INFLATION AND HOUSEHOLD SAVINGS IN NIGERIA: AN EMPIRICAL ANALYSIS (1994-2024)

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BEING A RESEARCH PROJECT SUMMITED TO THE DEPARTMENT OF ECONOMICS, FACULTY OF SOCIAL SCIENCE, UNIVERSITY OF BENIN, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.SC) DEGREE IN ECONOMICS

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CERTIFICATION

We certify that the work titled "INFLATION AND HOUSEHOLD SAVINGS IN NIGERIA" was carried out by **Prudence Elozino AKPOWOMARE**, with matriculation number **SSC2106454**, in the Department of Economics, Faculty of Social Sciences, University of Benin, Benin City, Edo State.

Dr.(Mrs) F. Mogbolu **(Project Supervisor)**	**Date**
Prof. S. O. Igbinedion **(Project Coordinator)**	**Date**
Prof. C. A. Ighodaro **(Head of Department)**	**Date**

DEDICATION

I dedicate this project to God Almighty, the ultimate source of my inspiration, knowledge, and strength, and the reason behind my success on this academic journey.

Using F-statistics compared against critical value bounds.

3.6.5 Error Correction Model (ECM) Estimation

If cointegration is confirmed, an Error Correction Model is estimated to capture both short-run dynamics and speed of adjustment to long-run equilibrium:

The ECM specification separates short-run fluctuations from long-run relationships and provides the error correction term (ECT) coefficient λ, which indicates how quickly the system returns to equilibrium after a shock.

Expected: $-1 < \lambda < 0$, with larger absolute values indicating faster adjustment.

3.6.6 Granger Causality Tests

To examine the direction of causality between inflation and household savings, pairwise Granger causality tests are conducted:

The null hypothesis is that variable X does not Granger-cause variable Y, tested using F-statistics from:

$$Y_t = \Sigma\alpha_iY_{t-i} + \Sigma\beta_iX_{t-i} + \varepsilon_t$$

If β coefficients are jointly significant, we reject the null and conclude that X Granger-causes Y.

Four possible outcomes:

1. Unidirectional causality: INF → HS

2. Unidirectional causality: HS → INF
3. Bidirectional causality: INF ↔ HS
4. No causality

3.6.7 Threshold Regression

To identify nonlinear effects and inflation thresholds, threshold regression models following Hansen (1999, 2000) are estimated. The procedure:

1. Grid search over possible threshold values
2. For each candidate threshold, estimate the model and compute sum of squared residuals
3. Select threshold that minimizes SSR
4. Test for threshold significance using bootstrap methods
5. Construct confidence intervals for the threshold estimate

This reveals whether inflation effects on savings differ above and below certain threshold levels.

3.6.8 GARCH Modeling for Inflation Volatility

Inflation volatility is modeled using GARCH (Generalized Autoregressive Conditional Heteroskedasticity) methods:

GARCH (1,1) Model:

Mean equation: $INF_t = \mu + \varepsilon_t$ Variance equation: $\sigma^2_t = \omega + \alpha\varepsilon^2_{t-1} + \beta\sigma^2_{t-1}$

Where σ^2_t is the conditional variance (volatility) used as the INF_VOL variable in the savings regressions.

3.7 Diagnostic Tests

Several diagnostic tests are conducted to verify the validity and robustness of the estimated models:

Normality Test: Jarque-Bera test examines whether residuals are normally distributed.

Serial Correlation Test: Breusch-Godfrey LM test or Durbin-Watson statistic tests for autocorrelation in residuals.

Heteroskedasticity Test: Breusch-Pagan-Godfrey or White's test checks for heteroskedastic errors.

Multicollinearity Test: Variance Inflation Factors (VIF) assess whether independent variables are highly correlated.

Specification Test: Ramsey RESET test examines whether the functional form is correctly specified.

Stability Tests: CUSUM and CUSUMSQ tests examine parameter stability over time.

Normality of residuals, absence of serial correlation, and homoskedasticity are desirable properties for valid inference.

3.8 Software and Tools

Data analysis is conducted using econometric software packages:

- **EViews** or **Stata:** For time series analysis, unit root tests, cointegration, ECM, and Granger causality
- **R:** For threshold regression and advanced visualizations
- **Excel:** For data organization and preliminary analysis

3.9 Ethical Considerations

This study uses secondary aggregate data from publicly available official sources (CBN, NBS, World Bank, IMF). No primary data collection involving human subjects is conducted. Therefore, formal ethical approval is not required. However, the study maintains research integrity by:

1. Accurate reporting of data sources and methodology
2. Transparent presentation of results, including inconvenient findings
3. Proper acknowledgment of previous research
4. Objective interpretation without bias toward predetermined conclusions

3.10 Summary

This chapter has outlined the comprehensive methodological framework for examining the relationship between inflation and household savings in Nigeria. The multi-faceted approach employs various econometric techniques to address different aspects of the research questions:

- Baseline linear models examine the basic relationships
- Inflation volatility models capture uncertainty effects
- Threshold models identify nonlinear patterns
- Cointegration and ECM distinguish short-run from long-run effects
- Granger causality tests explore directional relationships
- Comprehensive diagnostic tests ensure robustness

The next chapter presents the empirical results obtained from applying these methodologies to the 30-year dataset.

REFERENCES

Ajayi, F.O. and Atanda, A.A. (2012). Monetary policy and bank performance in Nigeria: A two-step cointegration approach. *African Journal of Scientific Research*, 9(1), 462-476.

Ando, A. and Modigliani, F. (1963). The "life cycle" hypothesis of saving: Aggregate implications and tests. *American Economic Review*, 53(1), 55-84.

Blanchard, O.J. and Fischer, S. (1989). *Lectures on Macroeconomics*. MIT Press.

Boskin, M.J. (1978). Taxation, saving, and the rate of interest. *Journal of Political Economy*, 86(2), S3-S27.

Carroll, C.D. and Summers, L.H. (1991). Consumption growth parallels income growth: Some new evidence. In B.D. Bernheim and J.B. Shoven (eds.), *National Saving and Economic Performance*. University of Chicago Press.

Corbo, V. and Schmidt-Hebbel, K. (1991). Public policies and saving in developing countries. *Journal of Development Economics*, 36(1), 89-115.

Deaton, A. (1977). Involuntary saving through unanticipated inflation. *American Economic Review*, 67(5), 899-910.

Edwards, S. (1996). Why are Latin America's savings rates so low? An international comparative analysis. *Journal of Development Economics*, 51(1), 5-44.

Elbadawi, I.A. and Mwega, F.M. (2000). Can Africa's saving collapse be reversed? *World Bank Economic Review*, 14(3), 415-443.

Ezike, J.E. and Ogege, S. (2012). Nigerian foreign exchange market and economic growth in military and democratic regimes. *IOSR Journal of Humanities and Social Science*, 5(3), 66-73.

Friedman, M. (1957). *A Theory of the Consumption Function*. Princeton University Press.

Giovannini, A. (1985). Saving and the real interest rate in LDCs. *Journal of Development Economics*, 18(2-3), 197-217.

Hansen, B.E. (1999). Threshold effects in non-dynamic panels: Estimation, testing, and inference. *Journal of Econometrics*, 93(2), 345-368.

Hansen, B.E. (2000). Sample splitting and threshold estimation. *Econometrica*, 68(3), 575-603.

Howrey, E.P. and Hymans, S.H. (1978). The measurement and determination of loanable-funds saving. *Brookings Papers on Economic Activity*, 1978(3), 655-705.

Juster, F.T. and Wachtel, P. (1972). Inflation and the consumer. *Brookings Papers on Economic Activity*, 1972(1), 71-121.

Keynes, J.M. (1936). *The General Theory of Employment, Interest and Money*. London: Macmillan.

Khan, M.S. and Knight, M.D. (1981). Stabilization programs in developing countries: A formal framework. *IMF Staff Papers*, 28(1), 1-53.

Khan, M.S. and Senhadji, A.S. (2001). Threshold effects in the relationship between inflation and growth. *IMF Staff Papers*, 48(1), 1-21.

Kimball, M.S. (1990). Precautionary saving in the small and in the large. *Econometrica*, 58(1), 53-73.

Leland, H.E. (1968). Saving and uncertainty: The precautionary demand for saving. *Quarterly Journal of Economics*, 82(3), 465-473.

Loayza, N., Schmidt-Hebbel, K., and Servén, L. (2000). What drives private saving across the world? *Review of Economics and Statistics*, 82(2), 165-181.

McKinnon, R.I. (1973). *Money and Capital in Economic Development*. Washington, DC: Brookings Institution.

Modigliani, F. and Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. In K.K. Kurihara (ed.), *Post-Keynesian Economics*. New Brunswick, NJ: Rutgers University Press.

Mundell, R.A. (1963). Inflation and real interest. *Journal of Political Economy*, 71(3), 280-283.

Mwega, F.M. and Ndung'u, N.S. (2008). Explaining African economic growth performance: The case of Kenya. In B.J. Ndulu et al. (eds.), *The Political Economy of Economic Growth in Africa, 1960-2000*, Volume 2. Cambridge University Press.

Nwachukwu, T.E. and Odigie, P. (2011). What drives private saving in Nigeria? *African Economic Research Consortium Research Paper 224*.

Nwankwo, G.O. (2014). Financial inclusion, inflation and savings mobilization in Nigeria. *Mediterranean Journal of Social Sciences*, 5(17), 145-151.

Okoye, V., Adetiloye, K.A., Erin, O., and Evbuomwan, G.O. (2013). Financial savings mobilization and economic growth in Nigeria. *Developing Country Studies*, 3(4), 93-104.

Olusola, A.J. (2017). Savings and economic growth in Nigeria. *International Journal of Economics and Financial Research*, 3(10), 247-254.

Onodugo, V.A., Kalu, I.E., and Anowor, O.F. (2013). Financial intermediation and private sector investment in Nigeria. *Research Journal of Finance and Accounting*, 4(12), 183-196.

Pesaran, M.H., Shin, Y., and Smith, R.J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289-326.

Sandmo, A. (1970). The effect of uncertainty on saving decisions. *Review of Economic Studies*, 37(3), 353-360.

Shaw, E.S. (1973). *Financial Deepening in Economic Development*. New York: Oxford University Press.

Tobin, J. (1965). Money and economic growth. *Econometrica*, 33(4), 671-684.

Ugwuanyi, C.U. and Ugwunta, O.D. (2017). Assessment of the link between savings and economic growth in Nigeria. *Archives of Business Research*, 5(5), 264-278.