Toward Desirable Liberalization of Electricity Markets

Tatsuo Hatta
International Christian University

I Background of liberalization
- A. Economy of scale is no longer an important factor in the power generation industry
- B. Advances in information and telecommunications (IT) technology have made it possible to decentralize power generation

II Objectives
- A. Lowering electricity rates
  - 1. Unlike under the rate-of-return regulation, competition gives incentives to the power generating companies to reduce cost
  - 2. Excess capacity for power generation and transmission is no longer needed since congestion during peak hours is controlled by high spot prices.
  - 3. Appropriate transmission pricing can encourage efficient location of generating plants and factories (i.e., motivates suppliers to construct power plants in excess demand regions, and users to set up factories in excess supply regions)
- B. Increasing reliability of power system
  - 1. Day-ahead spot market reduces demand for power transmission
  - 2. Congestion pricing reduces demand for power transmission
  - 3. Real-time market reduces demand for power transmission

III Examples of success in liberalization
- A. Generation charges
- B. Transmission charges
- C. Congestion charges
- D. Risk hedge
  - 1. Physical Bilateral Transaction
  - 2. Financial Bilateral Transaction
  - 3. Physical forward market
  - 4. Financial forward market

IV Evaluation of liberalization in Japan
- A. Lack of the real-time market
- B. Lack of point-of-connection tariffs
- C. Controversial issues of market structure
  - 1. Imperfection of congestion pricing
  - 2. Vulnerability of the physical forward market

3. Possibility of market power by withholding the available capacity in case transmission lines are congested
4. Peculiarity of the spot market (*Himotsuki* spot market)

D. Importance of unbundling (power generation sector and system operation sector)