

Artificial Intelligence and Bank Supervision

AI Applications in Finance

- **Artificial intelligence (AI)** is a form of intelligence that is generated directly by computers rather than humans.
- Modern applications of AI
 1. Machine learning (where computers develop their own code)
 2. Neural networks (models for classifying text and images)
 3. Generative AI (e.g., ChatGPT)
- AI innovations in the financial industry include (1) automating back-office processes, (2) deploying AI chatbots for customer service, and (3) using AI for fraud detection and evaluation of creditworthiness.

AI Advantages

- There are key *advantages* that AI introduces to the banking sector and their customers:
 1. Cost cutting
 2. Providing on-demand customer service
 3. Fraud detection and prevention
 4. Anti-money laundering (AML) compliance
 5. Know your customer (KYC) compliance

AI Disadvantages

- There are key *disadvantages* and *difficulties* for financial institutions using AI:
 1. Loss of personal touch
 2. Lack of control over potential biases (e.g., credit scores)
 3. Model opacity
 4. Evolving sophistication of fraudulent actors
 5. Uncertain regulatory landscape

Specific Concerns for Banks and Regulators

- The end goal of financial regulation is to protect consumers, and for risks to be appropriately monitored, controlled, and documented.
 - However, with rapidly evolving technology, risks are less certain.
- Known concerns faced by banks and regulators
 1. Potential for bias (e.g., algorithmic discrimination)
 2. Evolution in credit score calculations
 3. Use of alternative datasets (i.e., nontraditional data)
 4. Model opacity
 5. Potential to overregulate (which could limit innovation)