
Effect of Monetary Policy on Health Outcome in Nigeria (1980–2022)**Efosa O. IMADE**

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Abstract

The study investigates the effect of monetary policy decisions on health outcome/fertility rate in Nigeria over the period 1980 to 2022. The specific objectives are to examine the relationship between monetary policy rate (MPR), treasury bills volume (TBV), cash reserve ratio of banks (CRR) and liquidity ratio of banks (LQR) and fertility rate (FERR). The cointegration and Error Correction Model (ECM) econometric techniques were employed in the analysis of data, and the results revealed that in the short run, only liquidity ratio of banks (LQR) has significant negative relationship with fertility rate. In the long run result, it was found that none of the monetary policy variables has any significant effect on fertility rate (FERR) in Nigeria. The study recommends among others that, the government and indeed the health sector policy management and policy makers need to constantly brainstorm and harness appropriate modern strategy that will effectively link the banking sector with the health sector for prompt access to cash by patients. By so doing, liquidity ratio of banks will have the much needed positive impact on health outcome/fertility rate in the Nigeria. Also, monetary policy decision regarding health outcome should be compactible and align with family policy, and well-coordinated; because, how different policy elements fit together and link to a broader social system may be more important than the overall level of policy support for households fertility rate.

JEL Classification: I10, J13, E52, C4.**Keywords:** Health Outcome, Fertility Rate, Monetary Policy, Econometric and Statistical Methods.**1. Introduction**

The role of monetary policy in household standard of living cannot be overemphasized because, an expansionary monetary policy tends to improve it and also encourages fertility rate; while a contractionary monetary policy lowers the standard of living and thus, discourages fertility rate. According to Obayagbona and Ajao (2022), monetary policy is a set of tools (monetary policy rate, cash reserve ratio, reserve requirement, minimum rediscount rate, Money supply and interest rate) often employed by a country's monetary authority to ensure stable prices, improves living standard, achieve rapid economic growth through effective manipulation of total money supply in circulation within a period of time. Monetary policies are demand-side macroeconomic policies that work by stimulating or discouraging spending on goods and services (Tobin, 2023). Economy-wide recessions and booms reflect fluctuations in aggregate demand rather than in the economy's productive capacity, and monetary policy seeks to eliminate these fluctuations.

Central banks or monetary authorities have no handle on productivity and real economic growth (Tobin, 2023) but have conspicuous impact on demand behaviours of the households units, businesses and governments thus, influencing the standard of living of the people particularly the household where health outcome such as birth (fertility) rate, is domicile. The fertility rate in a country could be enhanced either positively or negatively by the application of monetary policy measure to increase or reduce the birth rate in the country depending on the government policy or agenda. Thus, there are two main kinds of monetary policy the government can adopt at any particular point in time: contractionary or expansionary monetary policy. The expansionary monetary policy can increase aggregate money supply through decreasing interest rates, lowering reserve requirements for banks, and the purchase of government securities by central banks (Sean, 2022).

Traditional literature have always focus on the effect of monetary policy measure on either controlling inflationary trend or the economy in general. However, over the past three decades, economists and financial experts (Becker et. al, 1990) have found that monetary policy is equally critical to the determination of households' fertility rate/birth rate in the economy (Floden, Kilstrom & Sigurdsson, 2020; Kearney & Wilson, 2018). For example, changes in fertility rate/birth rates which can either be cyclical or structural, often have multiplying effects on the economy in general because, it affect aggregate consumption, saving, and employment because households with children spend, save, and supply labour differently than households without children (Becker, 1981). This represents a new evidence on the nature of monetary policy transmission to the real economy. Given that the cost of raising children are naturally expensive, it is obvious that with monetary easing/expansionary monetary policy more children are likely to be born (Cumming & Dettling, 2024). Although, studies on monetary policy and fertility rate have been conducted in the advanced countries, but to the best of the researcher's ability, not much have been done in Nigeria in this regard. Therefore, in order to effectively fill this observable gap in knowledge, this study empirically investigating the extent to which monetary policy transmission have affected health outcome in Nigeria, with particular reference to fertility rate, using Nigeria-specific data.

Also, it has been observed in the past few decades that fertility rate has steadily declined in almost all the developed countries in the world, where 'below-replacement birth rates' is now common (Berg, Curtis, Lugauer, 2021; Cumming & Dettling, 2024). It should be noted that this scenario has the tendency of slowing down economic growth, threaten fiscal sustainability, as well as raising serious issues of state responsibility to preventing this ugly situation. Thus, this study contribute to existing literature in this area by providing empirical insights on how monetary policy transmission can be effectively deplored to revamp declining fertility rate through income enhancement and minimizing liquidity constraints.

Thus, the specific objectives of this study are to:

- (i) Examine the effect of monetary policy rate on health outcome (proxied by fertility rate) in Nigeria,
- (ii) Find out how cash reserve ratio of banks affects fertility rate in Nigeria,
- (iii) Ascertain the effect of banks' liquidity ratio on fertility rate in Nigeria, and
- (iv) Examine the relationship between volume Treasury Bills and fertility rate in Nigeria.

2. Literature Review

2.1 Concept of Monetary Policy

Monetary policy refers to the specific actions taken by the Central Bank to regulate the value, supply and cost of money in the economy with a view to achieving government's macroeconomic objective (CBN, 2006). It was also defined by Investopedia (2022) as a set of tools or actions used by a nation's Central Bank to control the overall money supply and promote economic growth and employ strategies such as revising interest rates and changing bank reserve requirements. Obayagbona and Ajao (2022) sees monetary policy as a set of tools (monetary policy rate, cash reserve ratio, reserve requirement, minimum rediscount rate, Money supply and interest rate) often employed by a country's monetary authority to ensure stable prices, improves living standard, achieve rapid economic growth through effective manipulation of total money supply in circulation within a period of time.

The objectives of monetary policy seeks to achieve price stability and other macroeconomic goals which are explicitly stated in the laws establishing the Central Bank, and it often vary from country to country. The Central Bank of Nigeria (CBN), like other monetary authorities in the developing countries, achieve monetary policy goal through the manipulation of the amount of money supplied to the economy (CBN, 2006). Monetary policy is usually expansionary or contractionary in nature. The Federal Reserve commonly uses three strategies/tools for monetary policy such as reserve requirements, the discount rate, and open market operations (OMO) (Brock, 2022). The CBN actually introduced OMO in 1993 where it used different types of direct instruments like credit ceilings, sectorial credit allocation, interest rate controls, imposition of special deposits, moral suasion, movement of government deposits, stabilization securities and exchange controls among others, to regulate/control the economy. However, "with the deepening of the financial system, the CBN later shifted to market-based instruments which entails the use of monetary policy rate, liquidity ratio, cash reserve requirements which specifies the proportion of a bank's total deposit liabilities that should be kept with the CBN; and discount window operations under which the Central Bank performs the role of lender of last resort to the deposit money banks".

2.2 Concept of Health Outcome and Fertility Rate

In this study, we shall be looking at 'health outcome' through 'fertility rate'. Generally speaking, health outcome is change in health that result from measure or specific health care investment or intervention (Cihi, 2022). Health outcome includes: preventing death after a heart attack through in-hospital care; improvements in a patient's quality of life following surgery for a specific health issue for example, improved eye sight following cataract surgery; fertility rate after antenatal care for women (Clancy & Eisenberg, 1998). "Health outcomes refer to the health consequences brought about by the treatment of a health condition or as a result of an interaction with the health care system; and is a multidimensional concept that can be studied on multiple levels". The New South Wales Health Department in Australia defined health outcome as "change in the health of an individual, group of people or population which is attributable to an intervention or series of interventions" (Frommer, Rubin & Lyle, 1992).

Fertility rate also known as birth rate is defined as the total number of children that would be born to each woman if she were to live to the end of her childbearing years and give birth to children in alignment with the prevailing age-specific fertility rates (OECD, 2022). It is measured as aggregate age-specific fertility rates within a duration of 5 years period. If for instance in the absence of

migration and static death rate, aggregate fertility rate of 2.1 children per a woman will assure stable population growth. This indicator is measured in children per woman (OECD, 2022).

In the pre-modern era, fertility rates of 4.5 to 7 children per woman were common due to the high death rate of young persons that reduces the population. But with steady improvement in the health care delivery system enhancing fertility rate, mortality rate became minimized thereby increasing overall population. Fertility rate however reduces up to 2 children per woman globally. Some of the answers to why the number of children per woman declined include (i) the empowerment of women in society and in relationships through education, labor force participation, and strengthened women's rights and (ii) the increased well-being and status of children (Roser, 2014). However, in 2021, fertility rate for Nigeria was 5.2 births per woman. Fertility rate in Nigeria fell gradually from 6.6 births per woman in 1972 to 5.2 births per woman in 2021.

2.3 Theories of Monetary Policy and Fertility Rate

2.3.1 The Modern View (Theory) of Monetary Policy

The model monetary theory (MMT) was first coined by Mitchell (2009), and latter Mosler (2014) developed the ideas related to MMT. The MMT rejects the Keynesian view that the link between the supply of money and output is the rate of interest. The Keynesian analysis considered only two types of assets; bonds and speculative cash balances, and their allocation depended on the rate of interest which, in turn, resulted in changes in output (Edwin, 2011). "The modern monetary policy is based on the portfolio adjustment process; especially when the central bank purchases securities in open market, it sets in motion substitution and wealth effects, as the public portfolio consists of a wide variety of assets such as bonds, equities, savings, mortgages". These effects will ultimately increase aggregate money demand and expand output, which eventually affect the number children born by household (fertility rate).

2.3.2 Becker's Fertility Theory

Gary Backer's fertility theory holds that with higher income people would purchase more children, the people behaving as they would in purchasing consumer durables (Becker & Lewis, 1973). However, higher income groups frequently have fewer children. Becker says that higher income families want high-quality children who are more expensive (Becker & Lewis, 1973). A pure economic theory does not explain all of the fertility variations, it is necessary to take account of the socio economic processes that result from economic development. Family planning policies that influence people's motivations should be developed (Leibenstein, 1974).

2.4 Empirical Review

Aksoy (2016) empirically investigated the impact of household prices on birth rate using OLS technique. It was observed that household prices had significant positive effect on birth rate among households. Atalay et al. (2017) examine the effect of house prices on child bearing rate in Australian households over the period 2001 to 2014. The panel data analysis method was used and the finding indicate that house prices is a major determinant of birth rate in Australia. Adris, Muzafar and Badariah (2017) empirically investigate the long-run relationship between fertility rate, financial development, income and household consumption in Malaysia for the period 1975 to 2013. They employed the autoregressive distributed lag (ARDL), and it was found that "financial development and household consumption expenditure are negatively related to fertility rate, while fertility portrays an inverted U-shaped curve with income in Malaysia".

In Canada, Clark and Ferrer (2019) examined how house prices affect the rate of birth. Using the regression analysis, it was found that house prices significantly and positively affect birth rate. Lim, Lilai and Tang (2019) examine the impact of financial openness on fertility transitions in 140 countries over the period 1967 to 2016. The panel least squares was employed and the result showed that financial openness has significant inverse effect on fertility rate. Okeya, Funso and Olutoyin (2020) examined the effect of monetary policy on health and economic growth in Nigeria for the period 1986 to 2016. Using FMOLS technique, the result indicate a strong positive impact of monetary policy transmission variables on fertility rate and economic growth.

Fergus and Lisa (2020) examined the impact of monetary policy pass through mortgage interest rates on household fertility decisions in the U.K and U.S. The panel regression analysis was employed for analysis of data, and it was found that monetary policy instrument significantly impact household fertility rate. Daysal et al. (2020) examined the impact of house prices on the possibility of giving birth in Denmark over the period 1992 to 2011. They used the panel data analysis technique, and it was found that house prices is a significant determinant of birth rate. In another related study by Simo-Kengne and Bonga-Bonga (2020) on the relationship between house prices and fertility rate in South African provinces over the period 1998 to 2015; they employed Spatial Durbin Model in analysis of data, and the findings showed that house prices had a significant inverse effect on local fertility rate.

Affuso, Istiak and Swofford (2022) examined the effect of changes in house prices and interest rates on the fertility rate in the U.S for the period 1975 to 2020. Employing the structural VAR model and Toda–Yamamoto causality test, it was found that changes in house prices affect fertility rate, and this was also confirmed by the causality result. Hilemariam (2022) examines the effect of national income on the total fertility rate in 122 countries over the period 1965 to 2020. The panel data analysis was employed for the analysis of data, it was found that per capital income has significant inverse effect on fertility rate. Cumming and Dettling (2024) empirically examined the impact of monetary policy pass-through to mortgage interest rates on household fertility decisions in the U.K. and U.S. The panel data analysis was employed in this regard, and the outcome of the finding clearly indicated that monetary policy positively and significantly affects birth rates through the mortgage market in these two countries overtime.

3. Methodology

The expost-facto research design was adopted for this study, and the population of the study encompasses the total fertility rate of the household sector in Nigeria in relation to monetary policy transmission channels such as monetary policy rate, treasury bills volume, cash reserve ratio and liquidity ratio for the period 1980 to 2022. The data for the study is annual time series covering the period 1980 to 2022, and were sourced from CBN Statistical Bulletin.

3.1 Model Specification

In view of the objective of this study, emphasis is placed on the effect on monetary policy on fertility rate; hence, the theoretical framework for the study is anchored on the modern theory (view) of monetary economists which link rate of interest with supply of money and output. “The modern monetary policy is based on the portfolio adjustment process where the central bank purchases securities in open market, thereby setting in motion substitution and wealth effects”. These effects ultimately increase aggregate money demand and expand output, which eventually affect the number children born by household (fertility rate) in an economy. Therefore, deducing

from the forgoing, we seek to determine how health outcome precisely fertility rate is impacted by monetary policy. Hence, the functional model for this study is specified as follows:

$$\text{HOC} = F(\text{MPR}, \text{TBV}, \text{CRR}, \text{LQR}) \dots \dots \dots (1)$$

However, the econometric form is stated as:

$$\text{HOC} = \alpha_0 + \alpha_1 \text{LMPR} + \alpha_2 \text{LTBV} + \alpha_3 \text{LCRR} + \alpha_4 \text{LQR} + U_t \dots \dots \dots (2)$$

Where:

HOC = Health Outcome in Nigeria (Measured by Fertility Rate (FERR))

MPR = Monetary Policy Rate in Nigeria

TBV = Treasury Bills Volume in Nigeria

CRR = Cash Reserve Ratio of Banks in Nigeria

LQR = Liquidity Ratio of Banks in Nigeria.

Where, L = Logarithm

U_t = Stochastic error term

The Appriori expectations are $\alpha_1, \alpha_2, \alpha_3, \alpha_4, > 0$

3.2 Method of Data Analysis

In order to achieve the objectives of this study, the cointegration and error correction modeling (ECM) technique was used for the analysis of data. Hence, “four processes are involved in this technique; unit root testing, cointegration analysis, the dynamic short run model and the long run estimation: the unit root test was conducted to determine the stationarity properties of the data set, and this became necessary because non-stationary data produces spurious regression results”. Testing for cointegration was performed using multivariate framework. A given series is said to be integrated of order d (denoted $I(d)$) if it attains stationarity after differencing d times. If the series is $I(1)$, it is deemed to have a unit root (Engel & Granger, 1987). The short run analysis was ascertained using the ECM and the long run estimation with cointegration.

4. Data Analysis and Interpretation of Results

This section empirically estimate the relationship between health outcome and monetary policy in Nigeria, the case of fertility rate using the cointegration and error correction model (ECM). As earlier stated in previous section, the panel unit root test was first conducted in order to test for the stationarity property of the data set, as well as the Johansen cointegration test.

4.1 Unit Root Testing

In Table 4.1, the Augmented Decay Fuller test (ADF) was employed to test the stationarity properties of the data set in levels (panel 1 and first difference panel 2). Thus, when the first difference was taken, all the variables became stationary; hence, the variables are now integrated of order one (i.e. $I[1]$).

Table 4.1 Unit Root Test for Variables in Levels

At Level				At First Difference		
“Variable	ADF Test Statistic	95% Critical ADF Value	Remark	ADF Test Statistic	95% Critical ADF Value	Remark
FERR	-6.402039	-2.935001	Stationary	-7.348448	-2.938987	Stationary
MPR	-3.624398	-2.935001	Stationary	-7.041066	-2.938987	Stationary
CRR	0.611826	-2.935001	Non-Stationary	-5.051285	-2.936942	Stationary
LQR	-3.704674	-2.935001	Stationary	-7.334779	-2.938987	Stationary
TBV	-1.326055	-2.936942	Non-Stationary	-7.033123	-2.938987	Stationary”

Source: Author’s Compilations (2023)

4.2 Cointegration Test

The result of the Johansen Cointegration Test are reported in Table 4.2, with eigenvalue test (λ -max) and the trace test statistics indicating more than one (1) significant cointegrating vectors between health outcome and monetary policy variables in Nigeria.

Table 4.2: Johansen Cointegration Tests Results.

Trace Test			Maximum Eigenvalue Test		
Null Hypothesis	Statistic	Prob. Value	Null Hypothesis	Statistic	Prob. Value
$r = 0^*$	75.93703	0.0149*	$r = 0^*$	27.85526	0.2203
$r \leq 1$	48.08177	0.0476*	$r \leq 1$	22.46865	0.1973
$r \leq 2$	25.61312	0.1407	$r \leq 2$	15.24927	0.2718
$r \leq 3$	10.36385	0.2538	$r \leq 3$	6.828675	0.5096
$r \leq 4$	3.535176	0.0601	$r \leq 4$	3.535176	0.0601

Source: Author’s compilations (2023)

4.3 The Error Correction Mechanism (ECM) (Short-Run Analysis)

In Table 4.3, the short-run dynamics of the health outcome, the case of fertility rate is examined in the context of short term movements in monetary policy related variables in Nigeria is captured within an error correction model (ECM). The result shows a good diagnostic outcome for the model, “the high value 0.57 of the R-squared indicates that over 57 percent of the systematic variation in FERR over the short term is explained by short term movements in the explanatory variables including the ECM: thus, the model possesses a good predictive ability”. The overall goodness of fit for the model is observed through the F-statistic. “The F-value of 9.5669 is high and significant at the 1 percent level; thus, we will accept the hypothesis of a significant linear relationship between FERR and all the independent variables combined”.

Thus, “in order to determine the individual roles of each of the variables on economic growth, attention is paid to the coefficients of each of the variables in terms of their signs and significance level”. Thus, the result in Table 4.3 shows that in the short run, the coefficients of liquidity ratio of banks (LQR) has significant negative relationship with health outcome-fertility rate. Surprisingly, it was negatively signed, suggesting that as the level of liquidity ratio of banks (LQR) rises, health outcome-fertility rate reduces by an approximately -73.32610 percent. Health outcomes as it were, is the health consequences brought about by the treatment of a health condition or as a result of an interaction with the health care system (Cihi, 2022). This means that in the short run, there is a direct bearing of the level of cash availability and assessability on speed response to treatment of a health condition. One of the probable reason for this negative scenario could be that the liquidity level of banks in Nigeria have not been properly aligned/channeled to promptly respond to treatment of a health condition, hence, the two factors are constantly in avariance. Therefore the government and indeed the health sector policy management and policy makers need to constantly brainstorm and harness appropriate modern strategy that will effectively link the banking sector with the health sector for prompt access to cash by patients. By so doing, liquidity ratio of banks will have the much needed positive impact on health outcome-fertility rate in the country.

The coefficients of the other variables (monetary policy rate (MPR), treasury bills volume (TBV) and cash reserve ratio of banks (CRR)) failed the 5 percent significance levels; suggesting that these variables do not play any significant role in the determination of health outcome-fertility rate in Nigeria within the short run

The coefficient of ECM term has the correct negative sign and is also significant at the 1 percent level. This again, “show that any short-term deviation from equilibrium by the variables in the short-run, can be restored in the long run; the slightly low value (-1.029637) of the error correction term means that adjustment to equilibrium in the long run is quicker and faster: and also, the ECM term shows that about 2 percent of long run adjustment to equilibrium is made during the first year”. The DW statistic value of 1.99 is an indication of the absence of autocorrelation problem in the model.

Table 4.3: Short Run Health Outcome and Monetary Policy in Nigeria: the Case of Fertility Rate

Variable	Coefficient	T-Rtaio	Prob.
Constant	29.88409	0.174125	0.8628
DMPR	10.25388	0.202707	0.8405
DCRR	46.33678	0.565709	0.5752
DLQR	-73.32610	-2.462691	0.0189*
DTBV	-0.521015	-0.549191	0.5864
ECM(-1)	-1.029637	-6.421710	0.0000**
$R^2 = 0.57$	$\bar{R}^2 = 0.51$	$F = 9.5669$	$D.W. = 1.99$

Source: Author's Computations (2023). Not: ** Sig at 1% level.

4.4 The Long Run Relationship

The result of the long run relationship between health outcome-fertility rate and monetary policy in Nigeria has a weak goodness of fit, with a low R squared value of 0.02 percent for the FERR equation, suggesting that about 0.02 percent of the explanatory variables tract the long run variations in the dependent variable (FERR). Even the adjusted R squared value of 0.08 is equally very low, indicating that the model possesses a weak predictive ability. This was further confirmed by the low F-values of 0.2288 and failed 5 percent significant level. Hence, we can reject the hypothesis of a significant linear relationship between the dependent variable and all the hypothesized explanatory variables combined in the long run.

Looking at the specific relevance of each variable in the long run model, it is seen that the coefficients of all the explanatory variables (monetary policy rate (MPR), treasury bills volume (TBV), cash reserve ratio of banks (CRR) and liquidity ratio of banks (LQR)) failed the 5 percent level of significance in the long run. In other words, while cash reserve ratio of banks (CRR) has a weak positive relationship with fertility rate (FERR); monetary policy rate (MPR), treasury bills volume (TBV) and liquidity ratio of banks (LQR) have insignificant inverse relationship with health outcome/fertility rate (FERR) in Nigeria in the long run. This means that in the long run, all the monetary policy variables do not play any significant role in the determination of health outcome/fertility rate in Nigeria. This result is seen to align with the findings of Okeya, Funso and Olutoyin (2020) who found that monetary policy has indirect and insignificant effect on health and economic growth. It however disagreed with those of Adris, Muzafar and Badariah (2017), Fergus and Lisa (2020), Hilemariam (2022) who observed that in the long run, each 1 percent point drop in the policy rate increased birth rates by 2 percent. In other word, their results showed that monetary policy generally has a significant negative effect on fertility rate in the long run.

The DW statistic value of 2.04 is appropriate and it shows the absence of multicollineality in the model.

Table 4.4: The Long Run Model of Health Outcome-Fertility Rate and Monetary Policy in Nigeria

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Variables	Coefficient	T-Ratio	Prob.
Constant	650.5382	0.698938	0.4890
MPR	-8.757351	-0.146147	0.8846
CRR	9.550704	0.207324	0.8369
LQR	-14.12615	-0.371087	0.7127
TBV	-0.168636	-0.482746	0.6321
$R^2 = 0.02$	$\bar{R}^2 = 0.08$	$F = 0.2288$	$D.W. = 2.04$

Source: Author's Compilations (2023)

5. Conclusion

The study empirically investigate the effect of monetary policy decisions on health outcome/fertility rate in Nigeria over the period 1980 to 2022. The rationale for the study was predicated on the realization that strong synergy exist between monetary policy decisions and health outcome/fertility rate globally. Therefore, in other to clearly ascertain the extent to which monetary policy decisions influence fertility rate in Nigeria, four (4) hypothesized monetary policy

related factors such as monetary policy rate (MPR), treasury bills volume (TBV), cash reserve ratio of banks (CRR) and liquidity ratio of banks (LQR) were regressed against fertility rate (FERR) using the cointegration and Error Correction Model (ECM) econometric techniques. The results from the analysis generally indicate that in the short run, only liquidity ratio of banks (LQR) has significant negative relationship with health outcome-fertility rate. In the long run result, it was found that none of the monetary policy variables has any significant effect on fertility rate (FERR) in Nigeria. Thus, we conclude that monetary policy variable (LQR) tends to significantly reduced fertility rate, and it was the only variable found to significantly influence fertility rate in the short run.

5.1 Recommendations

Since the finding of this study has proven that bank's liquidity ratio negatively influence fertility rate, it therefore follows that current monetary policy regarding banks' liquidity ratio should either be sustained or improve upon. The reason being that, in line with theory, higher liquidity ratio means increase in households' wages which in turn induces some of them to abandon traditional labor intensive methods of child bearing/healthcare managed at the household level to modern healthcare system; since it is optimal for households in the modern society to have fewer children thereby leading to lower national fertility.

Secondly, monetary policy decision regarding health outcome should be compactible and align with family policy, and well-coordinated; because, how different policy elements fit together and link to a broader social system may be more important than the overall level of policy support for households fertility rate.

Thirdly, policy makers must be conscious of the fact that, in extreme cases, policy interventions that aim at compelling childbearing behaviour rather than to enhance intrinsic motivation for childbearing may eventually lower people's sense of autonomy and make their fertility increasingly contingent on external stimulation.

Lastly, the government and indeed the health sector policy management and policy makers need to constantly brainstorm and harness appropriate modern strategy that will effectively link the banking sector with the health sector for prompt access to cash by patients. By so doing, liquidity ratio of banks will have the much needed positive impact on health outcome/fertility rate in the Nigeria.

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