

# The Impact of Legal Regulation on Competitiveness

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# Regulation of new technologies – An example

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- Electronic invoice
  - Advantages: Faster, easier to send/receive, and cheaper than invoices on paper
  - Problem: Requires a legally valid signature (“advanced signature”) to reclaim VAT
    - Note: Invoices on paper do not require **any** kind of signature!
    - Reason: Fraud (reclaiming VAT which had not been paid; e.g. by fake invoices)
- Results of this legal regulation:
  - Widely used when sending to end users → These cannot reclaim VAT
  - Almost no use between companies → Too much work, too complex, too many rules...
  - Companies dedicated to handle el. signatures have problems
  - El. signatures are still not widely used: no useful (=cost/work/... reducing) services
- Note: Technically everything works with/-out signature!

# General problems regulating technology

- Are all (types, nationalities, ... of) companies affected the same?
  - Requiring expensive pre-testing/-investment favours large companies
    - Chip factories, glass fibre cables etc.
  - High insurance favours long-existing/large companies (→ problem for start-ups)
  - Restrictive laws in one country favour companies located elsewhere
    - Regardless of the location of the final market!
- Most important for compet. is less content of regulation than certainty and delay!
  - If a positive outcome is uncertain (note: all conditions fulfilled!), e.g. because of bureaucracy or frequent legal changes, competitiveness is reduced
    - Report: Drug approval is much faster in EU than USA → Fewer drugs in the US
  - When permissions (again: everything fulfilled) require a long time → Less competitive
    - Speed is often of essence, as compared to competitors

# Problems of laws regulating new technology

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- Existing laws might not fit well or not at all
  - Examples: Patents have served very well, but software patents are a problem;  
Fraud requires deceiving a human → Inserting an illegally copied card into an ATM?
- When the technology is new, little is known about it
  - Even less is known about its dangers
    - Privacy came long after the computer; mobile phones and their radiation!
    - Scientists investigate how to do it, but not why not to do it!
  - Default legal state: You must cover (and are liable for) known dangers only
    - And those, which could reasonably have been expected
  - Little incentive for additional research into problems and potential dangers
  - When problems surface, you must confirm them and change your products

# Regulation may improve competitiveness (1)

- Possible in two ways:
  - No or little regulation → Do what you want (even if its unsafe!) → Cheap
    - Example: Software. This is the reason for the huge number of buggy programs!
      - Note: This is not necessarily bad → Only good software is successful!
    - Difficulty: What happens in case of problems?
      - Especially to customers of these products (→ x-ray machine)!
    - Effective procedure needed for compensation, punishment, ...
  - Counterexample: Too much regulation won't help
    - Only very big companies, with lots of certificates + ... may bid on large contracts for public administration: Still most of them fail and the rest is enormously above the budget! → All this (less formal) regulation didn't help!

## Regulation may improve competitiveness (2)

- Prescribing interoperability/permissions to access monopolized goods
  - Internet: Works and is so huge, because everyone uses same basic protocols
    - Everyone benefits from the network effect from the increased size
    - “Enabling” competition to take place at all
  - Access to CIFS (=MS Filesharing protocol) had to be regulated legally
    - Improved competitiveness of Linux (although they must still invest a lot of work in implementation!) through interoperability
    - Improved competitiveness of Microsoft (AD is not part of it!) because they can reach areas completely excluded before too (servers for Linux clients)
      - Microsoft lost also come competitiveness: Monopoly!
  - Norms for infrastructure: Power plugs, protocols for access to “last mile”, ...

# Conclusions

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- Existing rules often apply badly to new technology
  - General rules should be very general, but specific rules very specific!
    - I.e., specific rules should only apply to **known** technologies and not be too general
- Content of regulation is often less important than procedure and stability
  - Frequent changes prevent matching the technology to the rules
  - Countries without regulation can't be beaten, but swift procedures can reduce the gap significantly and prevent evasion
- Less pre-checking and more ensuring that problems occurring can be rectified
  - Not: Atomic power industry → No insurance (unnecessary costs when not needed) and nationalization on problems (company is “dead” anyway)!
- Tying the risk to the responsibility

# Thank you for your attention!

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