



DEBT MANAGEMENT OFFICE
NIGERIA

APPLICATION OF THE MTDS DETERMINISTIC SCENARIO MODEL

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OUTLINE

- Background
- Strategy Development: NDMF
- Application: MTDS_AT
 - Pros and Cons of MTDS_AT
 - Did MTDS_AT Make a Difference
 - Was model sufficient in Analysing cost-risk
- Plans for the Future

BACKGROUND

- After the **debt relief in 2006**, Nigeria commenced the process of developing debt management strategy (DMS):
 - Since 2006 has **conducted** Annual Debt Sustainability Analysis (**DSA**)
 - **Released** a medium term National Debt Management Framework (**NDMF**) 2008-2012. (Speak on this later)
 - **Commenced** the **development** of **MTDS** in 2010, updated in 2011 and produced a Report
- DSA and MTDS: **consistent** with **other national policy documents** e.g. National Budget, MTEF, NV20:2020.

STRATEGY DEVELOPMENT: NDMF

- The NDMF a precursor to Nigeria's MTDS contains:
 - **legal** framework for debt management,
 - the **organization** of the DMO,
 - macro-economic background and **broad policy** objectives.
 - **specific sections** relating to:- domestic borrowing, external borrowing, sub-national borrowing (including guarantees).
 - Specific quantitative targets on:-
 - **maximum external and domestic debt** stock limits currently at 15% and 25% of GDP, respectively in line with global Debt/GDP threshold of 40%.
 - **self imposed** stringent Debt/GDP ratio of 25%
 - new **external** borrowing which should be on **concessional** terms, with a minimum of 35% grant element.
 - **borrowing mix** for public domestic and external debts of 60:40%,
 - **maturity structure** of 25:75% with respect to short and long term domestic debts, respectively.

STRATEGY DEVELOPMENT: NDMF CONTINUED

○ **Strategic Directions:**

- Focus on Domestic borrowing:- largely to develop the bonds market.

○ NDMF, prepared by the DMO, and approved by the Board and FEC.

○ **Usefulness of NDMF:**

- Instrumental in keeping the solvency and liquidity indicators within sustainable thresholds
- For instance, Debt/GDP ratio less than half its global threshold since 2007

○ **Limitation of NDMF:**

- No specific cost-risk quantitative targets

○ **Decision to Apply MTDS_AT:**

- Need for a new model became imperative
- To be able to provide a solid analytical foundation for exiting targets
- Did not opt for a bespoke model, but for the MTDS_AT - for some reasons explained further in slide 7.

○ 'AT' to complement and reinforce the information content of the NDMF

APPLICATION: MTDS_AT

- **Eight steps:** Adopted and followed all eight steps in the MTDS_AT though not in sequential order
- **Exogenous inputs:** Key exogenous macroeconomic inputs at the baseline scenario were debated and critiqued to ensure the internal consistency of assumptions underlying specific estimates and forecasts
- **MDAs participate:** Nigeria has an arrangement whereby all stakeholder MDAs participate in the MTDS workshop to explain not only their estimates but to collectively work-out the overall assumptions for the design of the MTDS.
- **Familiarity with MTDS_AT:** Having carried out the MTDS exercise three times in the past year the team is quite familiar with the methodology and application of the package. At present, with minimal support from outside (e.g. WAIFEM) it is able to carry out the exercise.

PROS OF MTDS AT

- **Need for MTDS:** Against the background of the limitations in NDMF as highlighted in slide 5, and a need for MTDS in the immediate term, a ready made model such as the MTDS_AT became a major attraction.
- **Effective handshake:** Nigeria's annual DSA is prepared using a similar template designed by the WB/IMF, so opting for the MTDS_AT was a strategic choice to ensure effective handshake of the two models.
- Using MTDS_AT, which is already in use in other peer countries provides obvious advantages:
 - meets international best practices
 - ensures international comparability of model/application across member countries and
 - benefits from regular revision of model at no financial cost

CONS OF THE MTDS AT

- **Limited:** Our knowledge of the 'AT' in the first instance in 2010 was limited. So, Nigeria obtained a follow-up mission
- **Without any pre-training:** The 'AT' as a broad based model which cuts across a number of but related subject areas could be challenging to a first time user without any pre-training. What Nigeria did after its first exposure with the 'AT' was to engage a resident consultant to strengthen capacity in relevant subject areas, which has helped a great deal.
- **Peculiarities:** 'AT' is a general framework designed for all member countries. Countries with some peculiarities may not find it completely useful
- **Thresholds:** No global thresholds for cost-risks
- **Other Risks;** Since MTDS_AT only deals with Market and Refinancing risks, the effect of other risks i.e. liquidity, operational and credit/contingent risks on the strategy are not directly taken into account while formulating or implementing the strategy.

DID THE MTDS_AT MAKE A DIFFERENCE

- **Cost-Risks Targets:** Nigeria now has a quantitatively determined cost-risks targets to guide implementation of planned debt strategy
- **Chosen Strategy:** Explaining the chosen strategy to the authorities followed a logical sequence such that it was possible in principle to commence operationalisation of some key recommendations ahead of the formalisation of the approval
- Some of these recommendations included:
 - That more expensive domestic borrowing be substituted with **cheaper external borrowing** to minimise overall cost
 - Able to harmonise the 2012 **DSA** with **debt strategy** due to effective hand shake of two models
 - Commenced monitoring of the implementation of **borrowing plan** with adopted strategy
- **Monitoring MTDS:** Going forward, monitoring the implementation of the MTDS will be systematic, much easier and transparent than before.

HAS APPLICATION OF MODEL BEEN SUFFICIENT TO PROPERLY ANALYSE COST-RISKS

- **Too early:** It will be too early commenting on the adequacy of the model when the adopted strategy is yet to be fully implemented to allow the analysis of outcomes against targets
- **Life cycle:** So no comments until the model completes its five-year life cycle.
- **Information base:** Meanwhile, the arrangements for strengthening the information base to help understanding and explanation of any deviations in the plan and actual cost-risks have been intensified.
- **Good Data:** With access to good data currently stored in the CS-DRMS we look forward to a successful application of the AT and a proper analysis of the cost-risks in due course.

PLAN FOR FUTURE MODEL DEVELOPMENT

- **Able to Explain Deviations:** Given that Nigeria is just beginning to apply its chosen debt strategy, the plans in the next two years, are to be able to explain deviations of forecast errors and of other risks not taken into account at time of design
- **Working Committees:** We are therefore in the process of constituting working committees to address issues on other risks not directly contained in the MTDS, such as liquidity risk, operational risks, credit and contingent risks
- **Design of the AT:** Devote attention to studying the design of the 'AT' so that we can adapt the model to address any peculiarities in our system, without external technical support
- **Organize Debt Data:** Carefully prepare and organize debt data and other required inputs ahead of the annual review of the MTDS.
- **Improve the Assumptions:** Review and improve the assumptions used to carry out MTDS e.g. interest rate/yield forecasts using Matlab;;
- **Behavioural Models:** Develop relevant behavioural models for reviewing long-term structural factors, use Eviews 7 to carry out empirical testing and relationships of long and short term rates e.g. exchange rate and inflation forecasts;
- **Position Papers:** Prepare position papers based on good research (e.g.. forecasting external and domestic funding; amount, composition and maturity),
- **Study Developments:** Continuously study developments, the strengths and weaknesses in order to improve future formulation of MTDS
- **No plans for a new model for now but could be considered when the need arises in the future.**

THANK YOU

