



# Analysis of tools and models to conduct economic forecasts, simulations and sensitivity analyses

**Jaroslav K. Ponder**

*International Telecommunication Union  
Telecommunication Development Bureau  
Market, Economics and Finance Unit*

« Adjusting Forecasting Methods to the Needs of the  
Telecommunication Sector »

**Geneva, Switzerland  
25-26 October 2004**



# Dynamic character of telecommunication sector environment



[www.itu.int/itu-d/finance](http://www.itu.int/itu-d/finance)

## Markets

- Fixed Telecommunications
- Mobile Telecommunications
- Internet
- Cable TV
- ...

## Effects

- Microeconomic
- Macroeconomic
- Innovation dynamics
- Social
- Cultural
- ...

## Processes

- Liberalization
- Regulation
- Digitalization
- Convergence
- Standardization
- Globalization
- ...

## Sector Stakeholders

- Operators
- Regulators
- Policy Makers
- Groups of Interest
- Regional and International Organizations
- ...



# Goals of the project



[www.itu.int/itu-d/finance](http://www.itu.int/itu-d/finance)

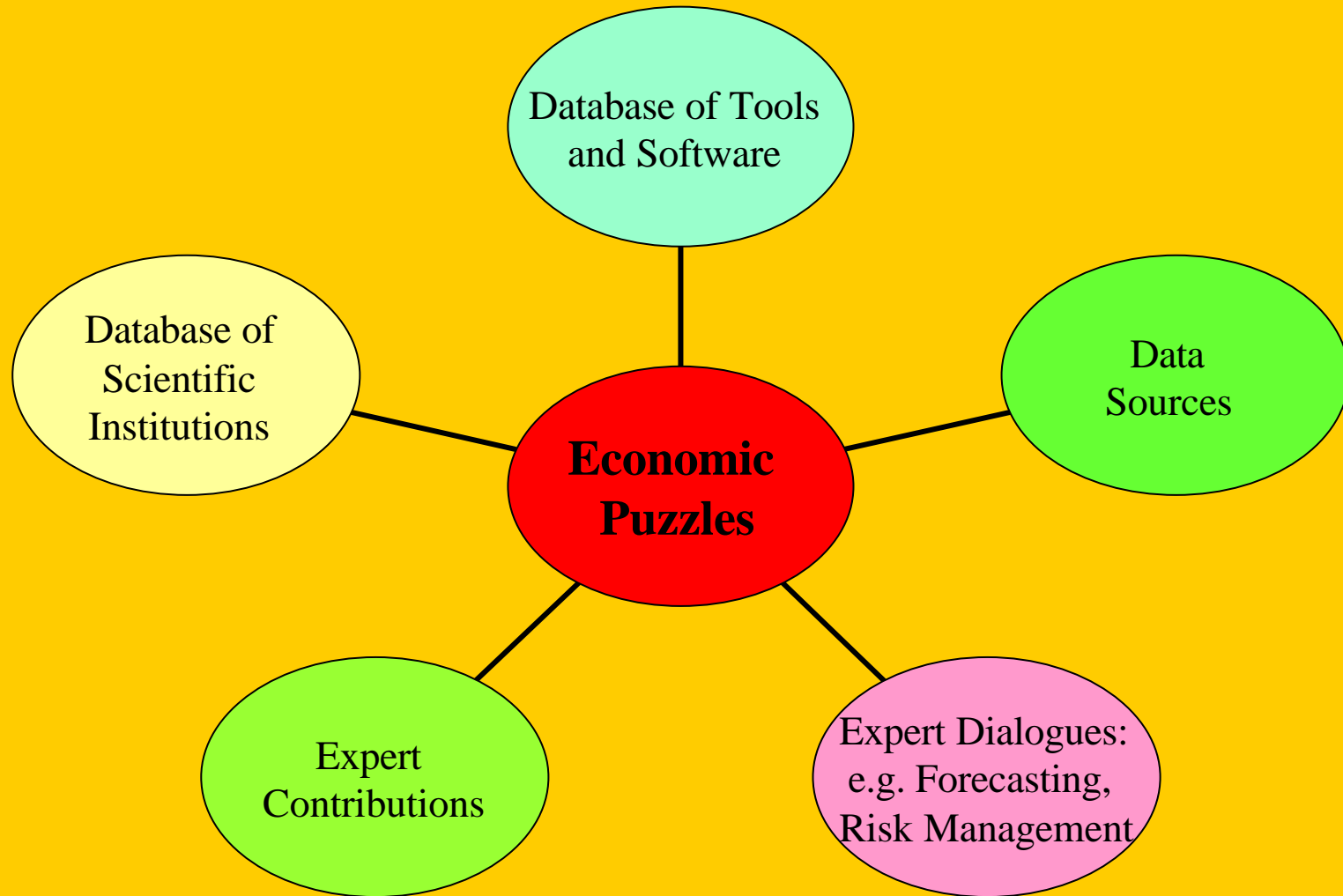
- **Analysis of tools and models to conduct economic forecasts, simulations and sensitivity analyses**
  - Review of methods and models being applied in telecommunication sector
  - Review of available tools supporting decision-making in telecommunication sector
  - Review of case studies on telecommunication sector
  - Development of tools and models to help decision-makers to conduct economic forecasts, simulations and sensitivity analysis



# Components of the project



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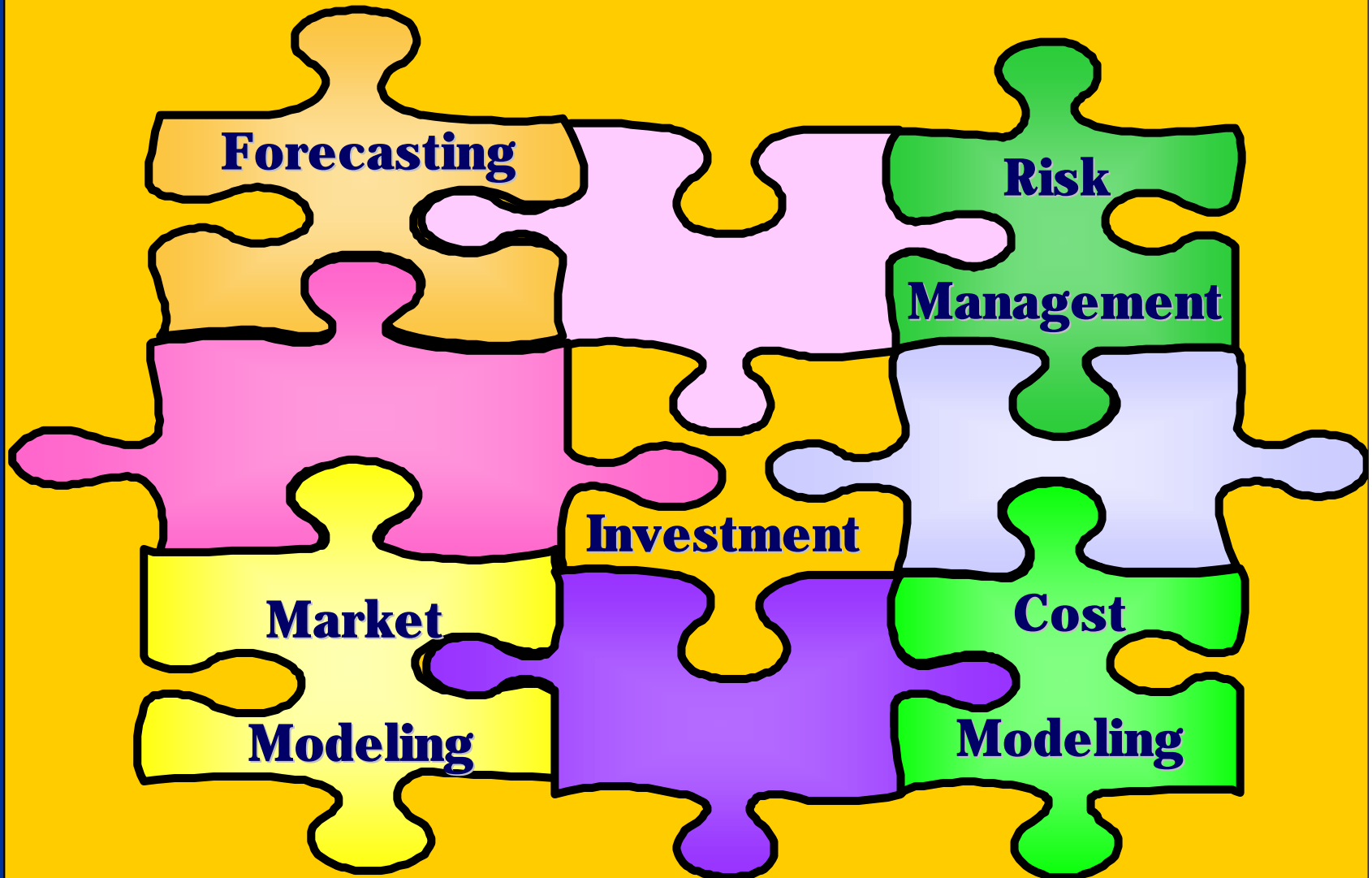




# Focus of the project

ITU

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# Tools and software



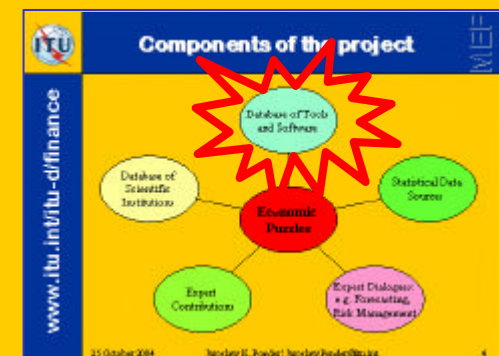
[www.itu.int/itu-d/finance](http://www.itu.int/itu-d/finance)

## Database of tools and software to conduct the economic research on telecommunications:

- Focus
  - Forecasting
  - Risk management
  - Market modeling
  - Investment
  - Cost modeling
  - Operation
- Software specialization
  - ICT specific
  - Telecommunication specific
  - Universal
- Software form (plug-in, compact)
- System and availability

25 October 2004

Until October 2004  
about 100 tools has  
been assembled



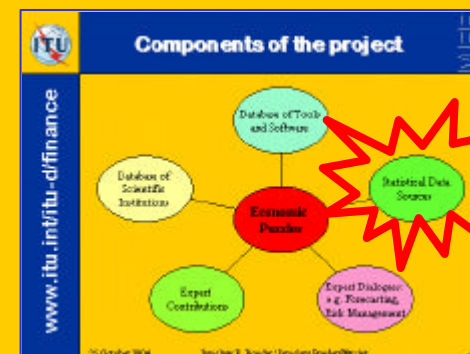


# Data

## Collection of official sources of data

- Global data sources
- Regional data sources
- National data sources
- National regulatory authorities and ministries of communications

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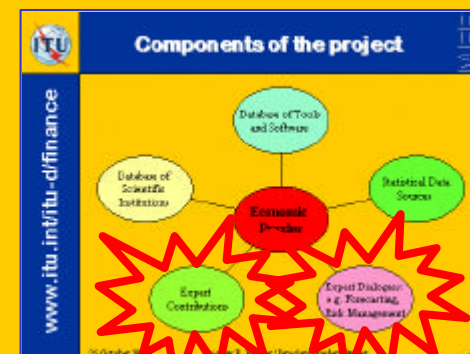
# Expert dialogues



[www.itu.int/itu-d/finance](http://www.itu.int/itu-d/finance)

- **Expert dialogues meetings**
  - Adjusting Forecasting Techniques to the Needs of Telecommunication Sector (25-26 October 2004, Geneva)
  - Risk Managing in the Competitive Environment of Telecommunication Sector (28-29 October 2004, Geneva)
- **Expert contributions**

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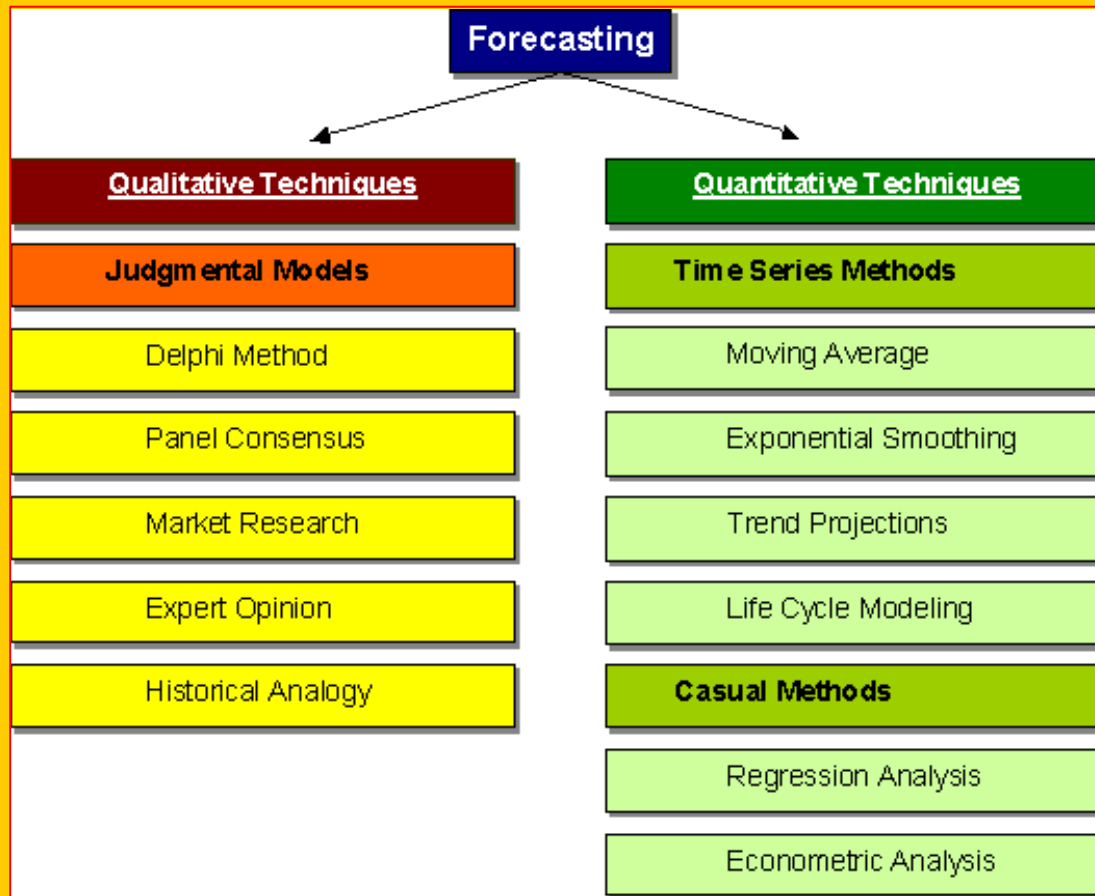


# Expert dialogues meeting on forecasting (25-26 October 2004)



www.itu.int/itu-d/finance

Meeting organized in cooperation with International Institute of Forecasters



25 October 2004





# Expert dialogues meeting on risk management (28-29 October 2004)



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## • Risk management

### – Review of risk factors

#### • Commercial risks

- *Project specific*
  - » Project concept and costs
  - » Supply
  - » Demand
  - » Commitments
  - » Contractor/operator commitment
- *Non Project-Specific*
  - » Currency/Interest Risk
  - » Inflation

#### Non-commercial risk

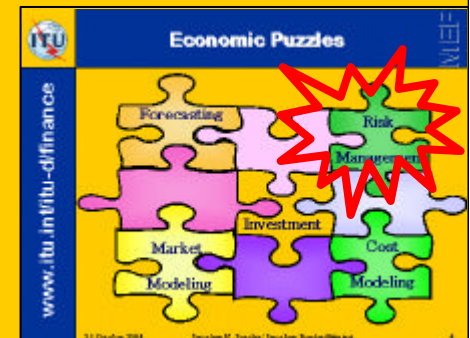
- *Project-specific*
  - Regulatory
  - Expropriation
  - Obligations
- *Non project-specific*
  - Country risk
  - Political
  - Legal
  - Natural (e.g. earthquake)

### – Approaches

- Monte Carlo simulation
- Real options
- Game theory

### – Applications

- Techno-economic analysis
- Deployment of new technologies
- Price optimization
- Regulation
- Cost of capital
- investment projects



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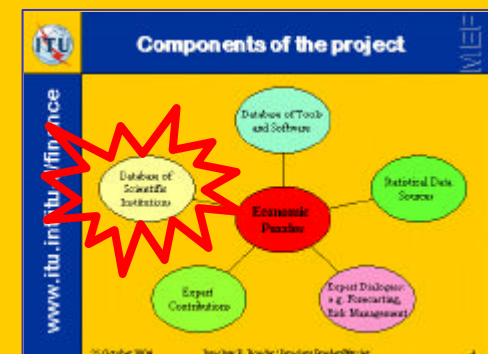
# Scientific institutions



[www.itu.int/itu-d/finance](http://www.itu.int/itu-d/finance)

- **Global database of scientific institutions focusing on telecommunications**
  - Until October 2004 more than 1100 institutions from more than 75 countries
  - Search criteria
    - Economics
    - Management
    - Regulation
    - Technology

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**Thank you very much for  
your attention**



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## **Jaroslav K. Ponder**

Market, Economics and Finance Unit  
Telecommunications Development Bureau  
International Telecommunication Union

Tel.: +41 22 730 59 10

E-mail: [Jaroslav.Ponder@itu.int](mailto:Jaroslav.Ponder@itu.int)