



# **An Economic Framework to Understand and Assess Regulations in Network Industries**

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# Agenda

1. **Descriptive Analysis:** How can we understand current regulations in a coherent framework?
2. **Normative Analysis:** How can the appropriateness of regulatory interventions in network industries be assessed?
3. **Applications:**
  - Liberalization as market access regulation
  - Regulation in the postal sector

# Regulation in perfect markets

- **Perfect markets are efficient; there are no market failures**
  - Agents act as price takers, i.e. there is no bargaining or market power;
  - Markets are complete, i.e. there is a price for all goods, all property rights are allocated and enforceable
  - Everybody is fully informed, there are no transaction costs.
  
- There is no need for regulation...  
But maybe for redistribution...

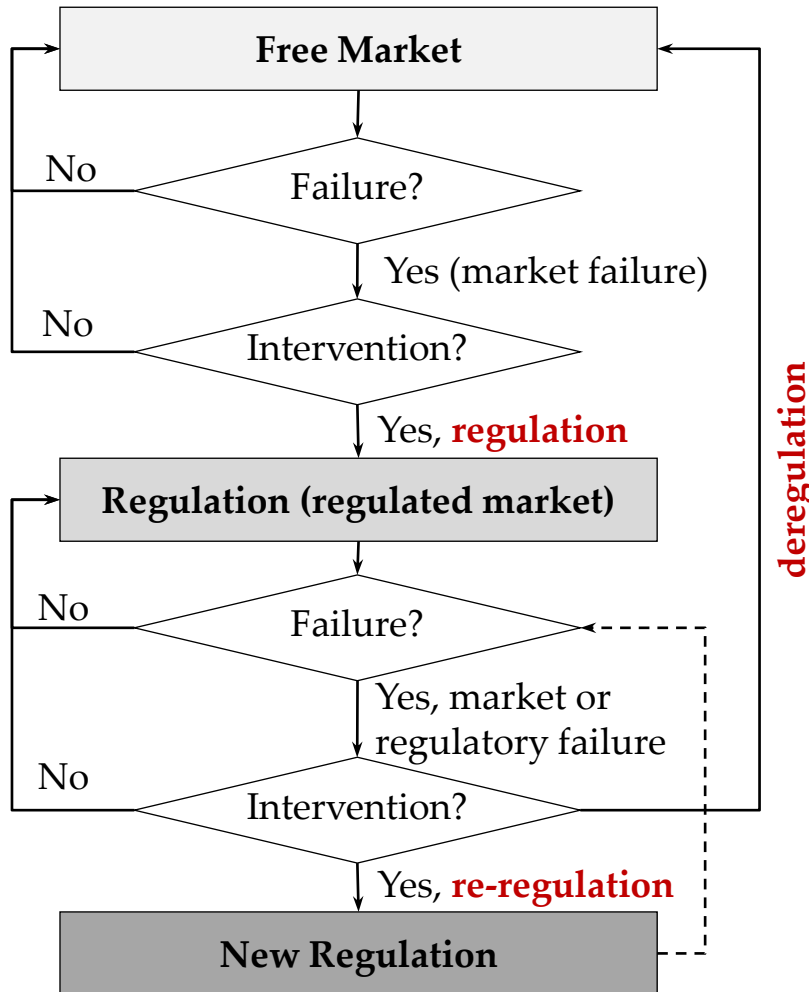
# Regulation in real markets (1)

- **Real markets are not perfect**, i.e. there are always deviations from the perfect market paradigm.
- Then, “market equilibria cannot be relied on to yield Pareto optimal outcomes” (Mas-Colell, 1995)
- **Deviations from perfect markets paradigm in network industries:**
  - 1. Natural Monopolies** (i.e. subadditive cost function in at least one network layer, eventually resulting in market power)
  - 2. Incomplete Markets** (e.g. externalities, network effects)
  - 3. Market Imperfections** (e.g. asymmetric information)
- **Regulation as a potential remedy to deal with market failures.**

## Regulation in real markets (2)

- **The three sources of market failures are the rationale for market interventions,**
  - **in general law** for issues that are an issue in all industries (competition law, IP law, etc.)
  - **in sector-specific law** for sector-specific issues
  
- Virtually all markets are already regulated somehow, i.e. there are preexisting regulations .
  - What is the rationale, concretely?
  - May there be regulatory failure as well?

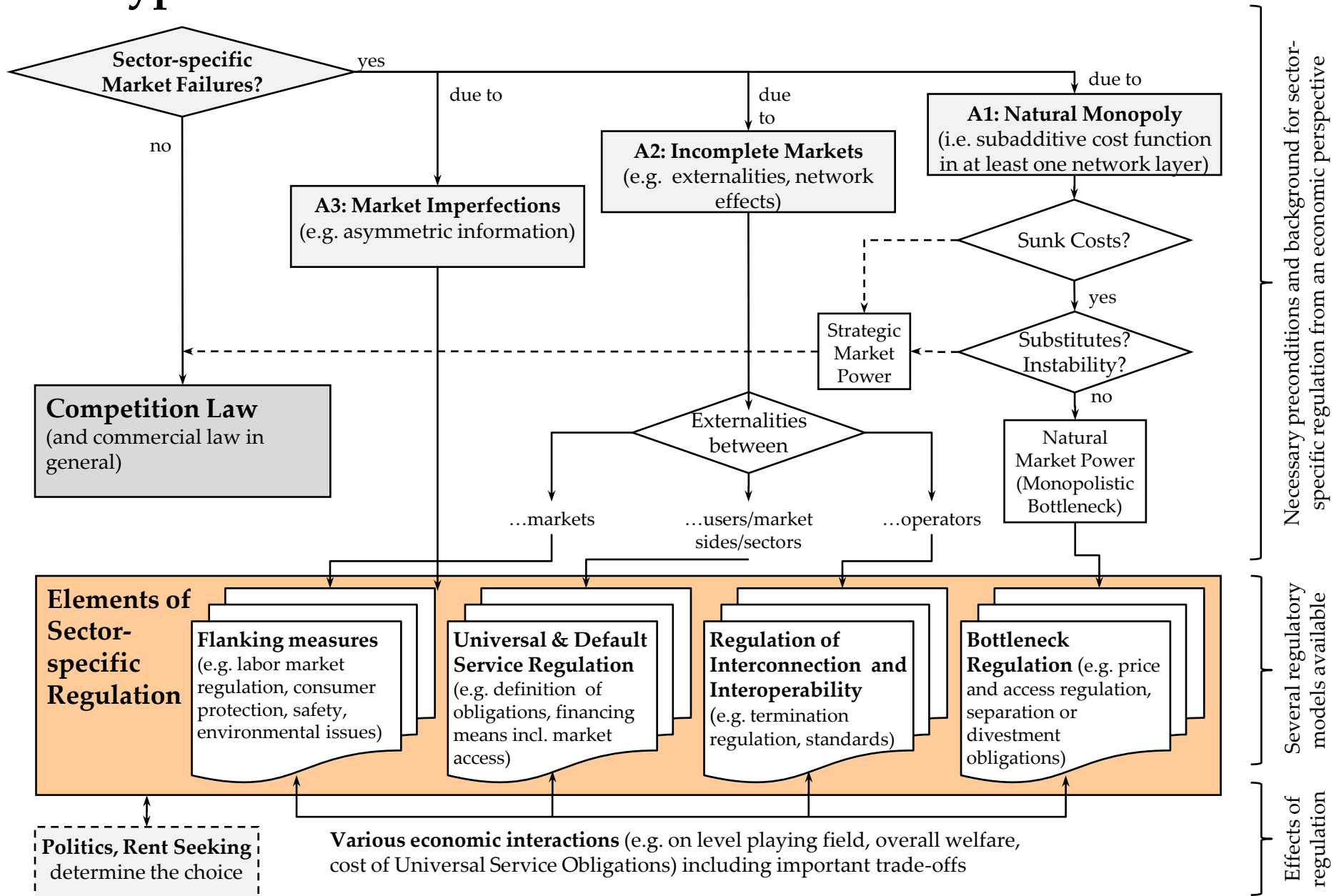
# Regulation in real markets (3): Basic approach



## Criteria

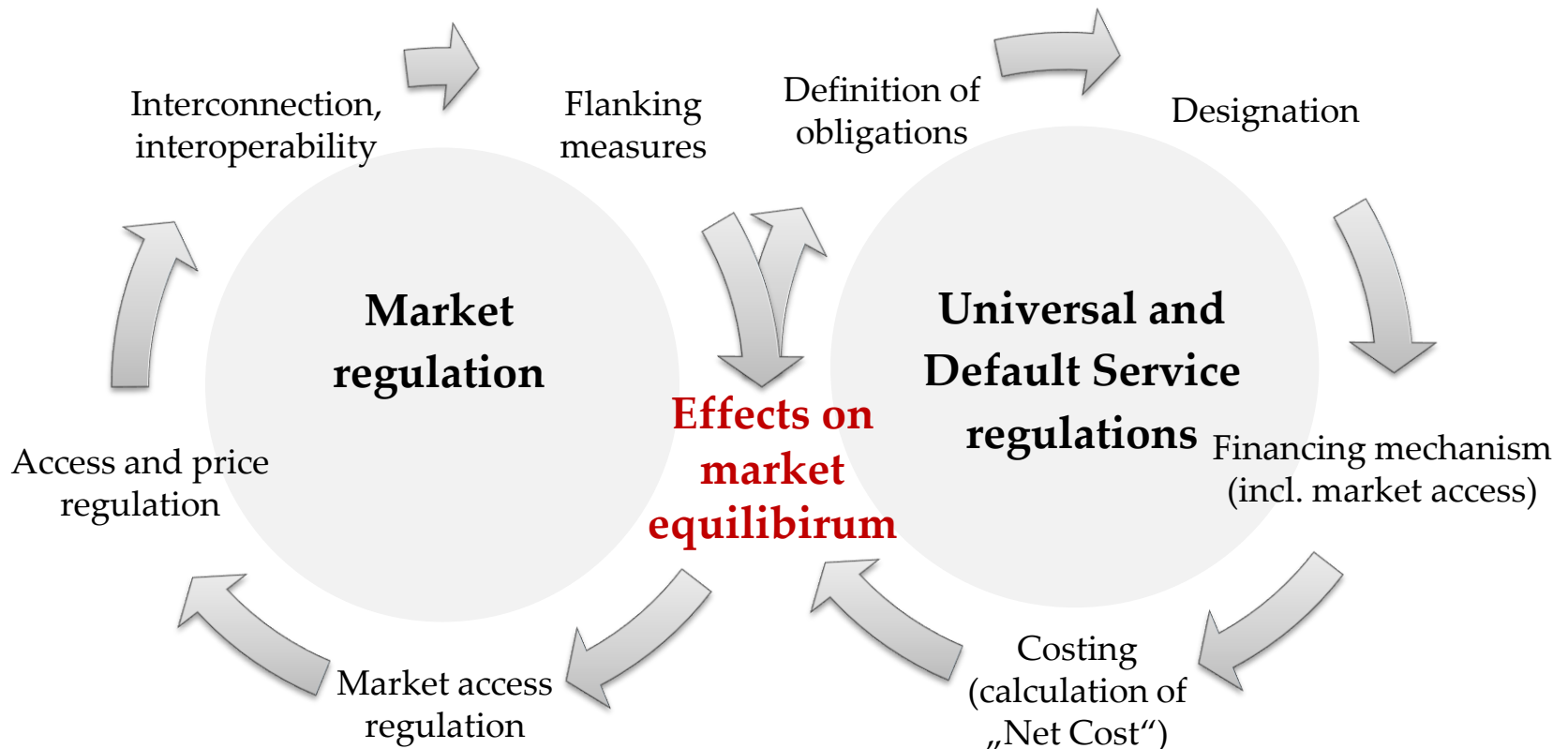
- Persistent or harmful potential market failure?
- Precondition: Important deviation from perfect markets paradigm
- Qualitative Criteria: Proportionality, expedience, competitive neutrality, etc.
- Quantitative Criteria: Short and long term impact on welfare or other public goals
- **Persistent or harmful potential market and/or regulatory failure?**
- **Precondition: Important deviation from perfect markets paradigm**
- Qualitative Criteria: Proportionality, expedience, competitive neutrality, etc.
- Quantitative Criteria: Short and long term impact on welfare or other public goals

# Types of Market Failure



# Impact Analysis

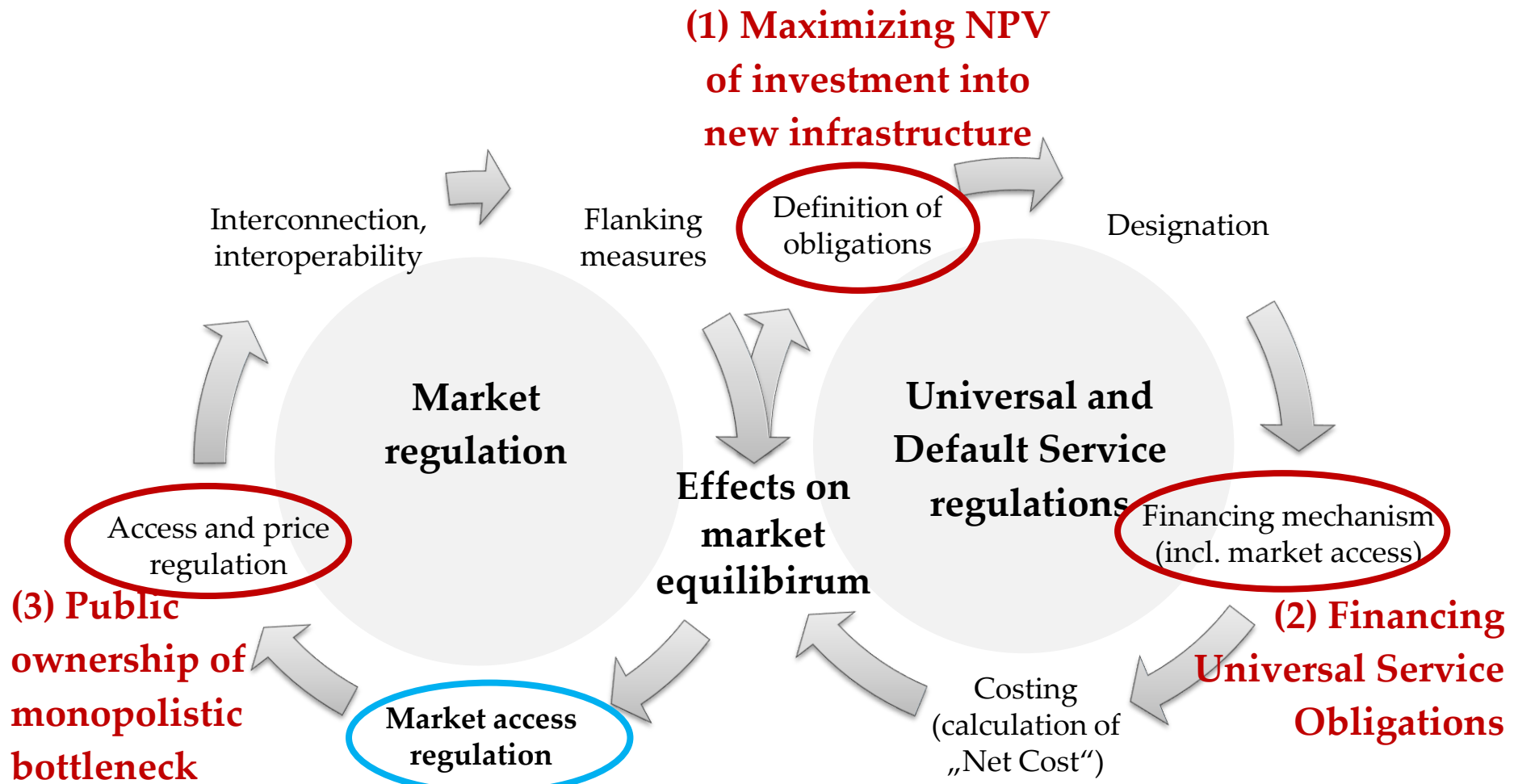
## Interactions Among Various Regulations are Non-trivial





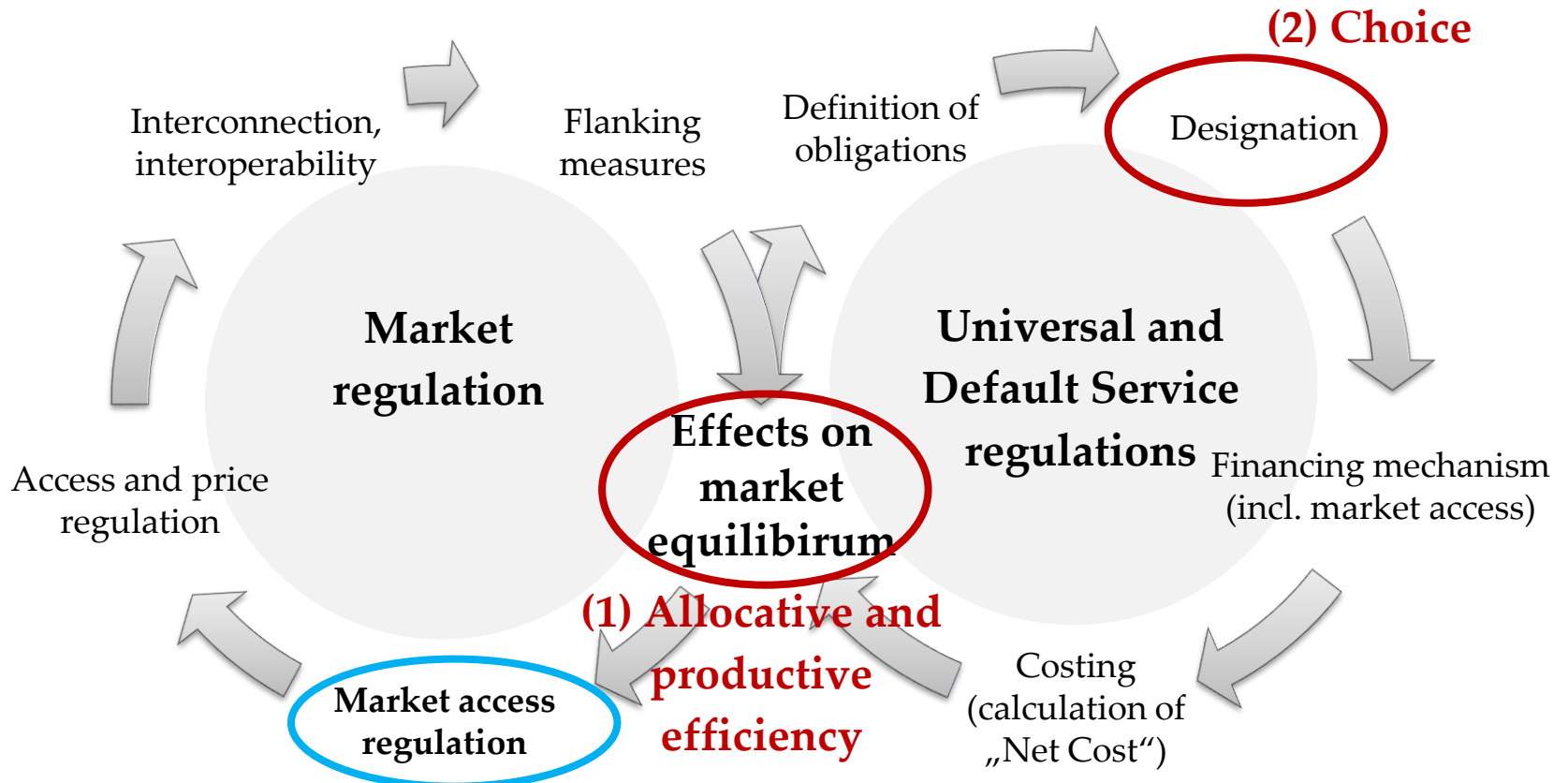
# Application 1: Liberalization - Market Access Deregulation

## Reasons for Limiting Market Access (Monopoly)



# Application 1: Liberalization - Market Access Deregulation

## Reasons for Permitting Market Access (Direct Competition)



# Application 2: Regulation in the Postal Sector (1)

## Main Aspects of Regulation

- **State ownership – Privatization** ✓  
Rationale: Conflicting policy goals
- **Monopoly – Liberalization** ✓  
Rationale: Financing of the USO
- **Access to infrastructures, processes and information** ?  
Rationale: Monopolistic bottleneck (?); interconnection
- **Universal Service Obligation** ?  
Product range, ubiquity, affordability, price uniformity  
Rationale: Externalities

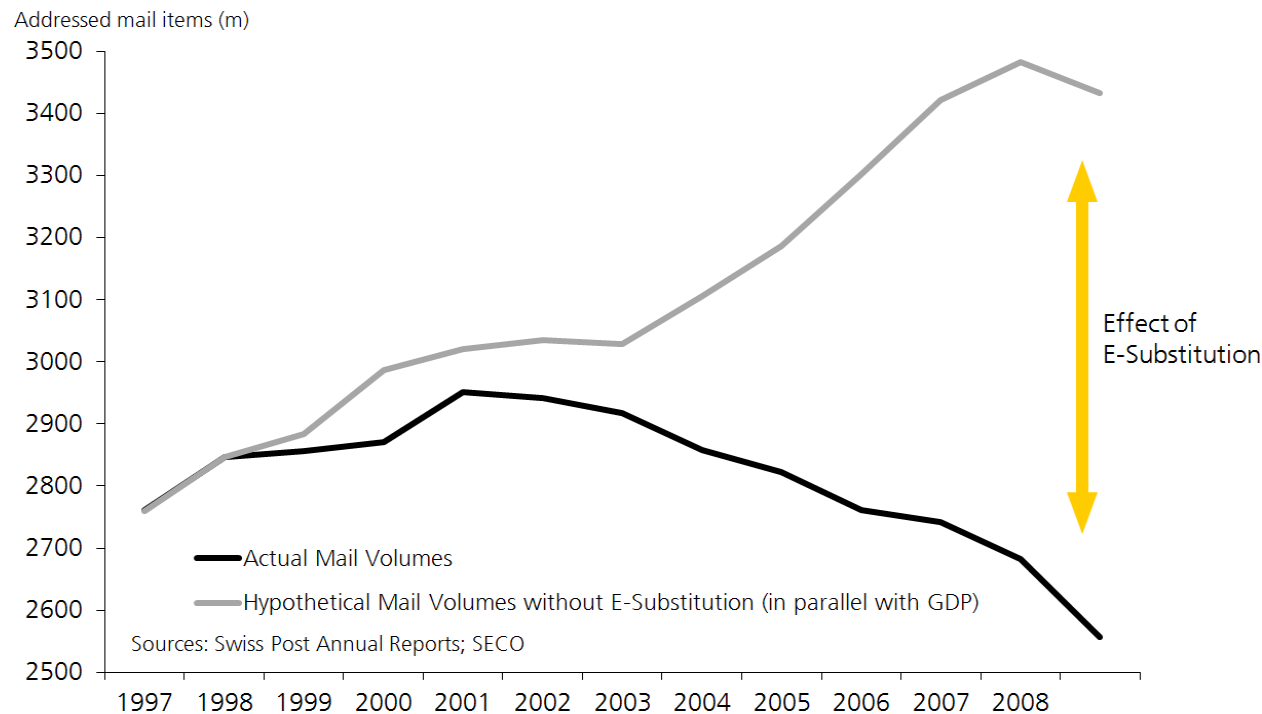
# Application 2: Regulation in the Postal Sector (2)

## Access Regulation

**Is there a monopolistic bottleneck?**

The postal delivery network is built every day from scratch.

**Are there substitutes?**



# Application 2: Regulation in the Postal Sector (3)

## Universal Service Obligation

### Printing The NYT Costs Twice As Much As Sending Every Subscriber A Free Kindle

Nicholas Carlson | Jan. 30, 2009, 4:35 PM | 121

Print

Tags: Media, Media, New York Times, Newspapers

Not that it's anything we think the New York Times Company should do, but we thought it was worth pointing out that it costs the Times about twice as much money to print and deliver the newspaper over a year as it would cost to send each of its subscribers a brand new Amazon Kindle instead.

Here's how we did the math:

According to the Times's Q308 10-Q, the company spends \$63 million per quarter on raw materials and \$148 million on wages and benefits. We've heard the wages and benefits for just the newsroom are about \$200 million per year.

After multiplying the quarterly costs by four and subtracting that \$200 million out, a rough estimate for the *Times's* delivery costs would be \$644 million per year.



Source: businessinsider.com

# Summary

1. There are “good” and “bad” reasons to regulate.
2. Sector-specific regulations in network industries can be motivated by monopolistic bottlenecks, externalities and asymmetric information.
3. Liberalization can be understood as a change in market access regulations. The optimal choice of market access regulation will vary not only from sector to sector but also from country to country and in time.
4. Regulations need to be reassessed continuously and adapted to changing consumer needs and technological progress.

**Thank you for your attention!**

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