Data, Analysis & Central Banks in the IT Age
IMF-BDL Joint Seminar on Data Management & Time Series Analysis

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Data, Analysis & Central Banks in the IT Age

- Role of Central Banks

- Indicators, Targets & Instruments

- Role of Information in Policy Formulation Implementation & Assessment

- Transparency & Good Governance

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Role of Central Banks: I

- Expansion of banking & financial services in modern economies$\Rightarrow$wider role of CBs
- Modern ICT $\Rightarrow\downarrow$ information costs
- Monetary Arrangements & Policy
- Exchange Rate Arrangements & Policy
- Public Debt Management

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Role of Central Banks: II

- Payment & Settlement Systems
- Banking Control & Supervision
- Financial Market Supervision

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Role of Central Banks: III

● Wider Role & Responsibility:
- Inform the general public
- Advise Government
- Inform International Organizations
- Inform Markets: domestic, international

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Goals, Targets, Instruments

- Model of economy: $y = F(y,x,z) + \varepsilon$ 'structural'

  $y = G(x,z) + u$ reduced form

  $W = W(y)$ objective function of authorities

  $x^* = H(z)$ 'optimal' policy rule

  Where y endogenous variables, x set of policy instruments, z set of exogenous variables (non-policy)

Issues: 'True model'?, lags, forecasts, expectations, choice of instruments, objectives

Inflation Targeting Example

- Choose an inflation target: π^*
- Keep inflation rate "close" to the target: minimize the loss function (Taylor type rule):

$$w_1(\pi_t - \pi^*)^2 + w_2(y_t - y_t^*)^2 \quad \text{where y is output}$$

- Many alternatives to achieve an inflation target:
  - Fixed money growth
  - "Permanently" fixed exchange rate
  - "Active" crawling peg
  - Interest rate rule
  - Exchange rate rule
  - Monetary conditions index rule

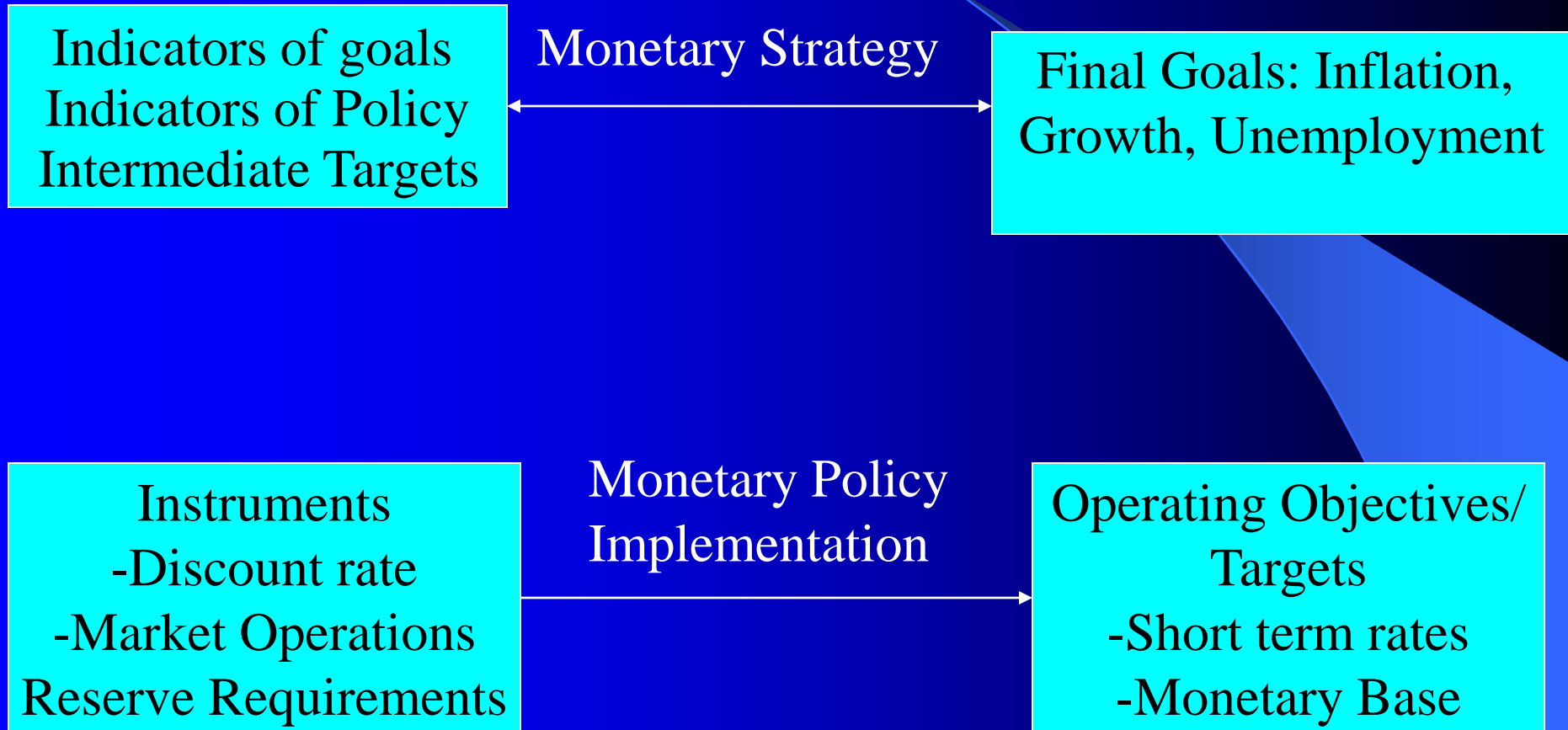Dr. Nasser Saidi IMF-BDL Joint Regional Seminar

Information & Policy: I

- Designing, setting policy, choosing instruments, targets, indicators of performance requires information: breadth, coverage, quality, frequency, availability

- CB need to be at least as well informed as the market

- Monitor domestic economy, sectors and regions, markets and international & regional developments, international financial and commodity markets

- Monitor non-economic variables

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Information & Policy: II

- Design, collect, aggregate →Analyze →Forecast → Set instruments & reaction functions→ Monitor → Estimate effects of policy
- Types of information & Policy
  – Micro & Markets
  – Macro & Economy

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Monetary Policy Strategy & Tactics

| Indicators of goals
Indicators of Policy
Intermediate Targets | Monetary Strategy ←→ | Final Goals: Inflation,
Growth, Unemployment |

| Instruments
-Discount rate
-Market Operations
Reserve Requirements | Monetary Policy
Implementation → | Operating Objectives/
Targets
-Short term rates
-Monetary Base |

Transparency & Good Governance

- Availability, production, access to and dissemination of information is essential for good management of CBs, conduct of policy, accountability and good governance

- Issue: what, when and how much information to be divulged? Policy 'games' and strategies

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IMF-BDL TSDM Seminar

- Box of tools for good management of data, information and analysis

- Time-saving, productivity enhancing

- Networking for the region

- Knowledge is power

IMF-BDL TSDM Seminar

"There are but two powers in the world, the sword and the mind. In the long run the sword is always beaten by the mind."
Napoleon Bonaparte

"Attaining one hundred victories in one hundred battles is not the pinnacle of excellence. Subjugating the enemy's army without fighting is the true pinnacle of excellence."
Sun Tzu, The Art of War

Thank You

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