A Comparative Analysis of Fertility Differentials in Cross River State

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Abstract

This paper seek to evaluate fertility differentials in a rural –urban residents in Cross River State. Two settlements were use which include Anantigha as an urban settlement in Calabar and Bendi as a rural settlement in Obanliku. Ninety households were used for this study of which equal number of questionnaires was randomly distributed in each of the settlement. Findings show that there was no variation in age entry to marriage in the two settlements even though there was a significant difference in fertility differentials in the study area Besides, it was noticed in the study area that family size and composition in the study area does not have any influence on fertility differences.

Keywords: Comparative, Differentials, Fertility, Marriage , Residents.

Introduction

Today, not every factor implicated in fertility is important and directly affects fertility. Some factor are direct while others apply through the direct variables (Bongaarts, 1978). Those that exact themselves directly on fertility, Bongaarts refers to as the proximate determinants while the indirect ones are the socio-economic and other background variables. Proximate determinants of fertility are behavioral and biological factors. It is the knowledge of the proximate determinants that improves the understanding of operation of the socio-economic variables. What Bongaarts refers to as "proximate" determinants had been earlier termed "intermediate" determinants by Davis and Blake (1956). By intermediate he meant that these variables stand between socio-economic conditions and fertility. The influence of socio-economic conditions can only be felt through the intermediate variables. According to UN(1987:165), whatever reduces or increases fertility level , takes through "the direct operation of various factors affecting the exposure to intercourse and exposure to conception and through factors affecting pregnancy outcomes and length of the post partum infecundable period" and these variables extend to more remote influences such as educational and cultural background. Many multivariate studies have been conducted to engage the casual factors linked with fertility. However, these studies have proved inadequate and in many cases, the key problematic is the issue of methodology, that is, of data collection. Most researchers depend on official statistics which for obvious political and other reasons may be unreliable. Thus, findings from such studies do reflect the data, which are usually unreliable. It is in the light of the obvious gaps in the available knowledge and the intractable nature of the problem that this study is designed to fill the said lacunae with respect to investigating the influence of education, family size and marital union on fertility differences in Cross River State.

Literature review
Proximate determinants of fertility

According to Bongaarts (1978) not every factor implicated in fertility is important and directly affects fertility. Some factors are direct while others apply through the direct variables. Those that exact themselves directly on fertility, Bongaarts refers to as the proximate determinants while the indirect ones are the socioeconomic and other background variables. Proximate determinants of fertility are behavioural and biological factors. It is the knowledge of the proximate determinants that improves the understanding of operation of the socioeconomic variables. What Bongaarts refers to as "proximate" determinants that had been earlier termed "intermediate" determinants by Davis and Blake (1956). By intermediate is meant that these variables stand between socioeconomic conditions and fertility. The influence of socioeconomic conditions can only be felt through the intermediate variables. According to UN(1987:165) whatever reduces or increases fertility level takes placed through "the direct operation of various factors affecting the exposure to intercourse and exposure to conception, and through factors affecting pregnancy outcomes and length of the post partum infecundable period". And these variables extend to more remote influences such as education and cultural background. Therefore, factors accountable for variation in fertility can be accounted for by these proximate determinants. This implies that differentials and trends of fertility within a country and differences in fertility levels across countries can be directly traced to differences in these proximate variables if it can be assumed that the potential level of fertility is the same in all societies and all factors directly affecting fertility have been fully accounted for. In sum, there are therefore, three factors that determine fertility trends and differentials.
- Factors affecting exposure to intercourse

-   Factors affecting exposure to conception and
-   Factors affecting gestation and successful parturition

A major convolution of Bongaarts (1978) to the understanding of fertility is the development of a model in which three main proximate determinants of fertility could be measured and their relative effects on fertility qualified. In doing this, Bongaarts restricted the factors to be considered to the four most important variables:

1.   Marriage (which is only one aspect of exposure to sexual intercourse
2.   Contraception (or exposure to risk of contraception
3.   Abortion (one aspect of gestational outcome and
4.   Breastfeeding (the most important determinant of the duration of infecundity following a birth.

Other proximate or intermediate variables such as primary or secondary sterility or infecundity, temporary separation between married couples and other reasons for involuntary abstinence were not considered by Bongaarts because he felt that their fertility impact would not vary greatly across population. Studies have confirmed that most of fertility variation in the majority of countries can be explained by these four factors alone (Bongaarts, 1978; 1982; Bongaarts and Kirmeyer, 1982; Isiugo-Abanihe, 1996). The model developed by Bongaarts expresses the actual level of fertility, (the total fertility rate, TRF) as a function of the fertility-reducing effects of the proximate determinants on a maximum potential level of fertility (the total fecundity rate TF). The equation or the model is summarized as:-

$$TFR = Cm.Cc.Ca.Ci.TF$$

Where Cm represents the index of marriage, Cc is the index of contraception, Ca is the index of abortion and Ci is the index of postpartum infecundity. The implication is that is any society or group of people where the fertility-reducing effects of the proximate determinants is lower, the outcome will be a higher total fertility rate. Several studies have omitted the index of abortion (Ca) from the model especially in Africa claiming that its effect on fertility in Africa is negligible. This may well be contested, but one must bear in mind that societal laws also affect the smooth operation of the determinants of fertility (Isiugo-Abanihe, 1996), and since out society frowns at abortion, this may well be left out. So utilizing the proximate determinants of fertility model shown above, Isiugo-Abanihe (1996) studied the determinant of fertility in Nigeria. It will be very pertinent to reviee Isiugo-Abanihe, is (1996) work here while at the same time pointing to the factors determining fertility deferential. In examining marriage as a proximate determinant, he divided the issues into age at first marriage, non-marriage or celibacy, marital disruption and remarriage. He noted in 1990 that the median age at first marital unions was 17 in Nigeria. This means that half of Nigeria women aged 15-19 have married by the time they are 17years old.

On his own part, Lightbourne (2007) analysis revealed that there was a positive association between size of place of residence and the proportion of women currently practicing contraception. The association held for all age groups and for all parity levels. The proportion of women at risk and currently practicing contraception was 55% in principal cities, 47% in other urban areas, and 33% in rural areas. His findings also indicated that contraception was widely practiced for the spacing purposes. The percent of women ever using a method. For every 100 ever users there were 70.5 current users in urban areas and 61.3 current users in rural areas. Rural and urban differences in contraceptive use for the 19 countries were compared with rural and urban differences in industrialized countries. The rate of current urban users/100 rural users in industrial countries was 107. Respective rates for the Asian and Pacific region and the Latin American region were 152 and 155. Findings were presented in a series of 33 tables. The mean age at first marriage in 1990 was 17.3 while the singulate mean age at marriage (an estimate of the mean age at first marriage of those who ever marry) was about 20 years. Note that these generalized statements do conceal significant variations in marriage behaviours among the component parts of the country. For example, "age at a first marriage is higher in urban areas than in rural areas, and among educated women relative to those with little schooling: (Isiugo-Abahihe, 1996:11). Moreover, there is a substantial ethnic variation in age at marriage in Nigeria, with a pattern of very early marriage among the Hausa/Fulani (mean age at first marriage less that 15 years), and fairly late marriage among the Yoruba and the Igbo (mean age at first marriage higher than 19 years). Today, many works have been conducted in this area but none has been able x-ray the subject matter with specific reference to the study area

Methodology

The study was conducted in Cross River State taking into consideration, two environments rural and urban. The rural community used for this research include Bench Community of Obanliku Local Government Area. The two area covered in the urban environment was state housing estate in Calabar municipality and Anantigha in Calabar South Local Government Area. Bench represented a rural community while Calabar was used because is the most urbanized place in Cross River State. The population sample was used which 900 household consist of married men and women. The sample was derived by using 10% of the total households in each of the selected areas. This means that, from bench 350 households were selected from 3,500 households whose Anantigha had

420 from 4,200 households; this brings the total to 900. The ten (10) villages of Bendi was used of which each produced 35 respondents while in the urban area (state housing and Anantigha) were randomly selected. The questionnaire were designed to elicit data from the respondents which were used for the comparative analysis of fertility differences between rural/urban environment

Finding
Rural-urban fertility differentials
The rural-urban fertility differentials presented in table 1 show that, the calculated x^2 – value of 90.91 is higher than the critical X^2-value of 9.49 at .05 level of significance with 4 degree of freedom. With this result, the null hypothesis that, difference in age at entry to marital unions between rural and urban residents is not significantly related to rural/urban fertility differentials was rejected. This implies that, difference in age at entry into marital unions between rural and urban residential is significantly related to rural /urban fertility difference.

Table 1: Rural-urban fertility differentials

Age	Rural	Densely urban	Low densely urban	Total	X^2 value
Below 20	101(77.27)	79(93.18)	20(29.55)	200	
20-30	208(198.20)	255(239.01)	50(75.78)	513	90.91
30 and above	31(64.52)	76(77.81)	60(24.67)	167	
Total	340	410	130	880	

Source: Data analysis , 2012.

The age of entry into marital union and rural – density
The rural-urban fertility differentials presented urban presented in table 2 shows the calculated x^2-value of 20.2 is higher than the critical X^2 value of 1.386 at .05 level of significance with 2 degree of freedom. With this result, the null hypothesis that said differences in age at entry into marital unions between rural and urban residents is not significantly related was rejected. This however, shows a comparison between rural and densely urban area (Anantigha). It implies that differences in age at entry into marital union between the areas is significantly related and do exist. The result of this hypothesis revealed that differences in age of entry into marital unions between rural and urban residents are significantly related to rural/urban fertility differentials. The findings are line with the view of Bhatia (1978) who observed that age at marriage whether proximate or intermediate determinant of fertility has direct bearing or effect on fertility. The determination of when to start family or age of marriage was a function of socioeconomic variables such as educational demands, chosen career, suitable suitors, and economic backgrounds, among others. Leon (2004) noted that in Nigeria the law states that a girl must at least complete her basic education and must be at least 18 years before entering into marriage unions. Enforcing such as law in Nigeria is not easy especially given the cultural diversity of the country.

Table 2: Age of entry into marital union and rural/densely urban

Age	Rural	Densely urban	Total	X^2 value
Below 20	101(81.6)	79(98.4)	180	
20-30	209(209.89)	355(253.11)	463	
30 and above	31(48.51)	76(58.49)	107	20.02*
Total	340	410	750	

Source: Data analysis , 2012.

The result in table 3 indicates that, the calculated X^2-value of 23.83 is higher than the critical X^2-value of 5.99 at .05 level of significance with 2 degree of freedom. With this result the null hypothesis that said "differences in the choice of family size and composition between rural and urban residents does not have any significant influence on fertility differences" was rejected. This means that, the choice of family size and composition between rural and urban residents have a significant influence on their fertility differences as maintained in the alternate hypothesis.

Table 3:Result of statistical analysis of the influence of family size and composition in rural/urban fertility

Family size and composition	Rural/urban fertility differences				
	Rural	Densely urban	Low densely urban	Total	X^2 value
Small	90(100.45)	150 (121.14)	20(38.41)	260	
Large	250 (239.55)	260(288.86)	110(91.59)	620	23.83*
Total	340	410	130	880	

Source: Data analysis , 2012

The result in table 4 shows the calculated X^2-value of 6.45 is higher than the critical value X^2 of 0.455 at .05 level significance with 1 degree of freedom. With this result, the null hypothesis on the influence of family size and composition in rural/urban areas was rejected, and the alternate hypothesis is upheld, hence it

establishes a high degree of influence between rural and low density areas differently.

Table 4:Result of statistical analysis of the influence of family size on densely urban fertility

Family size	Rural	Densely urban	Total	X^2 value
Small	90(100.45)	150 (131.2)	240	
Large	250 (231.2)	260(278.8)	510	8.74*
Total	340	410	750	

Source: Data analysis , 2012

Table 5: Result of statistical analysis of the influence of family size and low densely urban fertility

Family size	Rural	Low densely urban	Total	X^2 value
Small	90(75.57)	20(30.43)	110	
Large	250 (260.43)	110(99.57)	360	6.45*
Total	340	130	470	

Source: Data analysis , 2012

Recommendations

It has been observed that fertility rate in the study area this is evidenced in the data collected however, the increasing rate of fertility in the study area was attributed to age of entering to married and socioeconomic variables. This study has shown that even though there was variation in fertility differentials in both rural and urban environment, the following measures are recommended to avert increasing rate of fertility in the study area.

➢ Families should adopt family planning measures so as to reduce fertility rate
➢ The age for entering into marriage should be specify so as to prevent early marriages
➢ There should be public enlightenment on the dangers associated to high fertility rate in any given environment
➢ The government should establishment a department that would be charge with the responsibility of monitoring the rate of fertility in both rural and urban areas

Conclusion

Today, fertility differentials in both rural and urban areas can be attributed to many factors. This study has shown that even though the rate of fertility in urban area is high compared to rural area, the rate of fertility in both settlements seem to be very high due to age of entering to marriage and socioeconomic attributes of the residents in the study area. Besides, it was observed that family size and composition influence fertility differentials in study area. Therefore, adequate measures must be put in place by the government and other agencies to check the increasing rate of fertility in the area.

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