Key Drivers of Fertility in Nigeria: A Re-examination of the Regional Differentials

By

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Presentation Outline

- Background

- Objectives

- Conceptual Frameworks

- Hypothesis

- Methods

- Results

- Summary of Results

Background

- Nigeria population size is over 174 million:
- TFR = 5.5 and the growth rate of 2.8% (NPC [Nigeria] and ICF Int. 2014).
- About 60% of the population live on $1 a day (World Economic Forum 2014).
- Signals a call for action.

Background (Contd.)

- Implementation of the1988 population policy, revised in 2004, has so far made NO significant impact (Obono 2003; World Economic Forum 2014).

- Hence, TFR declined marginally from 5.7 in 2003 to 5.5 in 2013 (NPC [Nigeria] and ICF Int. 2014).

- Failure of the policy has been traced to the non-recognition of the diversity inherent in Nigeria (Obono 2003; Odimegwu and Zerai 1996)

Background (Contd.)

- Information on the region-specific fertility predictors are therefore imperatives in the formulation of a realistic population policy.

- Previous studies highlighted the factors driving fertility in Nigeria (e.g. Adiri *et al.* 2010; Agba, et al. 2011; Akpa and Ikpotokin 2012; Hollos and Larsen 1992; Isiugo-Abanihe 1994, 1995, 1996, 2010).

- But we know little about the regional differentials in the key drivers.

- Hence this study.

Objectives

- To identify the key predictors of fertility in the geopolitical regions of Nigeria.

  - Highlight the regional differentials.

Conceptual Frameworks

Sphere-of-life

⬆

Modes of economic production

- The modes of production framework is the specific economic system consisting of the forces or materials of production and the social relations that it builds, as human beings struggle to satisfy their needs (Coser 1971; Graeber 2006; Ritzer 2008).

- The Sphere-of-life framework posits that human behaviours take place in the context of a whole of spheres of human life, namely the self, the intimate and the social (McDonald 1996).
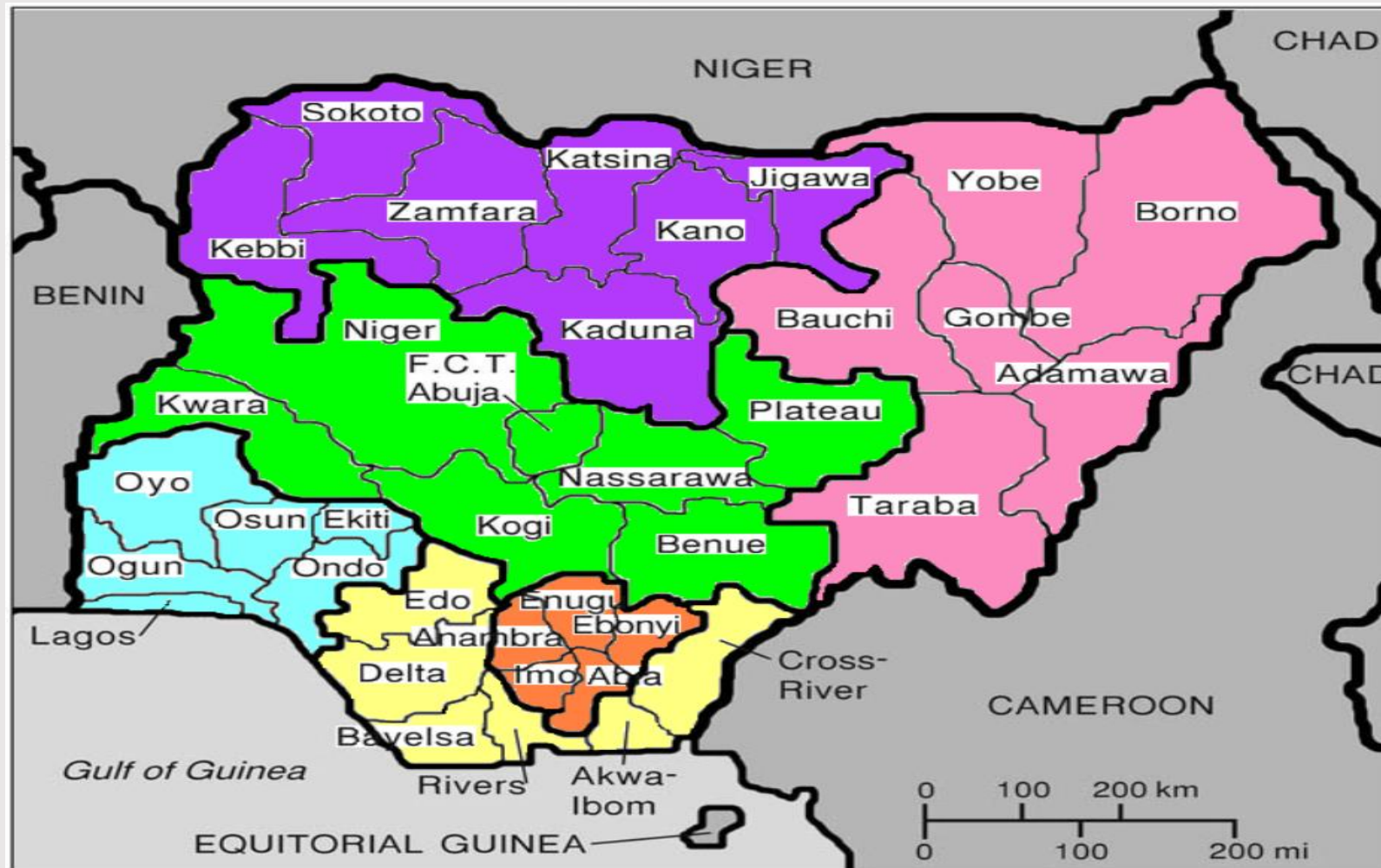
Hypothesis

- Key demographic, cultural, economic and social characteristics drive fertility among women in the geopolitical regions of Nigeria.

Data and Methods: Settings (*Source:* Agunwamba *et al.* 2009)

Data and Methods: Data & Variables

- Data:
    - Women (15 – 49 years old).
    - Sample size = 38,948.
- Variables
    - Dependent:
        - Number of Living Children (NLC).
    - Independent:
        - age, age at marriage/cohabitation, age at first childbirth, education, employment status, ever used contraceptives, family types, place of residence, religion and wealth status,

Data and Methods: Analysis

- Univariate:
  - Percentage distribution of all categorical variables involved in the study.
  - Mean statistic (with Standard Deviation) of age and NLC.
- Bivariate:
  - Simple Bar Chart, ANOVA, Eta Square, Post Hoc.
- Multivariate:
  - Poisson Regression.

Results: Univariate

Characteristics	North Central N=6251	North East N=6630	North West N=9673	South East N=4462	South-South N=6058	South West N=5874
Place of residence						
Rural	64.6	75.8	75.4	33.7	66.0	26.4
Urban	35.4	24.2	24.6	66.3	34.0	73.6
Education						
None	26.0	59.8	73.0	5.7	5.5	8.4
Primary	22.3	15.7	11.1	21.4	25.6	18.6
Secondary+	51.7	24.5	15.9	72.8	58.9	73.0
Religion						
Catholics	13.4	3.3	2.0	45.0	9.2	4.5
Other Christians	41.3	19.2	4.4	53.0	87.5	64.8
Muslims	43.0	76.6	92.3	0.2	2.1	30.0
Traditionalists/Others	2.2	1.1	1.3	1.8	1.2	0.6
Employment						
Not working	32.0	47.8	40.8	34.6	34.8	27.1
Working	68.0	52.2	52.2	65.4	65.2	72.9
Wealth status						
Poor	25.0	64.1	66.4	17.8	10.2	7.9
Medium	30.0	16.7	15.3	25.9	26.4	13.3
Rich	45.0	19.2	18.3	56.3	63.4	78.8
Marital status						
Never married	29.7	16.3	11.3	43.2	41.5	32.4
Ever married	70.3	83.7	88.7	56.8	58.5	67.6
Age at first cohabit						
14 and below	13.7	33.8	46.3	10.3	13.0	6.8
15-19	48.3	50.7	45.7	33.7	44.9	35.4
20+	38.0	15.5	8.0	55.9	42.1	57.9
Age at first childbirth						
14 and below	6.5	12.2	13.1	5.3	7.4	3.3
15-19	44.5	59.2	64.0	33.6	46.9	31.5
20+	49.0	28.6	22.9	61.0	45.7	65.3
Ever used contraceptives						
No	74.8	91.2	94.3	67.7	58.4	53.2
Used traditional	21.7	6.2	4.7	32.0	34.1	42.5
Used modern	3.5	2.6	1.0	0.3	7.6	4.2
Family type						
Monogamy	70.2	57.5	55.0	86.9	81.5	74.2
Polygyny	29.8	42.5	45.0	13.1	18.5	25.8
Average age	20.0	18.2	17.7	21.5	20.1	21.6
SD	4.4	3.7	3.4	5.0	4.4	4.4
Average NLC	2.3	2.9	3.1	2.2	2.2	2.2
SD	2.3	2.6	2.6	2.5	2.4	2.1

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Results: Bivariate (Bar Chart & ANOVA)
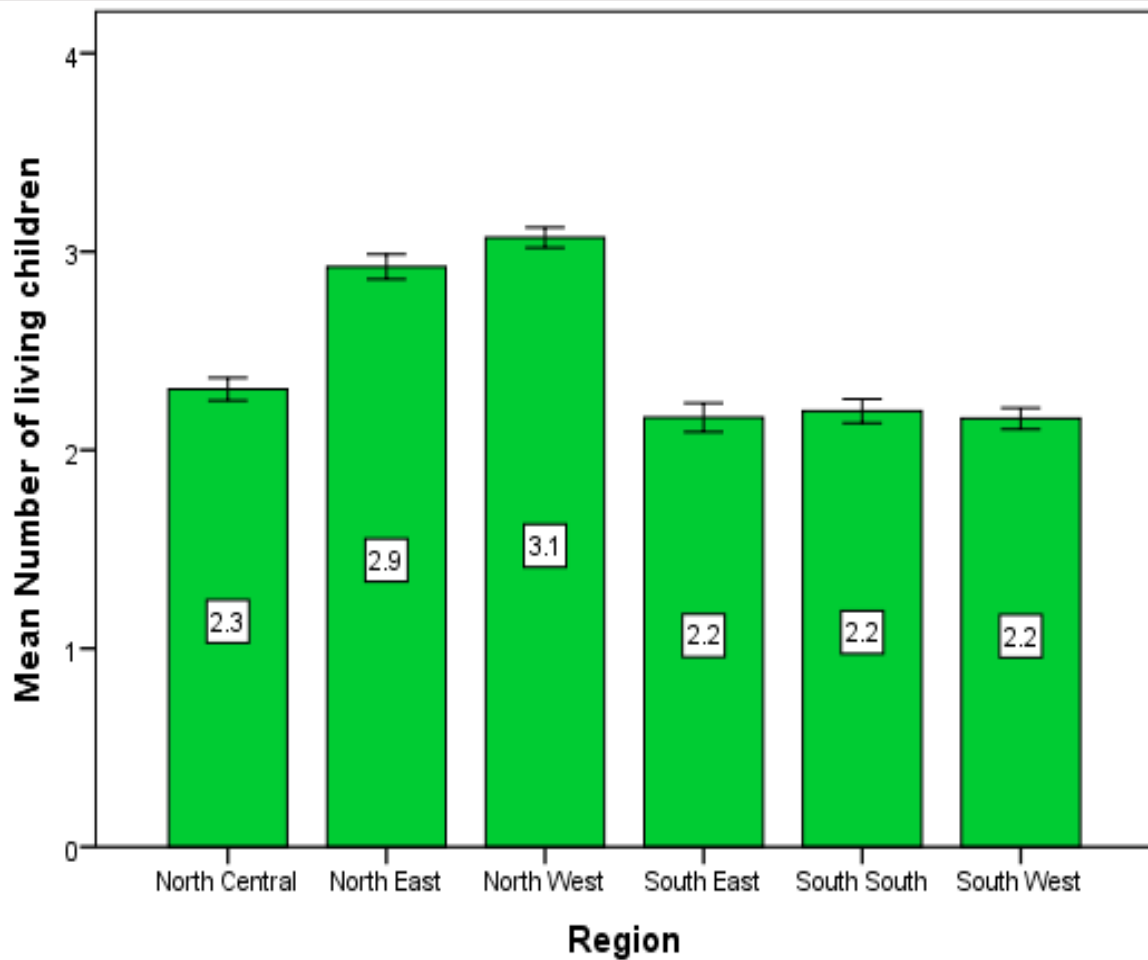
- ANOVA = F (5, 389442) = 210.9,

  P<0.001)

- Eta Square:
  - 0.03 (Small Effect)

- Post Hoc:
  - NC & SS; SE, SS and SW— **Differences in NLC Insignificant**
  - All other regions—**Differences in NLC Significant (p<0.05)**

Table 2a (Extract): **Poisson regression estimates on the effects of social, demographic, economic and cultural factors on the number of living children among reproductive aged women in North Central geopolitical region, Nigeria, NDHS 2013.**

Parameter	B	S.E	P value	Exp(B)
Urban residence	-0.062	0.024	0.010	0.940
Secondary+ education	-0.130	0.026	0.000	0.878
Other Christians	-0.070	0.028	0.013	0.933
Medium wealth	-0.051	0.023	0.024	0.950
Rich wealth	-0.099	0.028	0.000	0.906
15-19 age at first marriage	-0.064	0.028	0.022	0.938
20+ age at first marriage	-0.187	0.035	0.000	0.830
15-19 age at first childbirth	-0.117	0.038	0.002	0.889
20+ age at first childbirth	-0.331	0.042	0.000	0.718
Polygyny	-0.041	0.019	0.035	0.960

Parameter	B	S.E	P value	Exp(B)
Age	0.046	0.001	0.000	1.047
Working	0.062	0.024	0.011	1.064
Ever Used traditional contraceptives	0.145	0.021	0.000	1.156

Table 2b (Extract): Poisson regression estimates on the effects of social, demographic, economic and cultural factors on the number of living children among reproductive aged women in North East geopolitical region, Nigeria, NDHS 2013.

Parameter	B	SE	P value	Exp(B)
Secondary+ education	-0.099	0.029	0.001	0.906
20+ age at first marriage	-0.081	0.029	0.006	0.922
15-19 age at first childbirth	-0.117	0.023	0.000	0.890
20+ age at first childbirth	-0.338	0.029	0.000	0.713

Parameter	B	SE	P value	Exp(B)
Urban	0.057	0.024	0.016	1.059
Age	0.046	0.001	0.000	1.047
Muslims	0.189	0.050	0.000	1.208
Traditionalists/Others	0.181	0.079	0.022	1.198
Used traditional	0.137	0.029	0.000	1.147

Table 2c (Extract): Poisson regression estimates on the effects of social, demographic, economic and cultural factors on the number of living children among reproductive aged women in North West geopolitical region, Nigeria, NDHS 2013.

Parameter	B	SE	P value	Exp(B)
Secondary+ education	-0.056	0.027	0.039	0.946
15-19 age at first marriage	-0.032	0.014	0.018	0.968
20+ age at first marriage	-0.098	0.027	0.000	0.907
15-19 age at first childbirth	-0.104	0.018	0.000	0.901
20+ age at first childbirth	-0.321	0.023	0.000	0.726

Parameter	B	SE	P value	Exp(B)
Age	0.044	0.001	0.000	1.045
Primary education	0.059	0.020	0.003	1.061
Traditionalists/Others	0.221	0.069	0.001	1.247
Working	0.076	0.013	0.000	1.079
Medium	0.065	0.019	0.000	1.067
Rich	0.107	0.024	0.000	1.113

Table 2d (Extract): Poisson regression estimates on the effects of social, demographic, economic and cultural factors on the number of living children among reproductive aged women in South East geopolitical region, Nigeria, NDHS 2013.

Parameter	B	SE	P value	Exp(B)
Secondary+ education	-0.108	0.046	0.017	0.897
Rich wealth status	-0.107	0.034	0.002	0.899
20+ age at first married	-0.212	0.049	0.000	0.809
20+ age at childbirth	-0.184	0.059	0.002	0.832

Parameter	B	SE	P value	Exp(B)
Age	0.037	0.002	0.000	1.038
Working	0.128	0.036	0.000	1.137
Ever used traditional contraceptives	0.226	0.023	0.000	1.253

Table 2e (Extract): Poisson regression estimates on the effects of social, demographic, economic and cultural factors on the number of living children among reproductive aged women in South-South geopolitical region, Nigeria, NDHS 2013.

Parameter	B	SE	P value	Exp(B)
Secondary+ education	-0.168	0.034	0.000	0.845
Rich wealth status	-0.066	0.032	0.040	0.936
20+ age at first marriage	-0.152	0.038	0.000	0.859
15-19 age at first childbirth	-0.104	0.040	0.009	0.902
20+ age at first childbirth	-0.277	0.045	0.000	0.758

Parameter	B	SE	P value	Exp(B)
Age	0.043	0.001	0.000	1.044
Ever used traditional contraceptives	0.135	0.021	0.000	1.145

Table 2f (Extract): Poisson regression estimates on the effects of social, demographic, economic and cultural factors on the number of living children among reproductive aged women in South West geopolitical region, Nigeria, NDHS 2013.

Parameter	B	SE	P value	Exp(B)
Urban residence	-0.102	0.026	0.000	0.903
Secondary+ education	-0.086	0.034	0.011	0.918
Rich wealth status	-0.144	0.040	0.000	0.866
20+ age at first marriage	-0.198	0.047	0.000	0.820
20+ age at first childbirth	-0.203	0.061	0.001	0.816

Parameter	B	SE	P value	Exp(B)
Age	0.040	0.001	0.000	1.041
Working women	0.131	0.040	0.001	1.139
Ever used traditional contraceptives	0.173	0.020	0.000	1.189

Summary of Results

- Results supported study hypothesis.

- First, regional variations in NLC still exist:

    - Women from North East and North West reported highest levels.

    - Shaped by varied modes of economic production and consequent sphere-of-life.

Summary of Results (Contd.)

- Key drivers of NLC common to all regions: Age (+), age at first marriage/cohabitation (-), age at first childbirth (-), education (-) and ever use of traditional contraceptives (+) *(p<0.05).*
  - + more living children
  - - less living children

Summary of Results (Contd.)

- The unique region-specific key drivers were
  - In North Central: non-Catholic Christians , urban residence, medium & rich wealth status, polygyny) and working women (p<0.05).

  - In North East: urban residence, Muslims & Traditionalists (p<0.05).
  - In North West: working women, medium & rich wealth status (p<0.05).

Summary of Results (Contd.)

- In South East and South-South: working women ↑ & rich wealth status ↓ (p<0.05),

- In South West: urban residence & rich wealth status and working women ↑ (p<0.05).

Finally……………………..

- Therefore, fertility behaviour in Nigeria has regional dimension and any realistic population policy in Nigeria must take cognizance of regional differentials in predictors of fertility.

Thank You for Listening.