contries. On the other hand, while «the deviations from trend of fertility rates seem to move in the same direction as the trend deviations of economic indicators, the former series exhibits a distinctive character of its own, describing a trend in many respects quite independent of economic conditions». In sum, it seems evident that there are no contradictions regarding the income feritlity relationship over the business cycle. Most «empirical» studies have shown a positive relationship (for example Galbraith and Thomas (1941), Coale (1962) and Kirk (1960)). Simon (1969) has summed his survey by

stating «all in all, there is every reason to believe fertility will exhibit a positive relationship to income and employment over business cycles».

What is the eflect of economic development on fertility in less developed countries. In answer to this question we find two schools ; the first asserts that economic development has an inhibiting effect on fertility (Davis and others). The other school asserts that economic development promotes fertility (Becker (1963)). In my opinion, it may be true that the direct effect of increasing income is increasing fertility. But we must be cautious because of the other independent as well as intermediate variables. The process of economic development is accompanied by various changes in the social and psychological dimensions. The «quality» norms of children replace gradually the «quantity» norms. Social norms regarding family size tend to specify less number of children. New social norms arise that obligate families to educate their children. These factors tend to have a reducing effect on fertility that may out-weight the increasing income. Hear (1966) has pointed out that «economic development, if it is to be effective in reducing fertility, must be accompanied by certain changes in social structure». Both Mrs. Adelman (1963) and weintruab's (1962) studies found that the effect of income is positive, but there are «negative effect» factors such as education, proportion of population living on farms, and the infant mortality rate. I tend to agree with Simon (1969) that computation of partial correlations in this respect may lead to «misleading» statments. However, I tend to disagree with the statment that «the partial effects of income and other variables are not of interest». I think they are very important, and that the «unconditional» effect of income is more misleading. For, since all factors of development happen simultancusly, we have to take all the interrelated effects into consideration to get the «net balance» effect of the development process on fertility attitudes and behavior.

Before leaving the static-dynamic sphere two questions remain to be considered ; the first is about the changing positions of socio-economic groups in relation to fertility over periods of time, and the second which is a complement part of the former, is about the eventuality of a positive relationship. I shall now deal briefly with these two questions.

A long-term decline in the birth rates has been noted in all the now highly developed Western countries. Hawley (1950) stated that «Available evidence for Europe prior to (1850) suggests that births occurred in all classes at about the same rates». After about 1900,

a growing body of firm evidence indicates that socio-economic starta were not contributing equally to the changes in aggregate fertility rates. «Instead, the higher strata in virtually all countries were coming to produce much smaller numbers of offspring, on the average, than the lower strata» [Duncan and Blau (1967)].' This can be shown in the following figure :

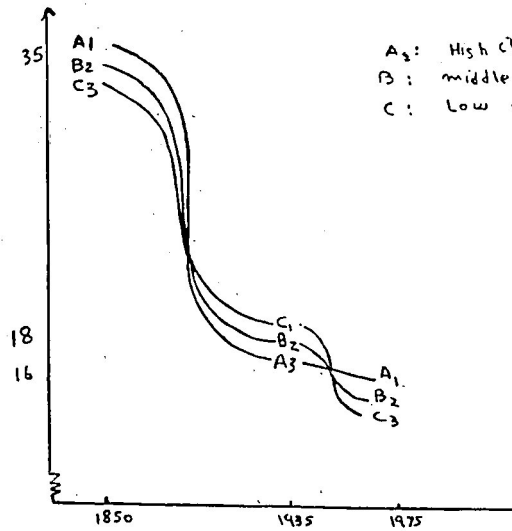

Fig (1)*

Facility by Three Socio-economic classes

*Source : Hawley, A. (Ibid)

Thus socioeconomic groups changed their positions in the developed countries (with continuing decline in the overall rate of fertility). Hawley (1950) suggested that «a third and final phase of the cycle characterized by direct correlation of the two variables, is developing in many populations of the Western World». This has been shown by

the dotted part in the above figure. Becker (1963) indicated that the relationship between income and fertility should be positive. He suggested that differential knowledge of contraceptive tachniques might explain the negative relationship between income and fertility showed by most empirical studies. He asserts «It is well known that rich families use contraception earlier and more frequently than poor families». J. Blake (1968) criticized Becker's thesis on the grounds that the positive relationship does not exist. She pointed out that this means «that wealthy people desire more children than do poorer ones».

Second : Micro Vs. Macro Studies :

The «units of analysis» is a major source of contradiction. On the international level, taking nations as units of analysis, the findings are much easier to be explained and predicted. Berelson (1966) erra-yed countries cross-nationally and found a strong negative relationship between Gross National Product per head (USA'$) and percentage wanting four or more children (see fig. 2) with USA as the only exception.

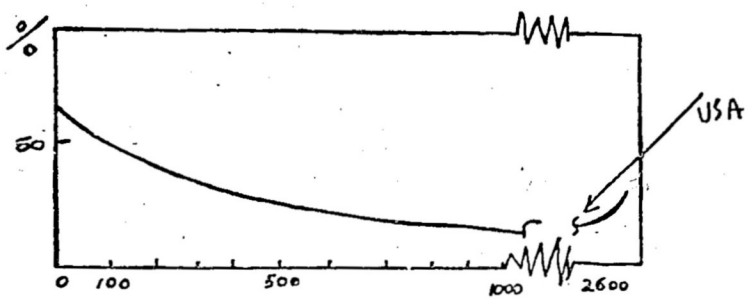

Fig (2)*

Cross-national array of countries by national Product per head and percentage wanting four or more children

* Source: Berleson -(Ibid)

Simon (1969), I believe, falls in the mistake of using Berelson's findings as evidence to butterss Adelman-Weintraub's evidence (shown above). This can not be relaiable or valid since Berlson used different level of analysis (Macro) and Adelman-weintraub's anaylsis was no the

Micro level. Statistically speaking, simple addition of micro units to constitute a macro unit do not provide the same results.

On the micro level, the relationship may not be as strong, and it may be negative (as in the U. S.). It is a more complicated case. In this category, there have been the majority of the empirical studies especially in the developed countries and in the U. S. A. in particular. Do such empirical data support the thesis of positive relationship between certain measures of fertility (say, desired and actual family size) and different economic factors (say in the modernized countries) ? Blake (1968) presented data on family-size ideals by income and economic status from 13 polls and surveys in the U. S. using national samples of the white population. She stated that, «the relationship that a rise in family size preference with rising income «is not actually found unless some powerful pro-natalist non-economic influence, such as Catholicsm, is at work». Princeton study produced, however, a slight negative relationship between these two variables.

Third : The dependent and the independent Variables :

It is very important to recognize the two-way relationship between the economic factors and fertility. It is only one side of the picture to investigate the effect of various economic factors on fertility without indicating at least some awareness of the feedback effects of fertility over the long or short time. It is of crucial significance to explore the influence of fertility on the family's economic situation (Micro level) or on the nation's economic development efferts (Macro level) not only now or in retrodiction but also as planning tool of the future.

Most of the empirical studies (and all of the ones mentioned so far were of this kind) take fertility as the dependent variable. Few studies have shown interest on the other side of the relationship on the micro level. It is true that literature on the effect of fertility on the economic development process are numerous.

A family must be small in order to rise in the social and economical scale. Rearing children absorbs money, time and effort which could otherwise be used to rise in the economical scale. Better economic conditions are thus more feasible with one or two children than with a larger number. It is possible here to talk about types of «economic mobility», intergenerational and intra-generational. The

former concerns the family itself ; the latter, the families of their children. In both cases, family must be small in quantity to enable a better quality.

Child spacing is very relevant in this respect. Freedman and Goombs (1966) have shown that the timing of births after marriage has a strong and consistant relationship to the economic position of the family. Their main finding is that «early and rapid family growth causes relatively low income status» (Ibid). In other words, rapid family growth is associated with less favorable conomic position. Of course this relationship may be spurious, and they were aware of that. It is possible that this association has resulted mainly because the couple prefers children more than economic gains rather than the interpretation that rapid births put the couple under great economic pressure, particularly if they married at an carly age» (Ibid).

Fourth : Developing and developed nations :

The differences in the direction and magnitude of the relationship between economic factors and fertility in both developing and developed nations have been discussed before. We will be concerned now with the effect of fertility on economic development in developing countries and then a prediction of the future direction of the relationship in these types of nations.

The effect of high fertility would be to reduce subsequent increase in economic level and hence subsequent increase in per capita energy consumption. Therefore, the obtained assocoation between fertility and increase in energy consumption would represent the average two countervailing effects, and the influence of increase in per capita energy consumption on fertility would be greater than that indicated by the association between the two variables [Coale and Hoover (1958)]. The questions for investigation in developing countries are no longer simple associations but rather a complex set of economic, social and demographic stimuli. There are also the questions of the barriers to advancement, whether they are inherent in the cultural and psychological dynamics of group or products of barriers in the larger society. [Taeuber (1966)].

In developing countries during the process of economic development income is not a simple variable. Many social variables can be seen through income with a strong correlation. For example education becomes a function of income and in turn provides more income (as

a feedback). Observed income is not a valid representation of the household decisions regarding fertility. In sum, income and education can not be manipulated separately in developing countries. In addition both income and education are not too much different from urban residence in these countries. On the contrary, when we consider a relatively developed country by the modern standards, we can no longer lump together variables as these mentioned above. Rather, education is quite different from farm or urban residence, knowledge of contraception and the like. Simon (1969) gives two reasons for this ; first, these variables may attain saturation and second «the effect of education might reverse at high educational levels producing higher rather than lower fertility».

With all these complexities in mind, most demographers, standardly, forecast a drop in fertility as development takes place (Macro level). They also expect, at least for the early stages of modernization, a negative relationship between income and fertility. In industrial countries, the prediction for the effect of cyclical changes is a dirct relationship between income and fertility. (Ibid).

Fifth : Nomothetic Vs. Idiographic research :

Particularism is the most dominant approach in empirical and theortical studies regarding fertility in general and economic factors in fertility in particular. What is meant by particularism in the present paper is the study of the different factors within certain cultures or subcultures. This type is characterized by a limited ability for prediction and of explanation beyond the limits of certain culture or subculture. We must acknowledge the continued dominance of idiographic currents right throgh to the present moment. For example studies of fertility defferentials in certain areas in the world, say central India by D. Driver (1960). No attempt is made to discredit this type of research regarding fertility. On the contrary, although the idiographic approach may be respected in certain fields of social sciences, i. e. cultural anthropology (Harris 1968), it may prove useful in fertility research by opening new directions, introducing new variables, and showing the differences and similarities within certain respects.

Comitment to nomothetic inquiry have gained strength and stature within the fertility field of investigation. It seems that demographers have recognized the importance of creative theory in which

demography as a science became more dependent on statistical techniques and comparative methods with greater emphasis on the structural aspects as well as origins and causality. Review of literature shows that trend, A best example is Duncan and Blau's study (1967) that treats fertility within the context of a general structure depending to a greater extent on statistical techniques and methods and attempting to explain the origins and causes of fertility differentials. Economic factors must be treated within the total model that aims to discover the similarities and differences in fertility in different times and spaces.

In a general theory of fertility, economic factors definitely are not the only causes or consequences. At the same time these factors can not be ignored ,as having a very important contribution in causes and consequences treated in the proposed general theory.

In General :

The previous five criteria are not the only ones, however they can be considered as the most important. We can have a general theory and nomothetic research that embrace both developed and developing countries on the same theory on the assumption that developing countries constitute an earlier stage in the development scale or continum.

There is another important criterion, namely studies regarding attitudes (desired or ideal family size) and others regarding actuals (actual family size). Of course relateing economic factors (observed or expected) to attitudes may (and usually do) produce different results than in the case of actuals. A frequent explanation (Becker, Simon, Goldberg, others) is the differential knowedge of contraceptives. I would like to add here their «effectiveness», as well as the existence of certain pre-conditions of family planning in greater proportions in the higher income strata (such as desires, avilability, and other preconditions).

CONCLUSIONS

From the previous analysis we recognize the impossibility of separating the effects of the conomic factors, neither from each other nor from the other social and psychological factors. It seems evident that there is no one single factor that can explain satisfactorily fertility rates and differentials. All factors must be taken together. They are interrelated as well as interchanging. This conclusion became very

clear, especially in the treatment of the relationship between economic development and fertility. I believe that the deterministic approachs are unable to produce «theoris» general enough to explain and predict socio-economic differentials of fertility in the short or long run.

My main purpose in this paper was to review the literature expressing my own stand, showing that the apparent contradictions in their findings may not be real because they are not actually comparable. In other words, each empirical study may belong to a cell composed of a set of criteria which is only comparable with other studies within the same cell. For example, I think, we can not use Berlson's evidence to support or supress Adelman's (as Simon did). Each uses a different level of analysis. Findings on the macro level may or may not coninside with findings on the micro level concerning the same problem. In my discussion, however, I have not tried to get into the methodological problems.

Income is no doubt one of the most important factors. But different studies use different concepts of income, for example permanent or current, real or money, and absolute or relative. For example, permanent income may yield a positive relationship with fertility, while current income may yield a nagative relationship at the same time. Thus, we can not make unambiguus prediction about the effect of income on fertility without clearly specifying the time structure of the weights for income.

Theories produced to explain fertility differentials are characterized by a low level of abstractness and generality. One of the main reasons for this failure is the neglect of fertility's ability for feedback. Fertility is not only a dependent variable but an independent variable able to affect economic and other factors through lagged effects. This shows how important a dynamic model is, for not only fertility has the power to feedback, but most of the other factors (such as income and income expertations) do have the same characteristics. They all have feedbacks and lagged effects. On the micro level fertility can be studied as the independent variable in the sense that a family must be small in order to rise in the economic scale. On the macro level, the effect of fertility on economic development especially in developing countries is clear. Feedback, of course, exists in both cases.

Within the micro-dynamic studies, two questions are raised : what are the changing positions of socio-economic groups in relation to fertility and what is the eventual direction of that relationship. The

positions have changed from no or direct relationship in 1850 to a negative one in 1935 [Hawley (1950)]. Many demographers predict a direct correlation as an eventual development in the future (in developed countries). But it seems that in spite of this overwhelming prediciton, the future trend is actually unpredictable.

We must acknowledge the continued dominance of idiographic currents right through to the present moment. They are useful but commitment to nomothetic inquiry must have the priority. Nomothetic inquiry, however is steadily gaining strength and stature. Demographers have recogaized the importance of creative theory, statistical techniques and structural aspects.

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