

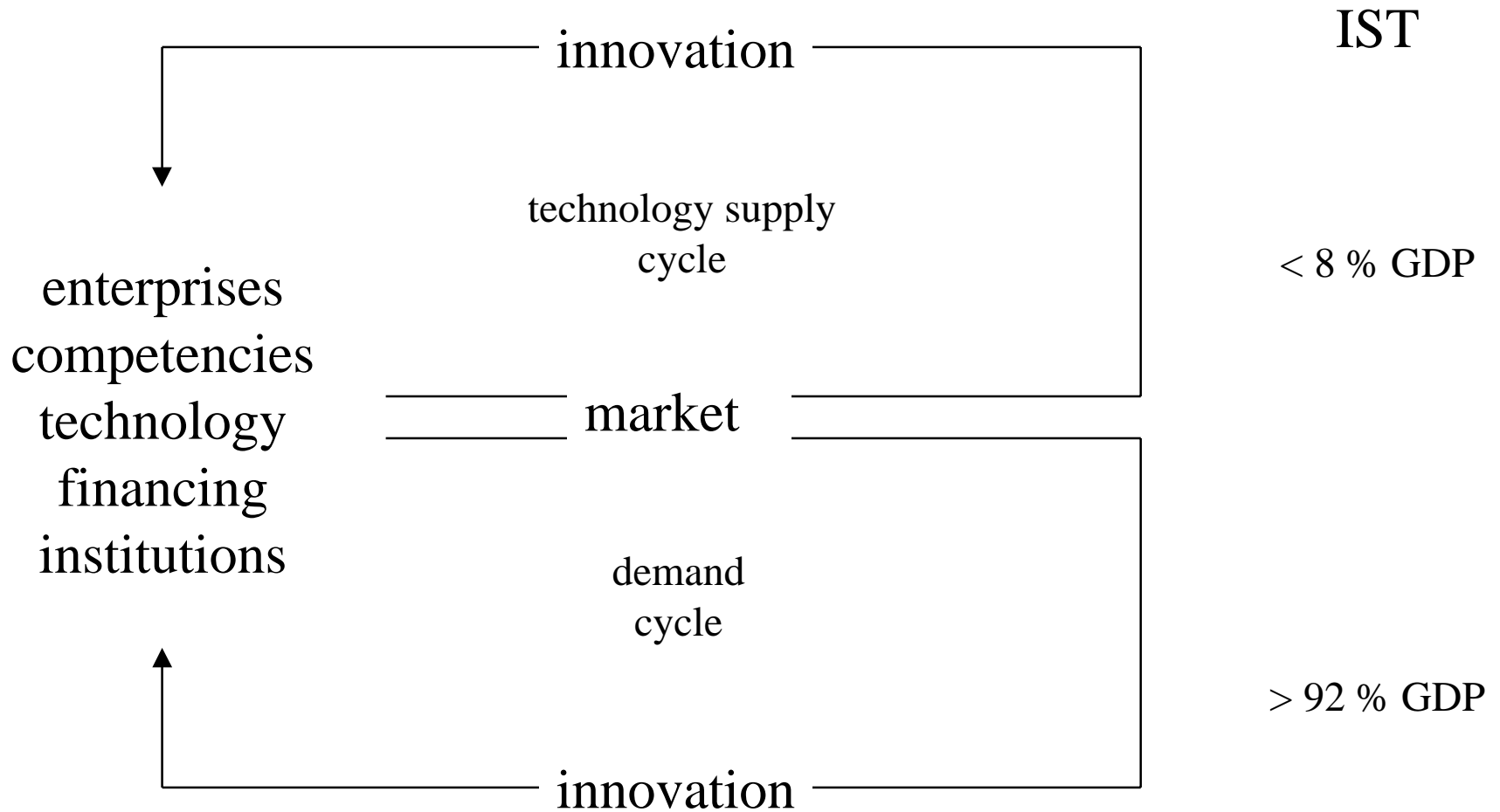
# Innovation in the Network Society

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# Topics Covered

- The Linux Open Source Innovation Model
- Networked Innovation on the Internet
  - 3G and i-Mode vs. Linux
- The structure and nature of “demand” side IST innovation
- Policy and research implications

# Balancing Supply and Demand

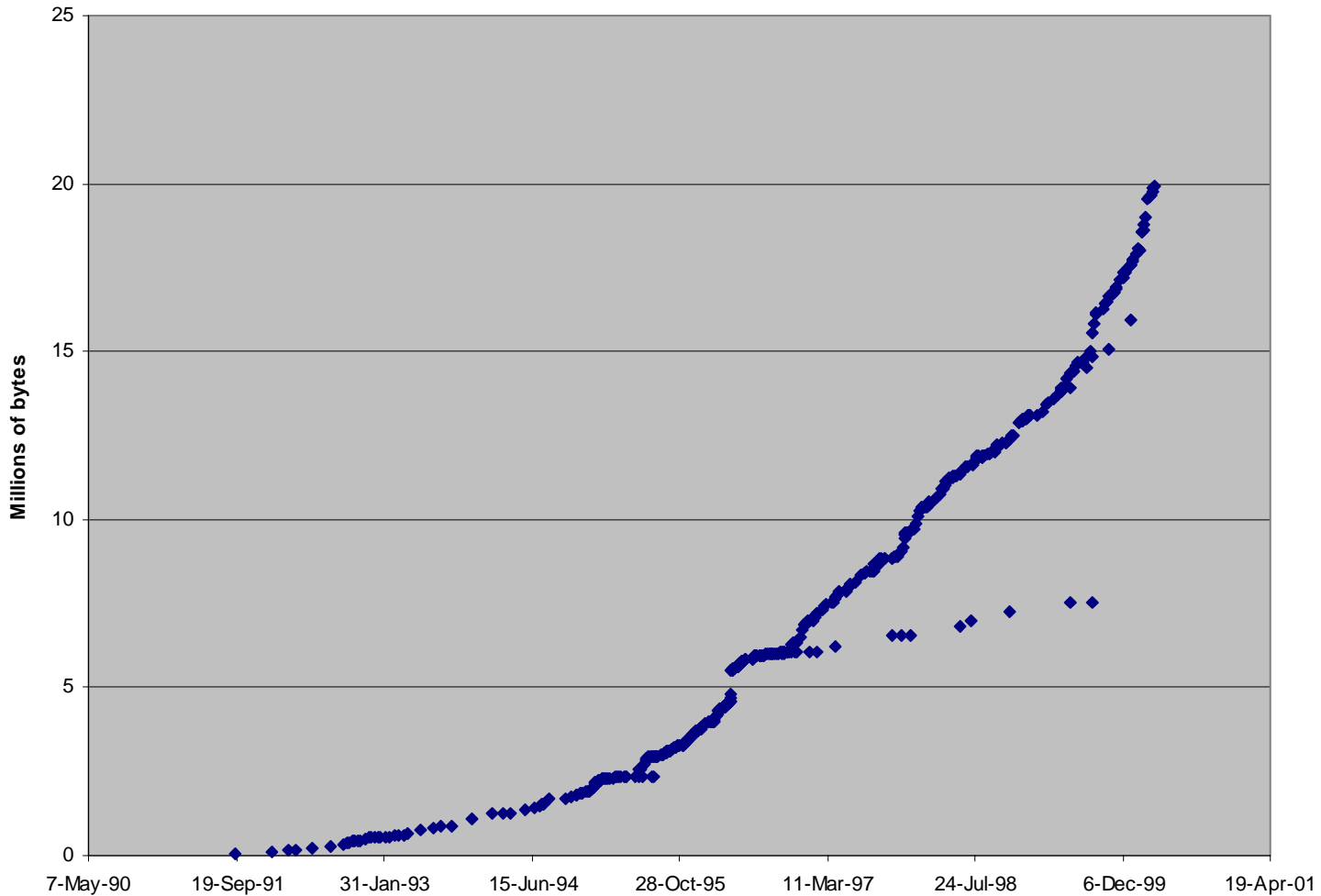


# The Open Source Model

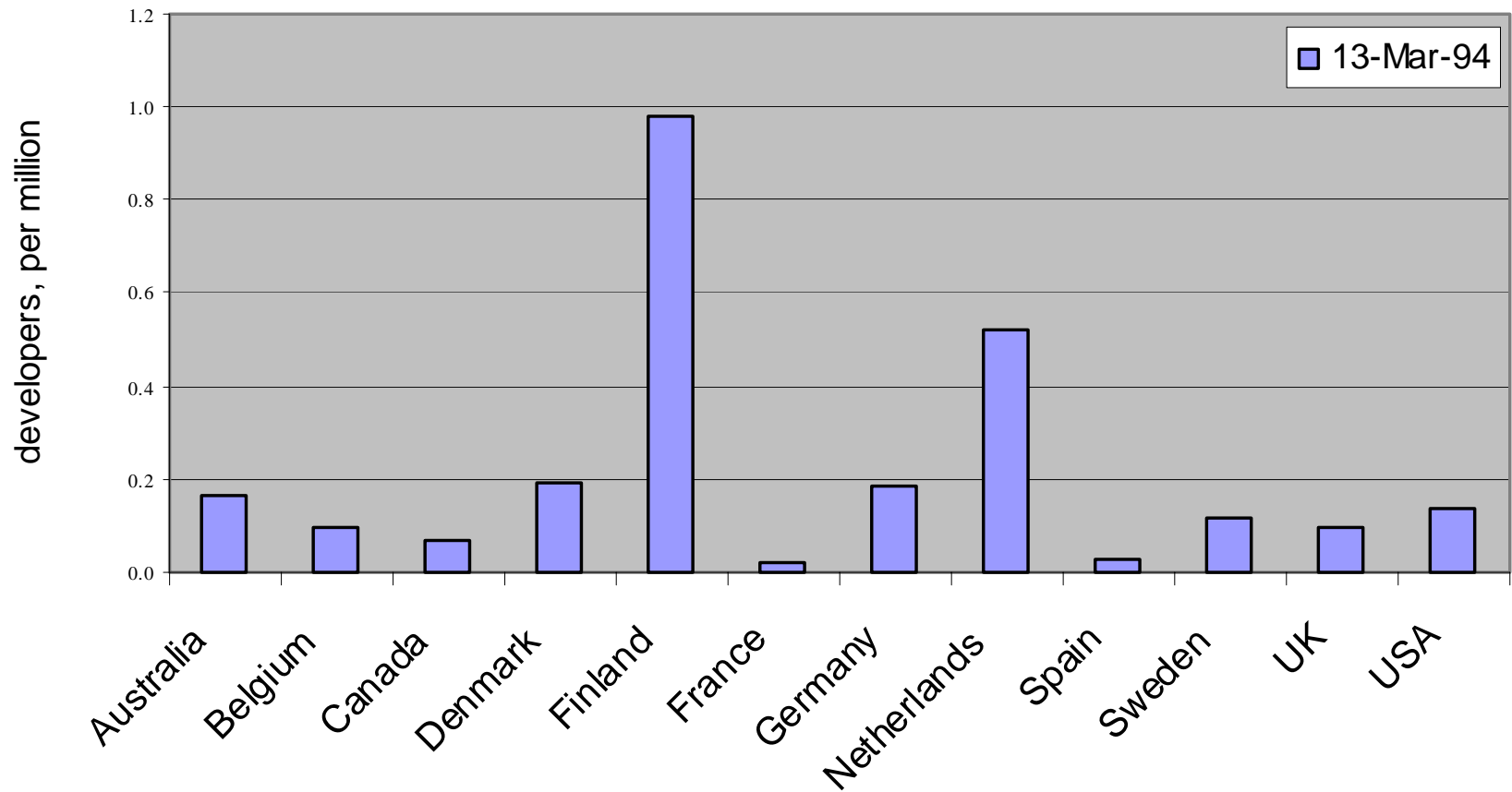
- Key factors driving rapid growth:
  - **Multi-focal user-centric innovation model**
    - Innovation occurs where it makes a difference
    - Lack of centralized decision-making makes knowledge, innovation, and implementation local
  - Evolution instead of implementation of predetermined design
  - Successful “**universal**” **interfaces** facilitate recombination of resources
  - Technology development occurs simultaneously with competence development and **social learning**
- Boundary conditions:
  - Tight control of core is needed to enable continuous growth in the periphery
  - Standard interfaces (technical and procedural) necessary to reduce complexity and to transform sub-projects into resources for other developers
  - Requires **constraints that substitute for design** (e.g. a given processor architecture)

# Evolution of Linux Source Code

Kernel distribution  
size (compressed)

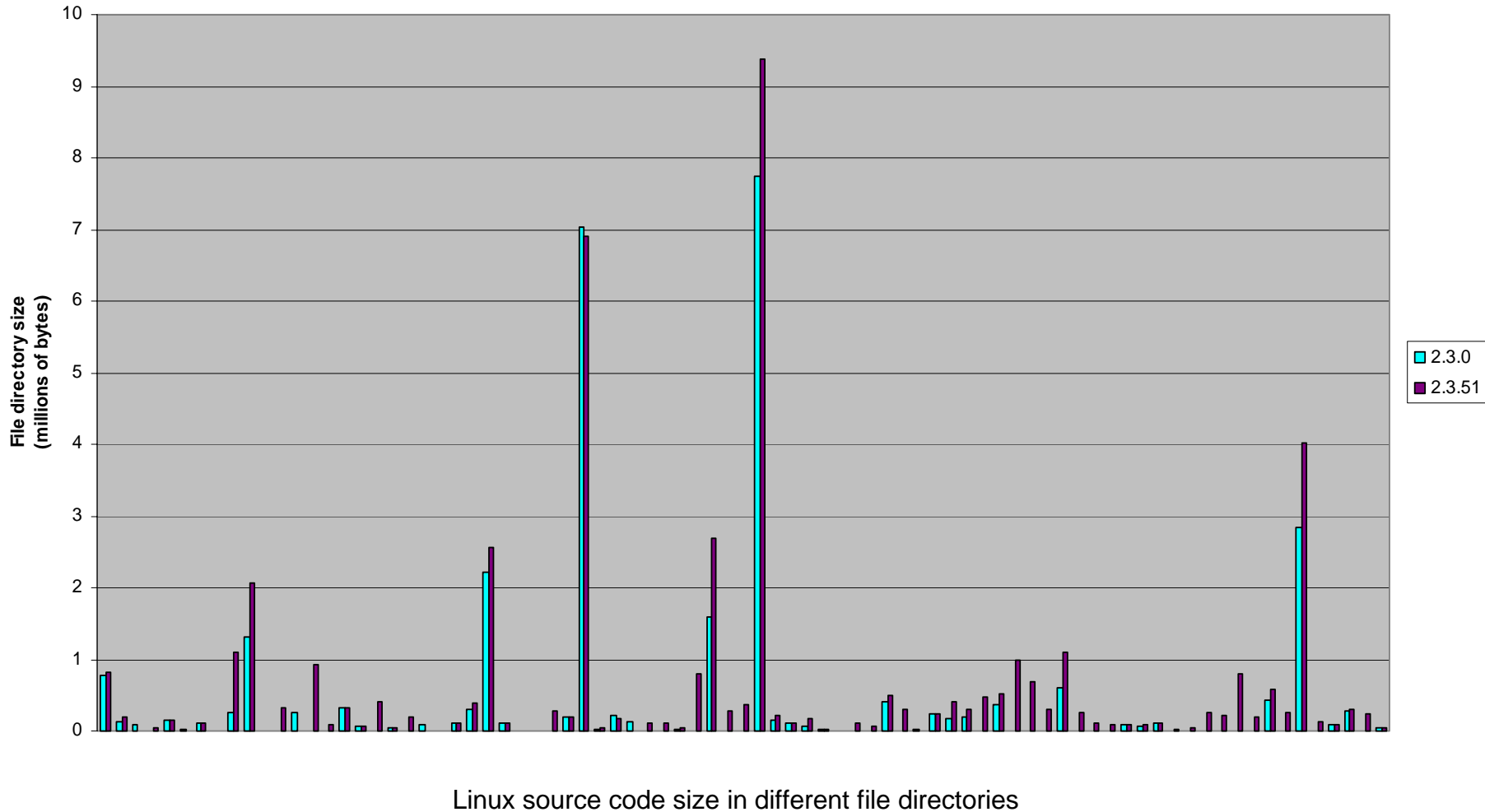


# People in the First CREDITS File



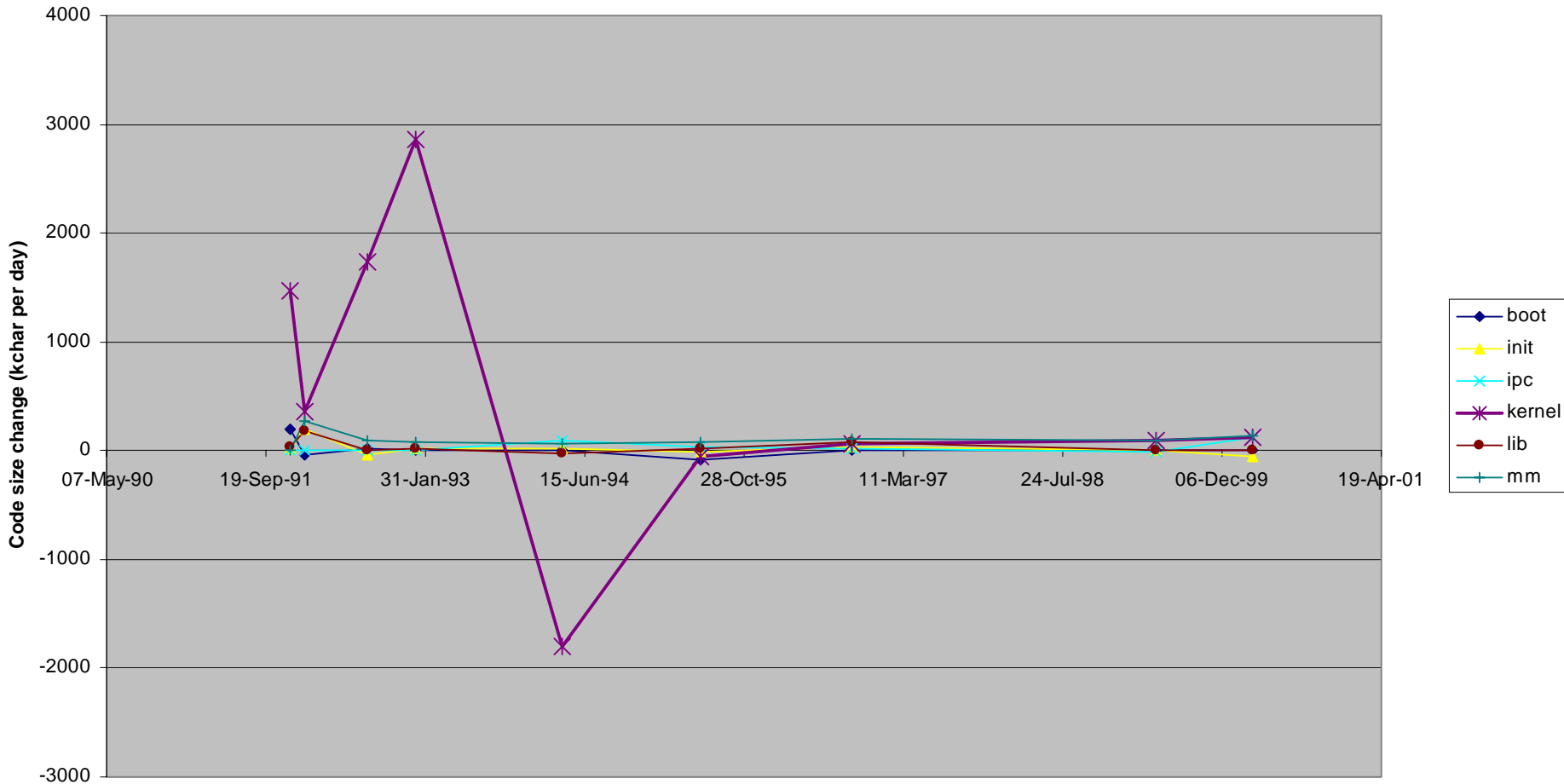
# Creative Destruction

Distribution of code in two recent releases



# Some Parts of the Architecture Become Tightly Controlled

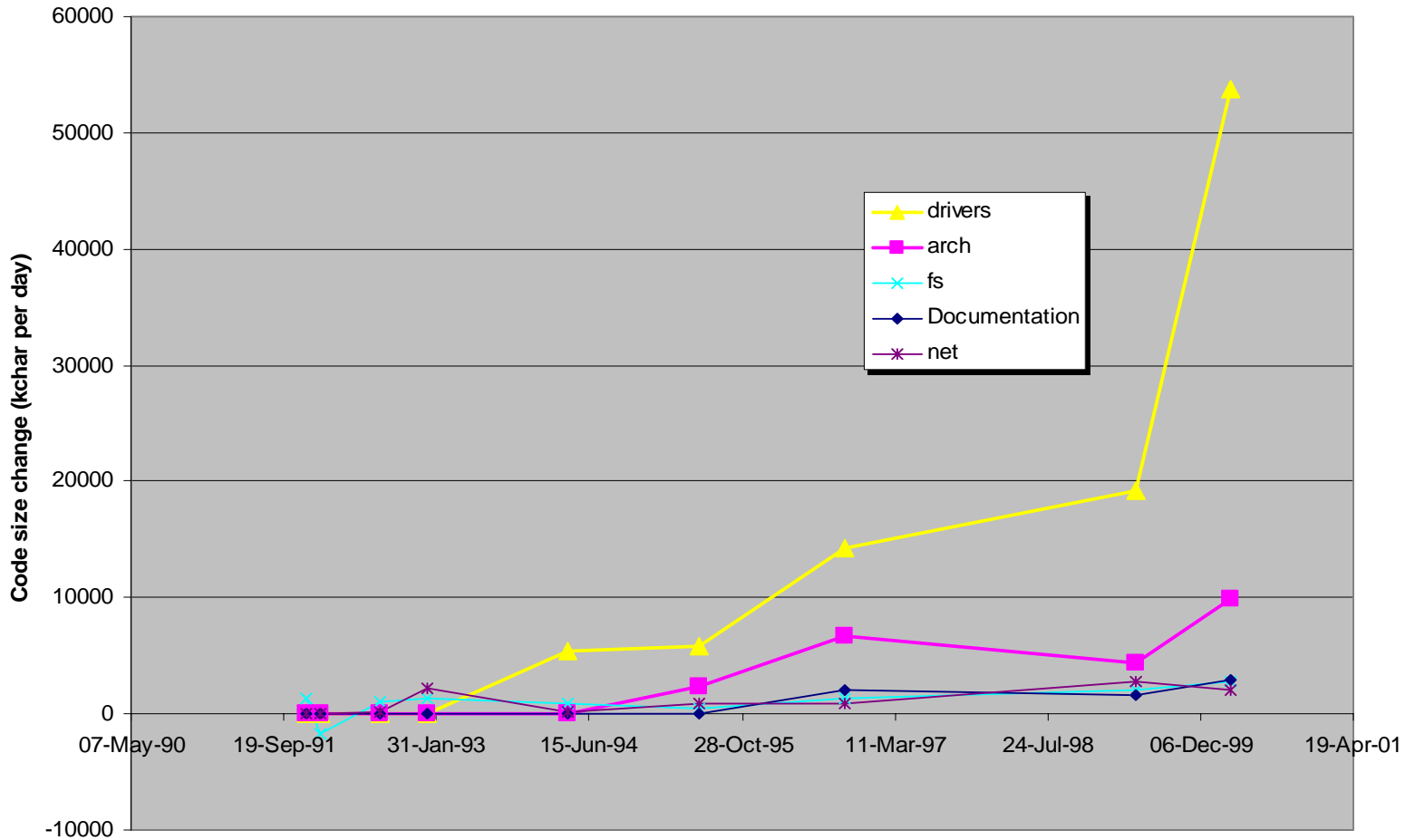
Growth of Linux core kernel





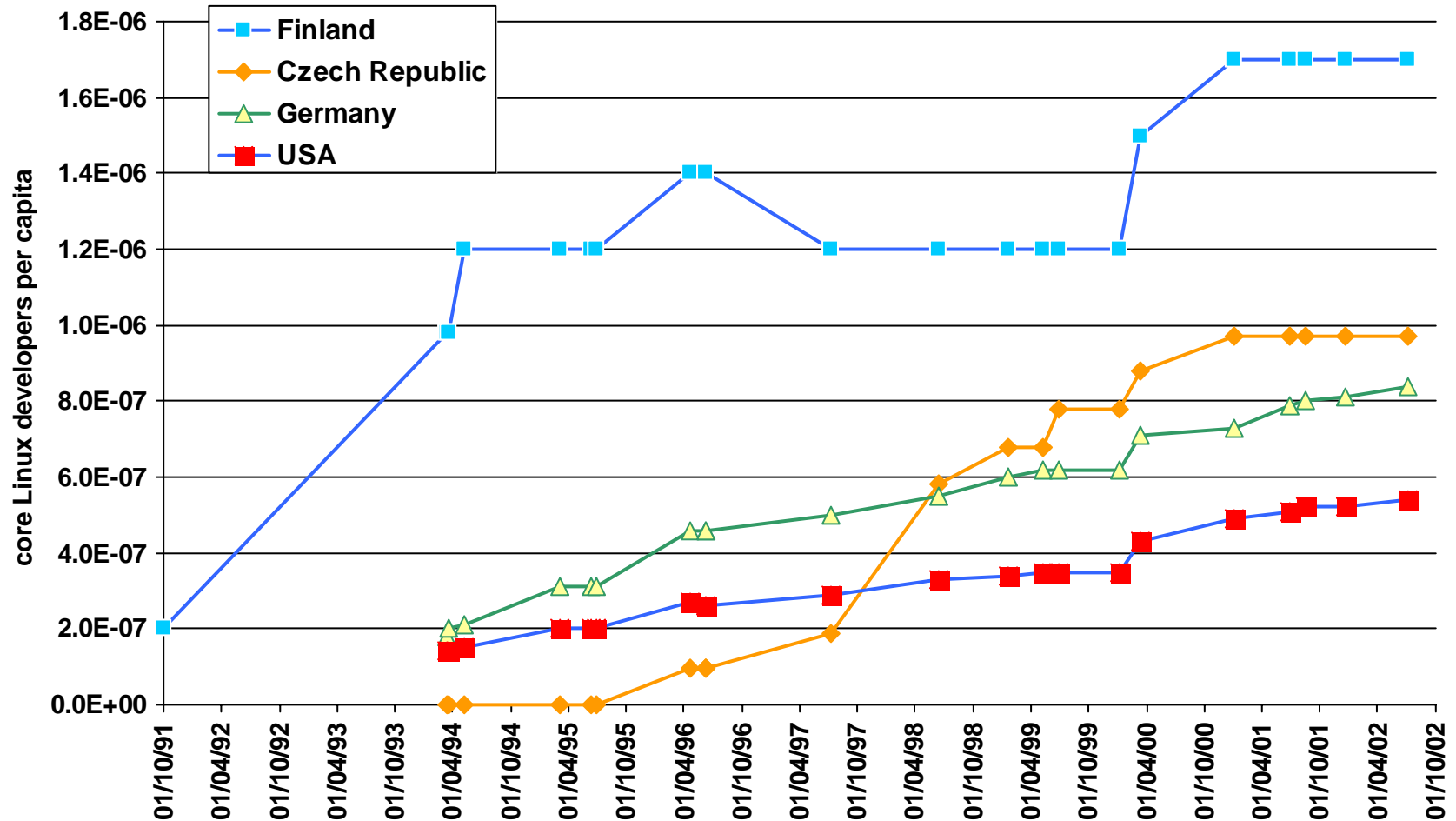
# Other Parts Remain Open for Innovation

Growth of architecture dependent and extensible modules

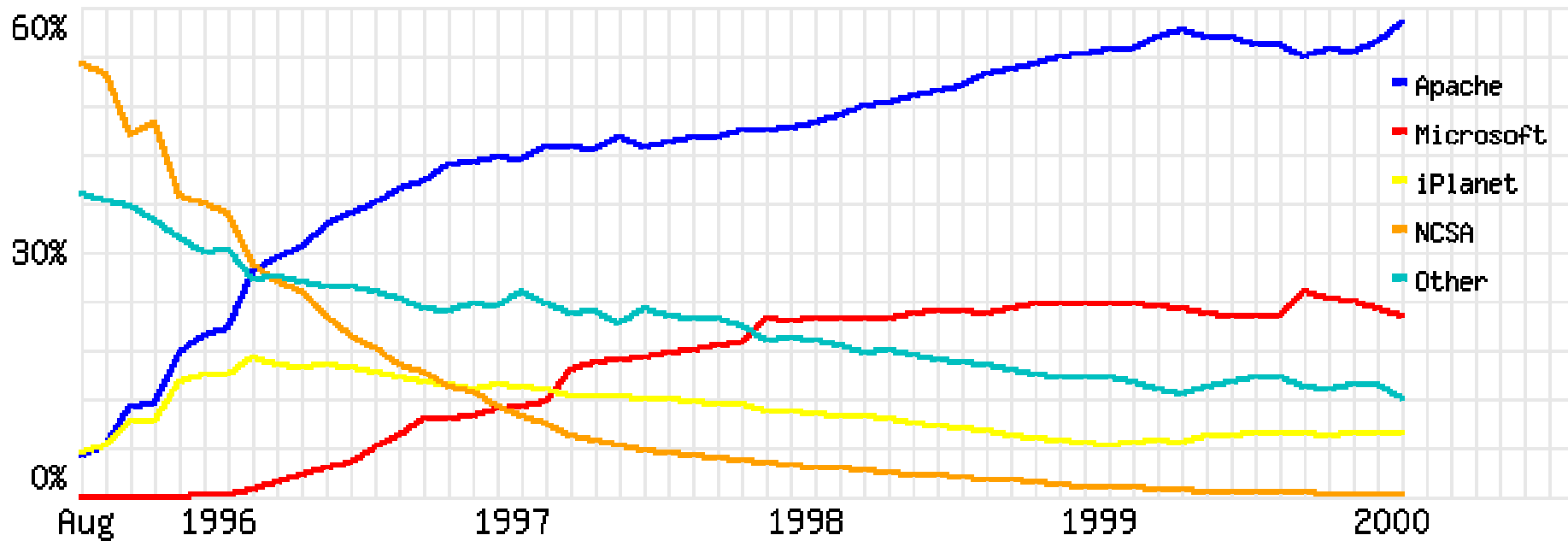


# Becoming a Member in the Global Networks of Innovation

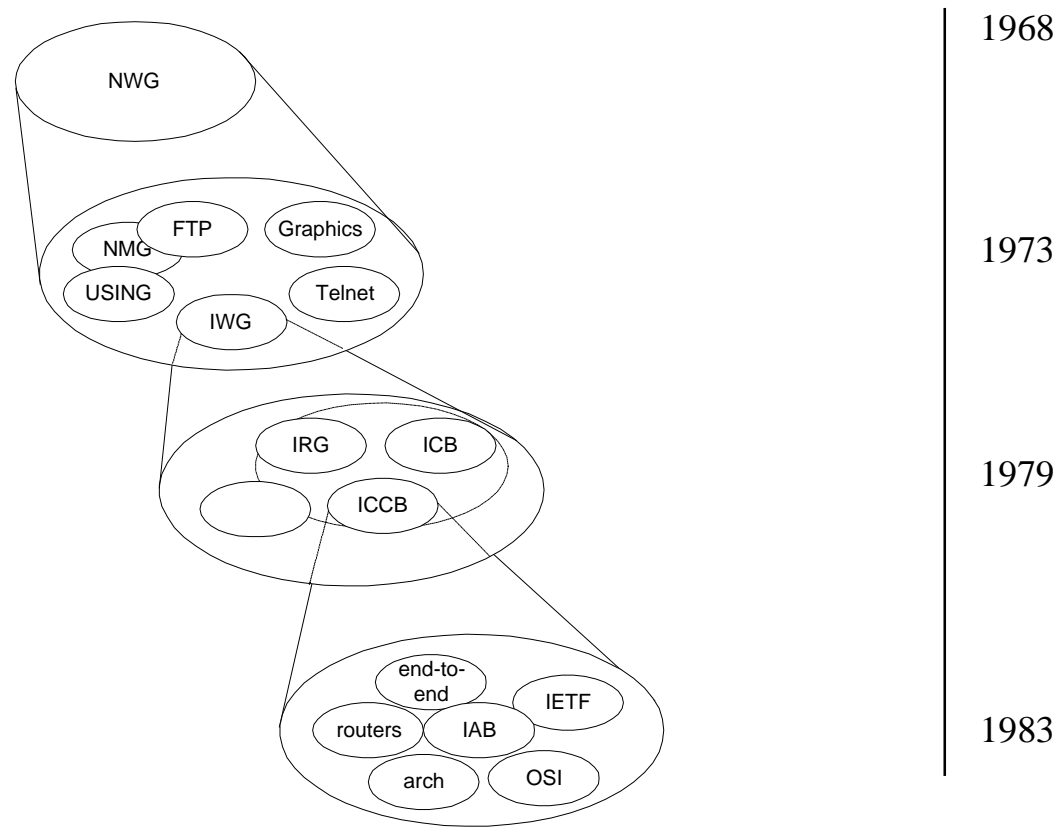
Linux Developers, Example Countries, Sep. 1991-Jun. 2002



# Web Servers in Use

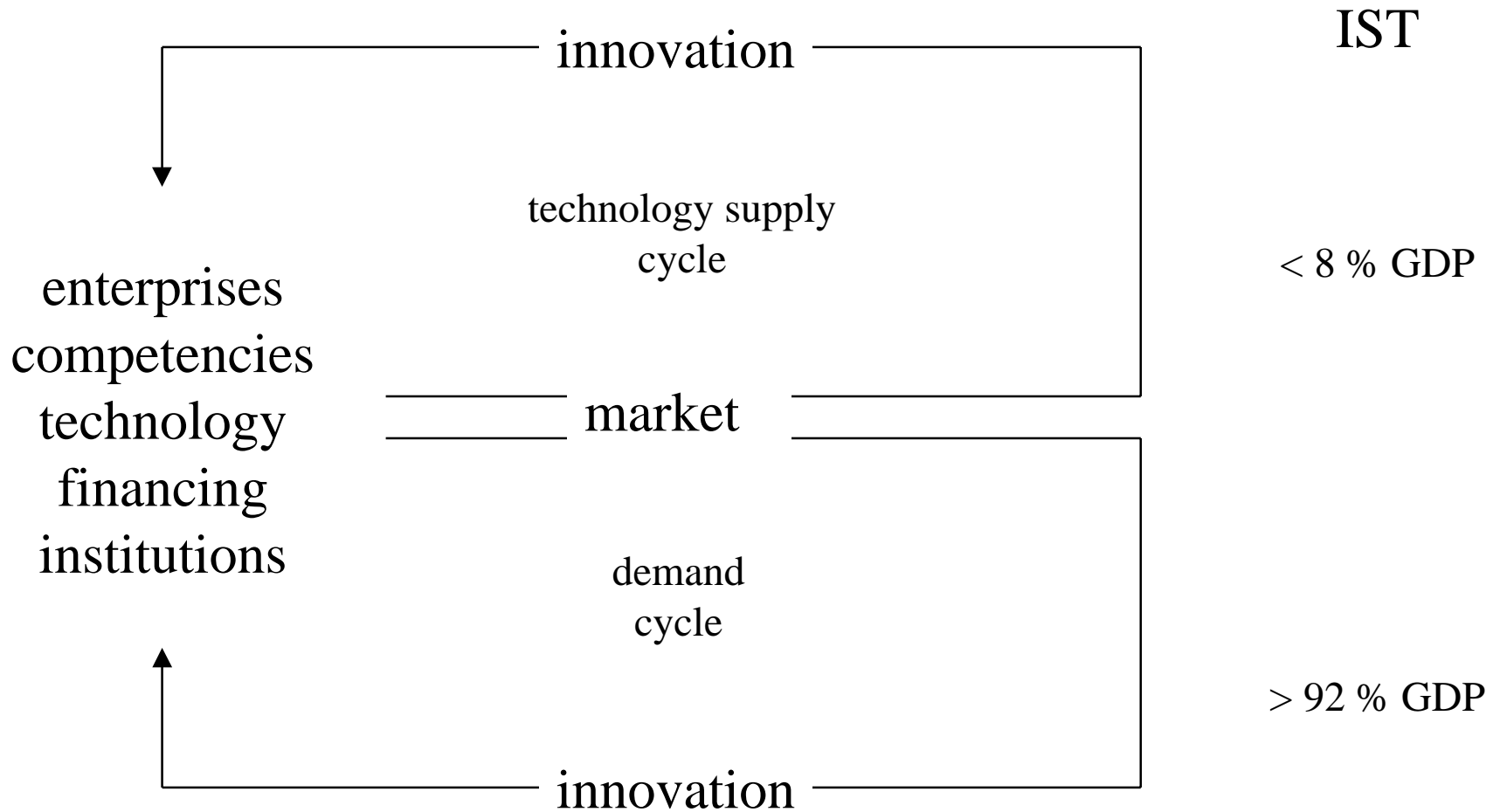


# Evolutionary Communities and Division of Labor in the History of the Internet

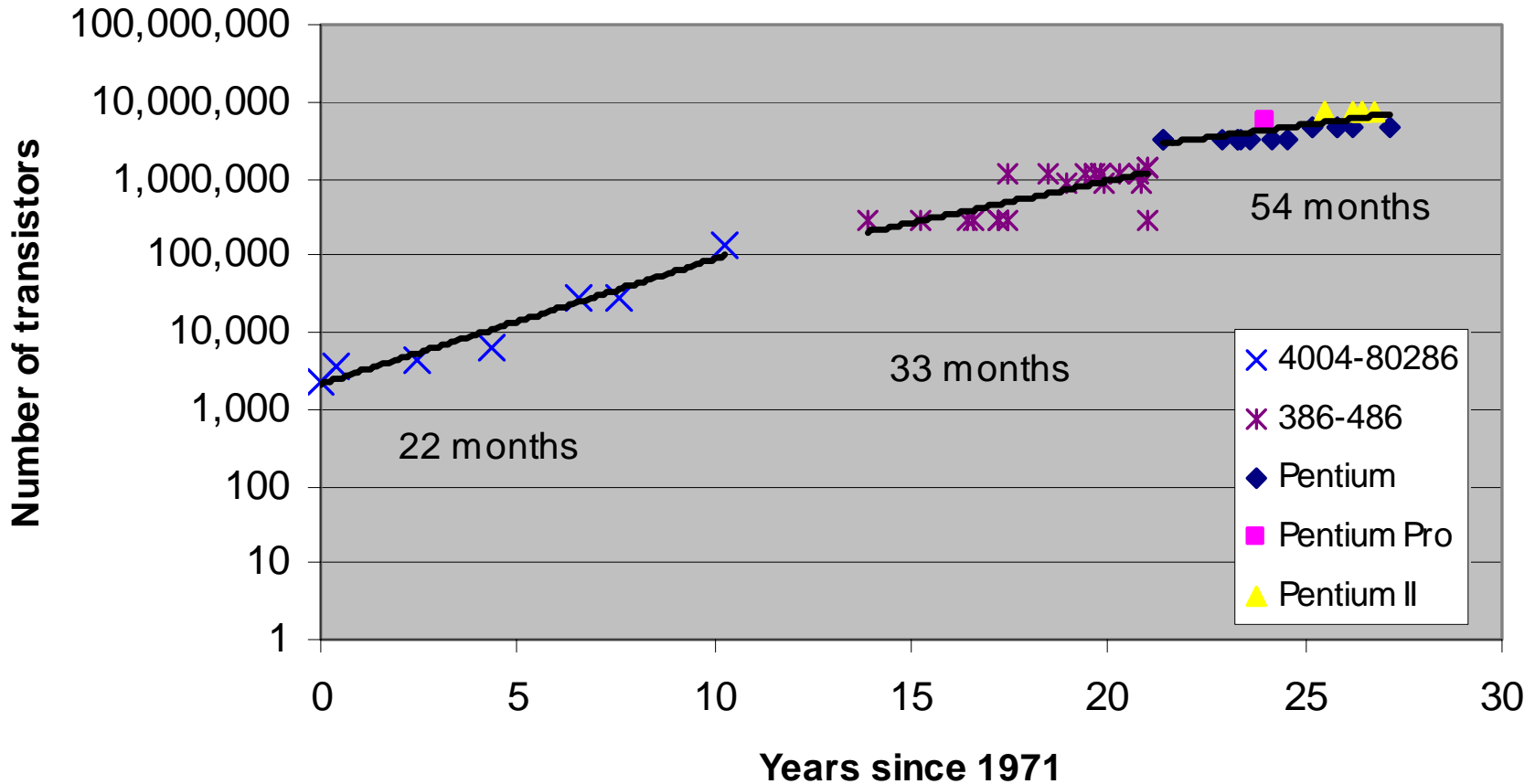


“fractal organization in time”

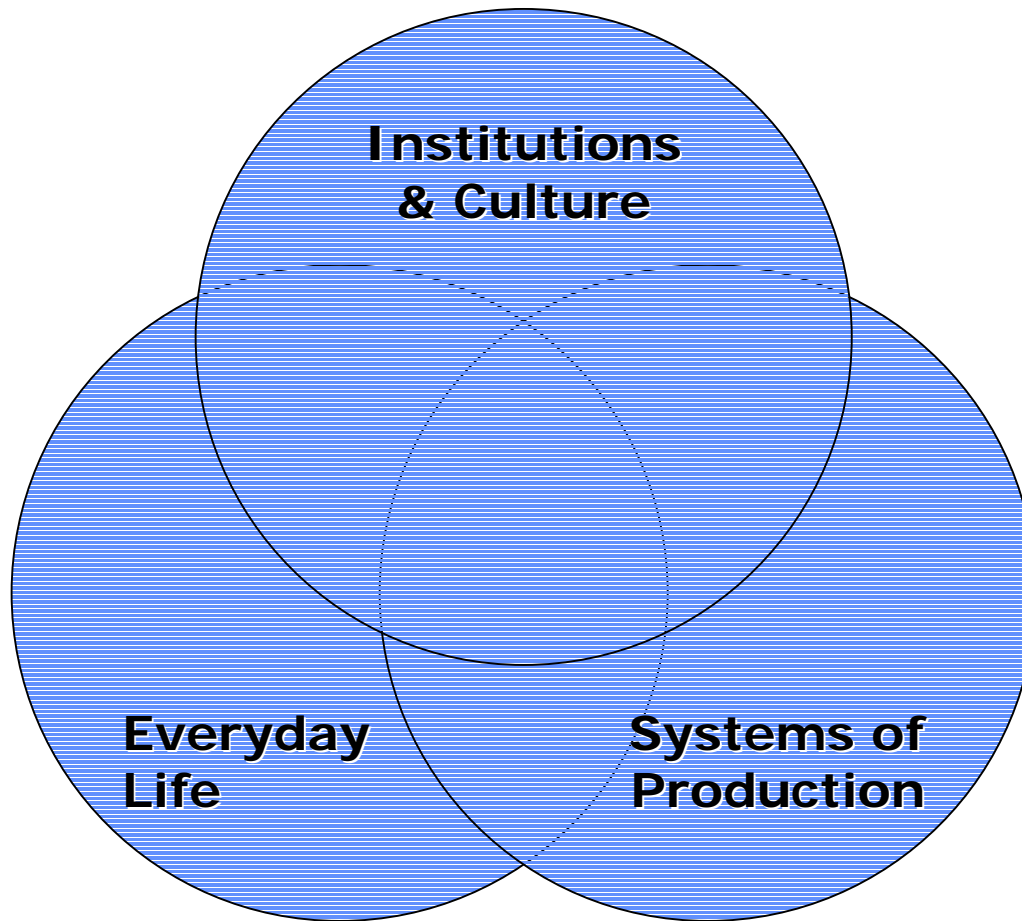
# Balancing Supply and Demand



# “Moore’s Law” Demand Gap?



# Knowledge Society



# More Information

- Internet, Innovation, and Open Source: Actors in the Network. First Monday, January 2001, 6(1) [http://firstmonday.org/issues/issue6\\_1/tuomi/](http://firstmonday.org/issues/issue6_1/tuomi/)
- Networks of Innovation: Change and Meaning in the Age of the Internet. Oxford: Oxford University Press, 2002.
- From Periphery to Center: Emerging Research Topics on Knowledge Society. Tekes Technology Review 116/2001
- The Lives and Death of Moore's Law. First Monday, November 2002, 7(11) [http://firstmonday.org/issues/issue7\\_11/tuomi/](http://firstmonday.org/issues/issue7_11/tuomi/)

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