Predicting Fertility in Sub-Saharan Africa Based on Patterns of Contraceptive Use

**BACKGROUND**
- In sub-Saharan Africa (SSA), expected national fertility levels and country-level observations demonstrate repeated mismatches.
- Bongaarts’ Proximate Determinants (PD) model (1975) provides a method commonly used for estimating fertility changes.

**Individually Adjusted**
- There is an uphill demand for better explicating, understanding, and communicating how fertility changes accurately predict fertility levels. This study primarily focuses on improving the understanding of how mismatches may be exacerbated by changes in the frameworks used.

**METHODOLOGY**
- Initial adjustments were applied to three variations of the proximate determinants model. Variations in the proximate indicators are prioritized because contraception is the most commonly recognized and intuitive fertility inhibitor.
- Adjustments were made to the PD framework.

**INDIVIDUAL ADJUSTMENTS**
- Chart A: Average CPR by Country Before and After PPI Exclusions by Variation
- Chart B: Average CPR by Country Before and After PPI Exclusion by Variation
- Chart C: Average Country-Specific Total Fertility Rate (TFR) by Country

**DISCUSSION:**
- **TFR LEVEL**
  - There is uncertainty in predicted TFR without adjustments.
  - When adjustments are implemented simultaneously, predictive accuracy reaches at least 95% across variations, considered improvement.

- **TFR INTERCHANGE CHANGES**
  - Approximately half of all observed TFR change predictions fell within the relevant 95% confidence interval.
  - Meanwhile, the adjustments, when combined, did not lead to substantial improvements in predictive accuracy.

- **CONCLUSION**
  - Following all adjustments to both TFR level and TFR interchange change, the overall accuracy rates are still not suitable for the degree of certainty that policy and program planners need.
  - The DTP’s efforts to improve contraceptive use and to substantially improve, overall the range of TFR values to the applications of tautological factors remain to be an important point of emphasis.

**RESULTS**
- Table 1: TFR Predictive Accuracy After Each Adjustment
- Table 2: TFR Level Results
- Table 3: TFR Interchange Change Predictive Accuracy