



# The Use of Analytical Tools To Determine Debt Management Strategies

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# Outline

- Scope of Analysis
- Scope of Risk Management Framework
- Linkages with other Analytical Tools



# Scope of Analysis – Balance Sheet Risks

- Assess Balance Sheet Risks – For Whom and What Type ?

Institutional Coverage	Liability Coverage	Asset Coverage
Central Government	Debt	Fixed Income
General Government	Other Liabilities	Equity
Wider Public Sector	Financial Guarantees & Contingent Liabilities	Tax Revenue



# Scope of Analysis – Balance Sheet Risks

- A lot will depend on:
  - Scale of Fiscal Operations and its inter-linkages with the sovereign's balance sheet
  - Dominance of off-balance sheet liabilities
  - Mandate for management
  - Institutional Capacity
  - Availability of information at one place



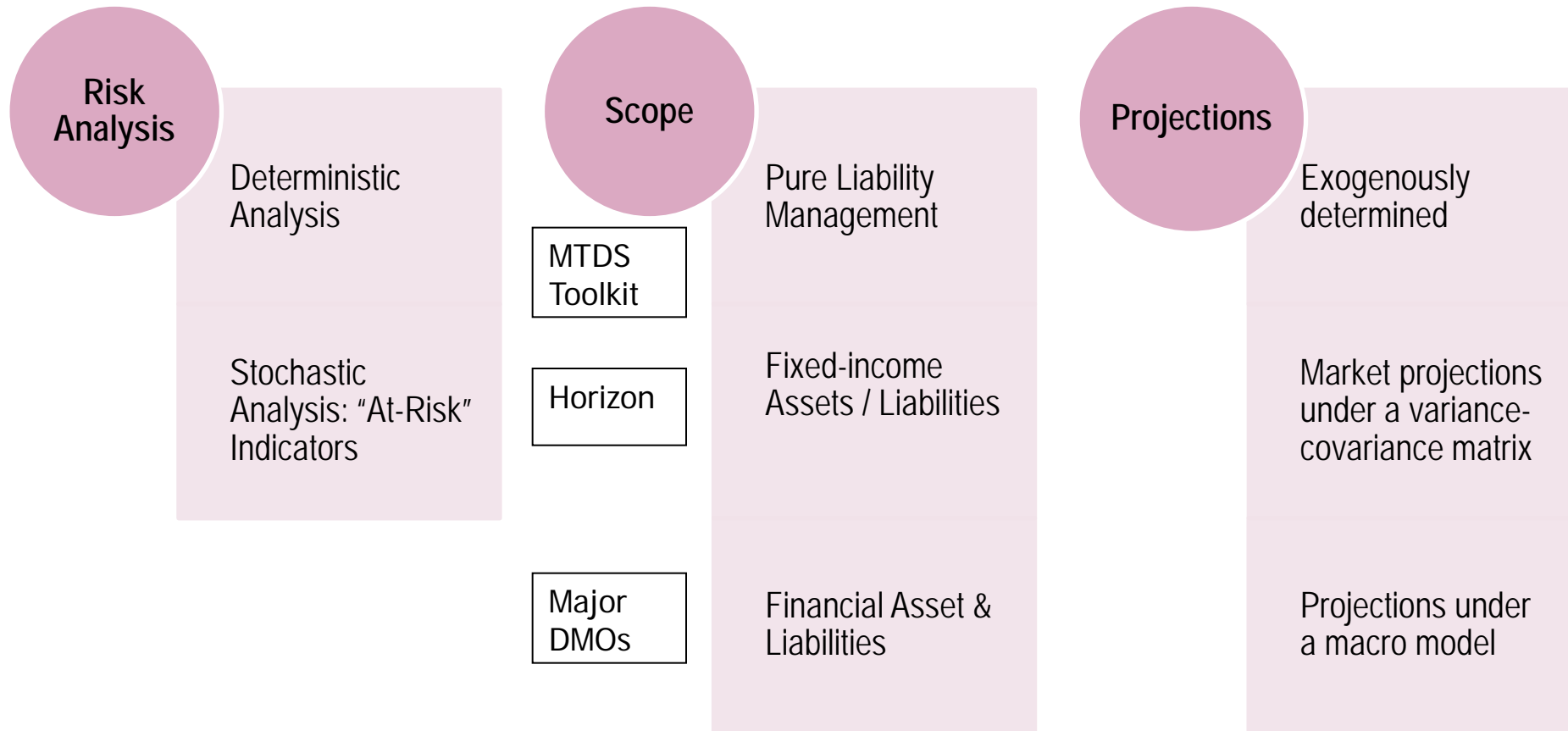
# Scope of Analysis – Risk and Instrument Coverage for Debt Management Strategy

- Market Risks
- Refinancing Risks
- Credit Risks?

Loans	Securities	LMO Instruments
Fixed-rate	Fixed-rate	Buybacks
Floating-rate	Floating-rate	Switches
Embedded Options	Zero Coupons	Swaps
	Indexed	



# Scope of Risk Management Framework – Available Tools for Debt Management Strategy





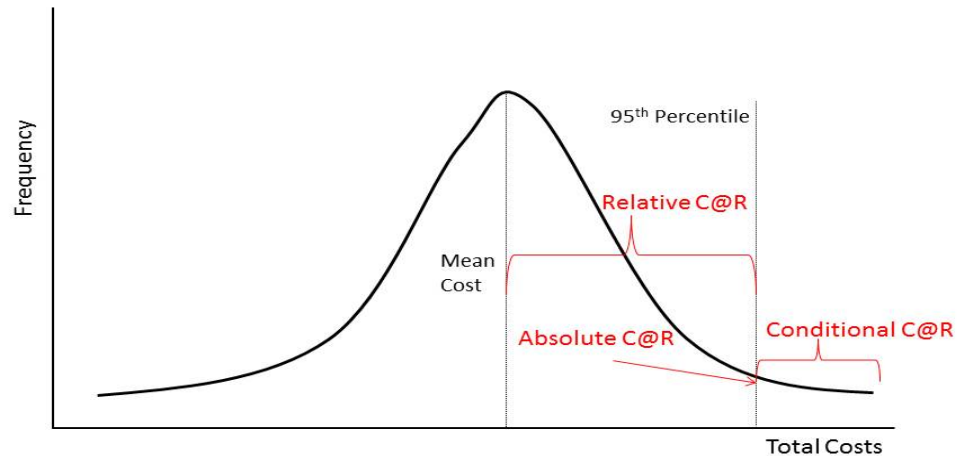
# Other Considerations

- Horizon of analysis
- Availability of monthly risk indicators and daily cash flows
- Transition versus Static Portfolio
- Shocking of Primary Balance



# What kind of Risk in a Stochastic Scenario?

- Dispersion such as the standard deviation or the tail area of the distribution.
  - Cost-at-Risk
    - Absolute
    - Relative
    - Conditional
  - Cash flow-at-Risk
  - Budget-at-Risk

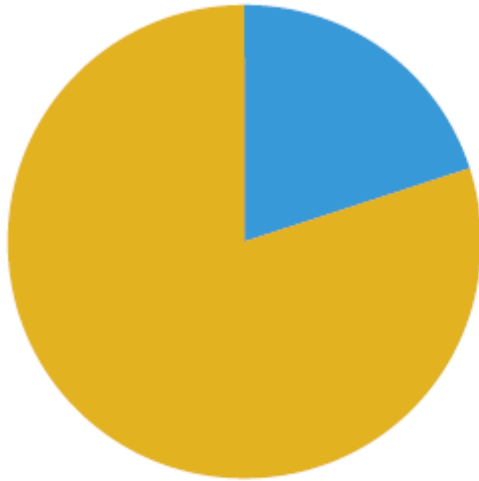






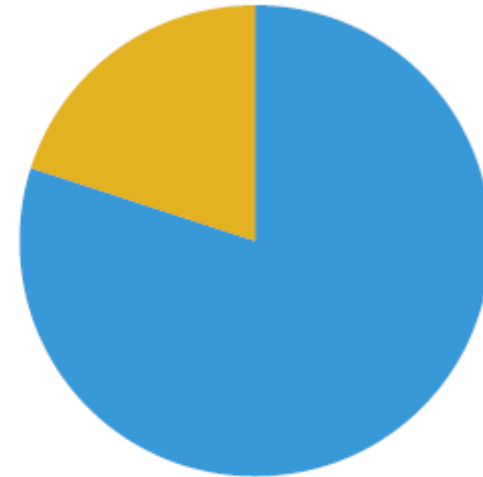
# Which is better?

Time spent modeling?



- Deterministic model
- Stochastic model

Insights gained?



- Deterministic model
- Stochastic model

Source: Danmarks National Bank, 2012



# Linkage with DSA and Fiscal Risk Tools

- Linkage between MTDS, DSA & Contingent Liability Management
- One tool or interfaces between them?
- Structure and Composition of Debt
  - Inclusion of commodity prices?
  - Sensitivity of tax revenue?
  - Dependency on other economies?



# Analysis Beyond Strategy Formulation?

- Implementation - Annual Borrowing Plan & Liability Management Operations
- Granular analysis required for implementation
- Issuance Calendar: UKDMO's Portfolio Simulation Tool and Horizon
- Analytical Framework for Investor Demand?



# Final Considerations for Analytical Tools

- Manual Entry/Data Preparation versus Data Upload
- Upload of projections versus In-built projections
- Separate Tools versus one tool
- Flexibility in modifying scope of analysis
- User-Friendliness
- Flexibility in MIS Reports
- Performance
- Transparent versus Black Box Tools



Thank You