

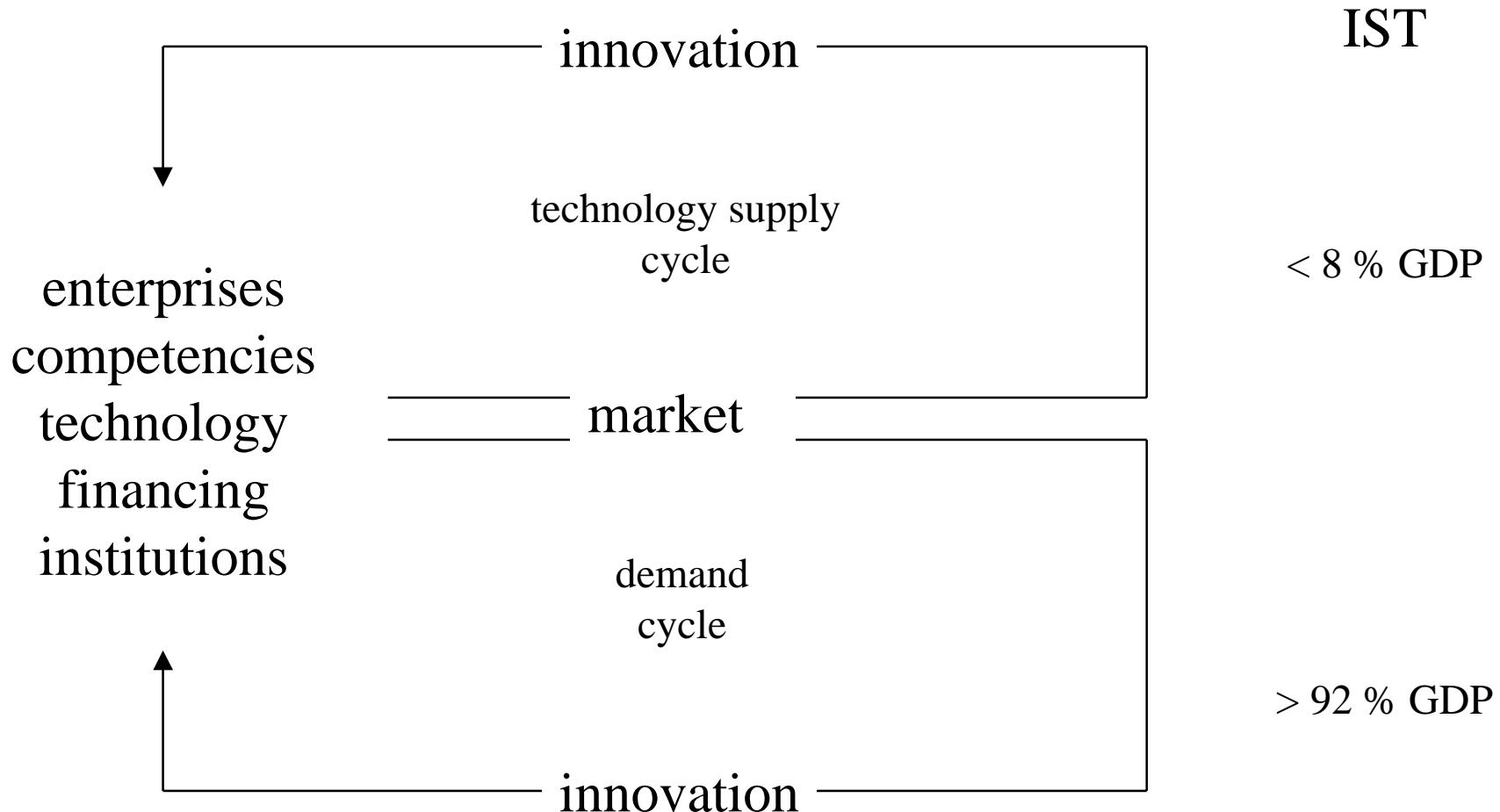
Innovation in the Network Society

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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

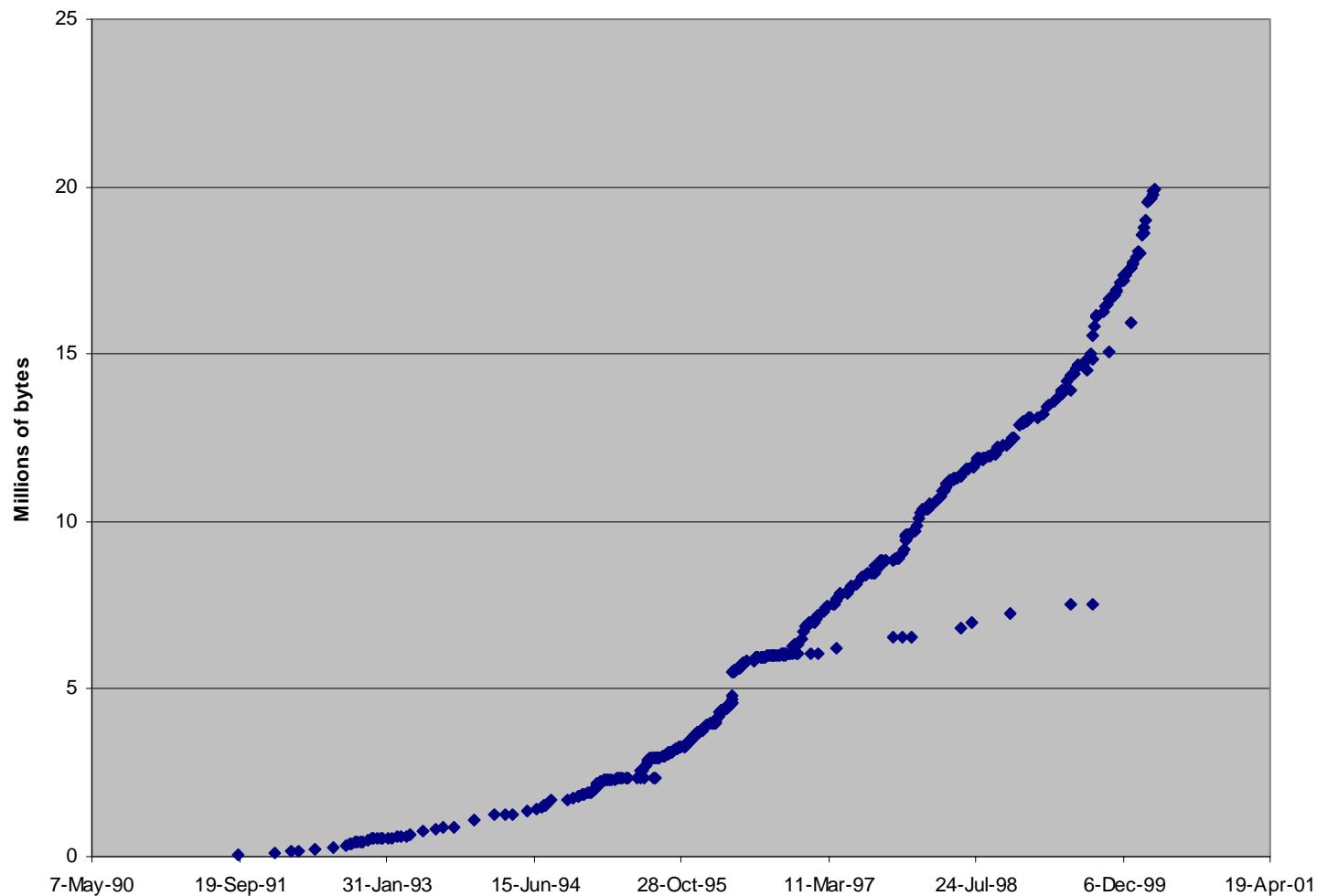


The Open Source Model

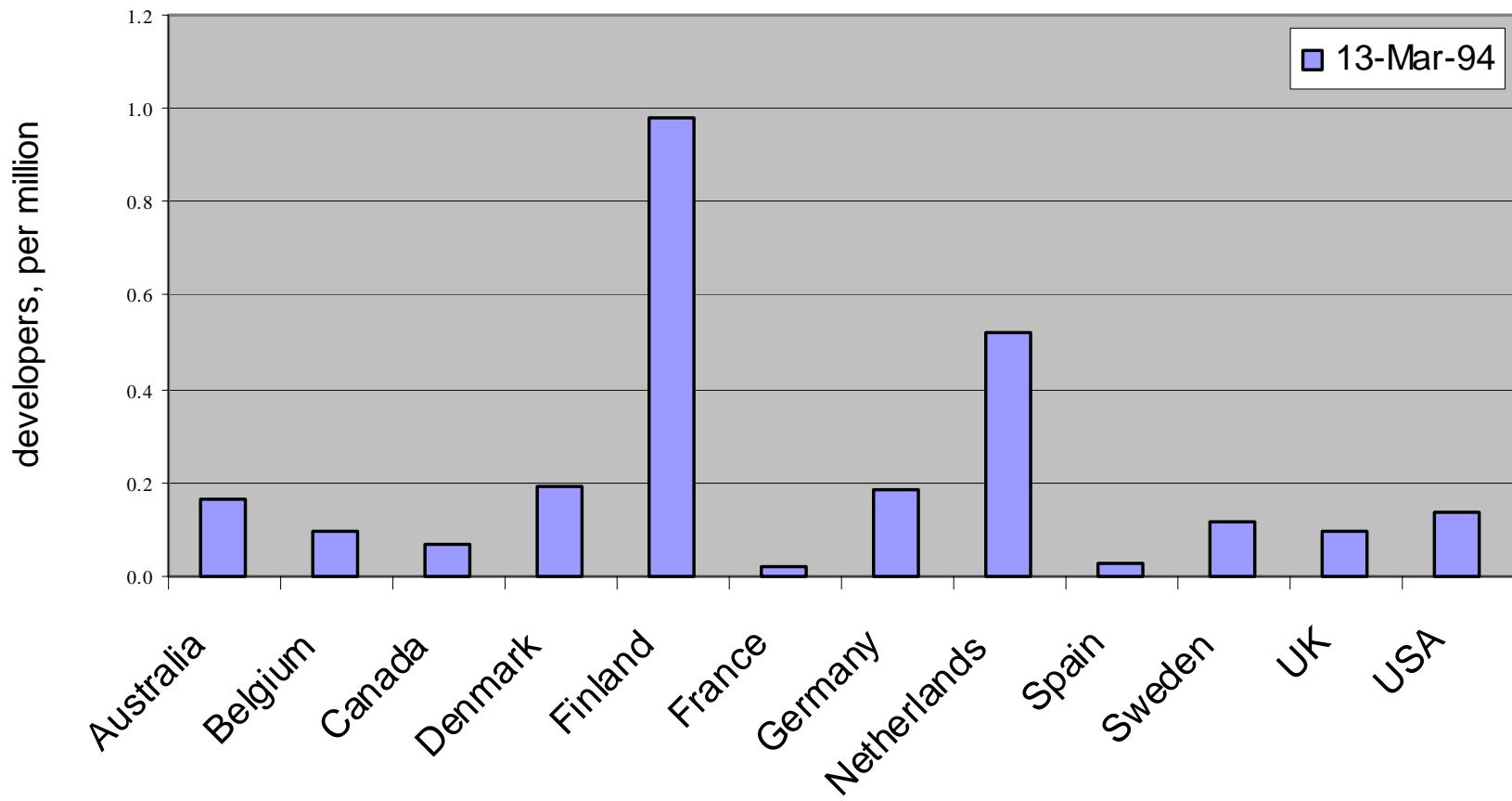
- Key factors driving rapid growth:
 - **Multi-focal user-centric innovation model**
 - Innovation occurs where it makes a difference
 - Lack of centralized decision-making makes knowledge, innovation, and implementation local
 - Evolution instead of implementation of predetermined design
 - Successful “**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)

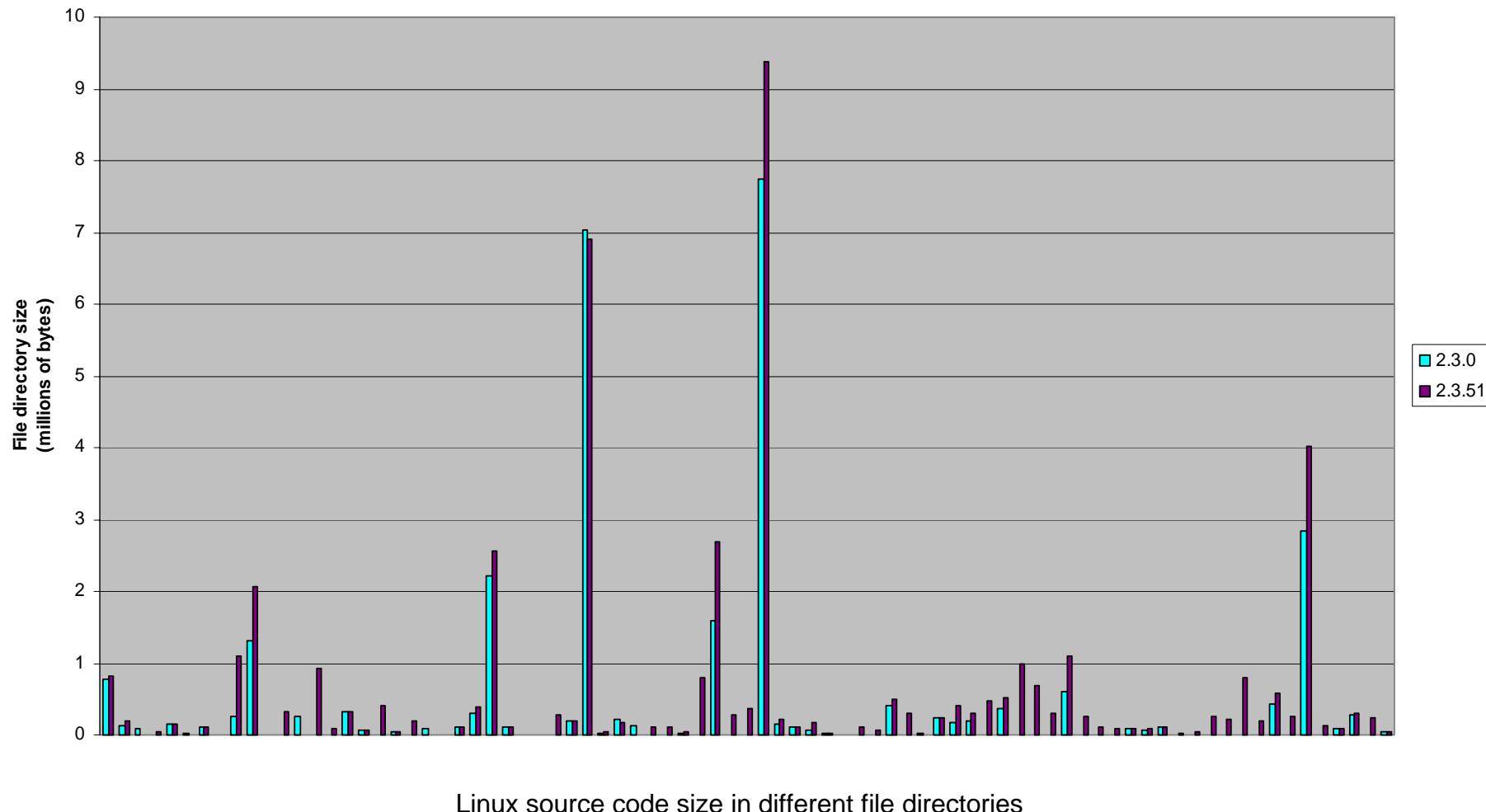


People in the First CREDITS File



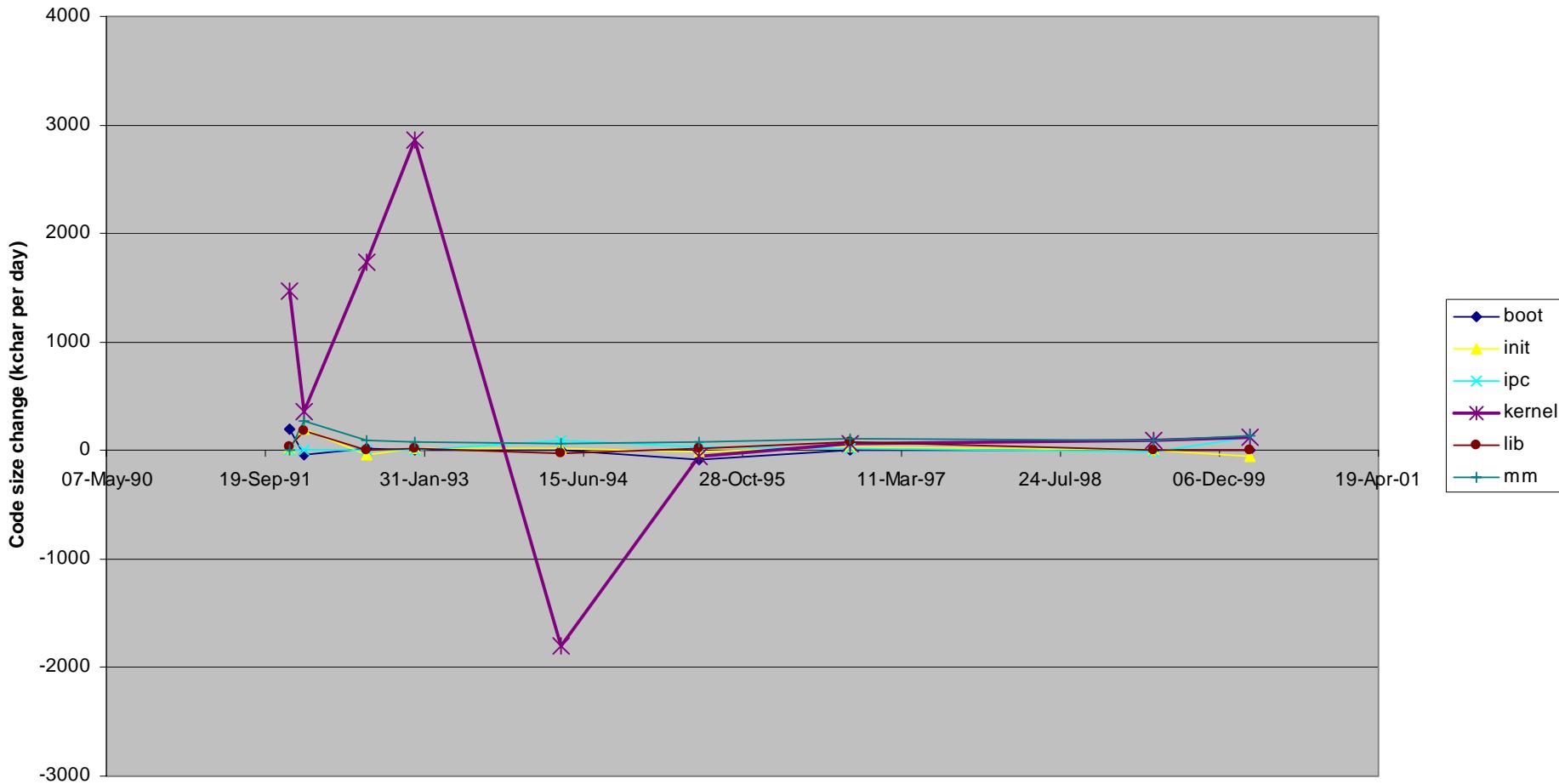
Creative Destruction

Distribution of code in two recent releases



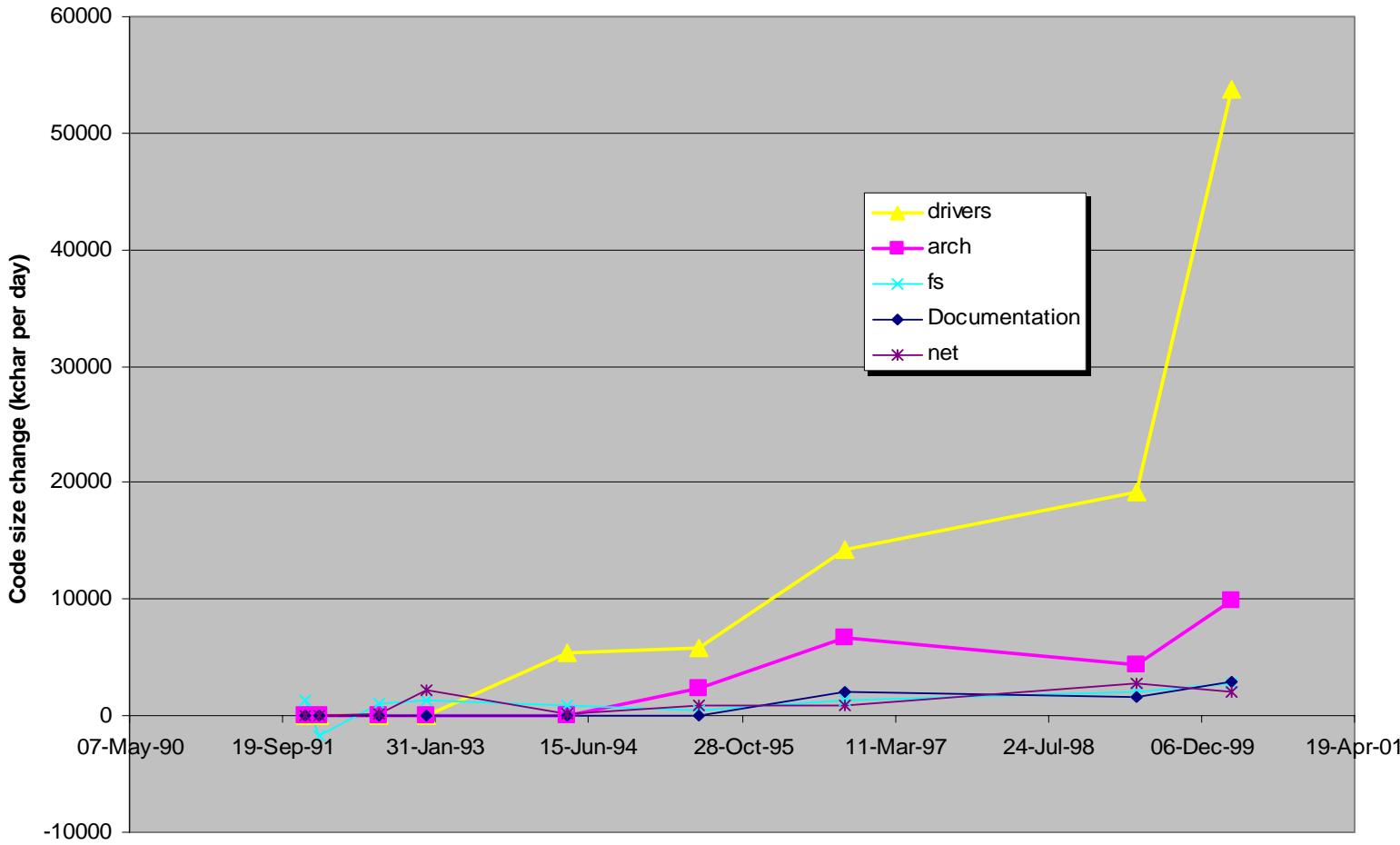
Some Parts of the Architecture Become Tightly Controlled

Growth of Linux core kernel



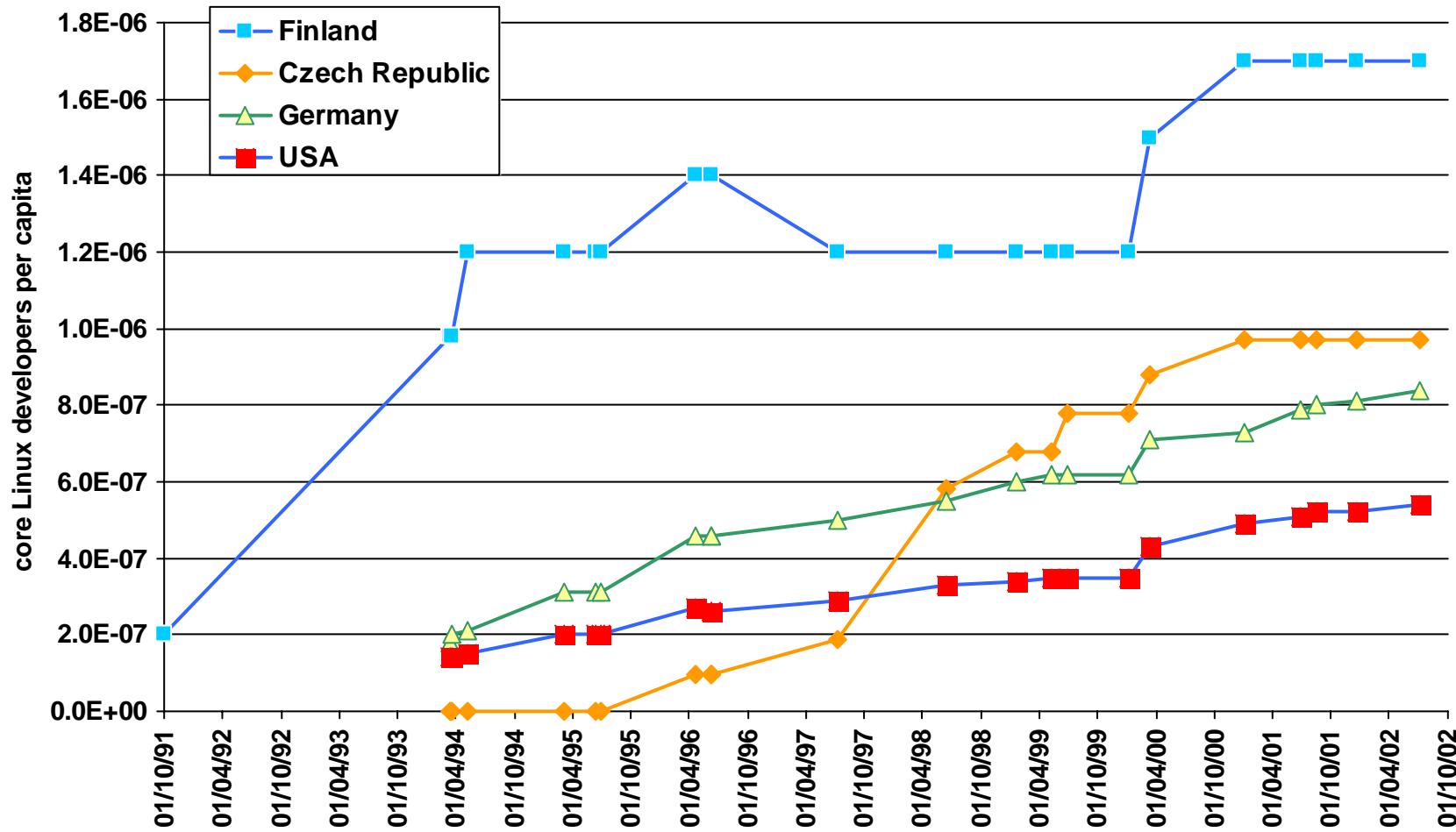
Other Parts Remain Open for Innovation

Growth of architecture dependent and extensible modules

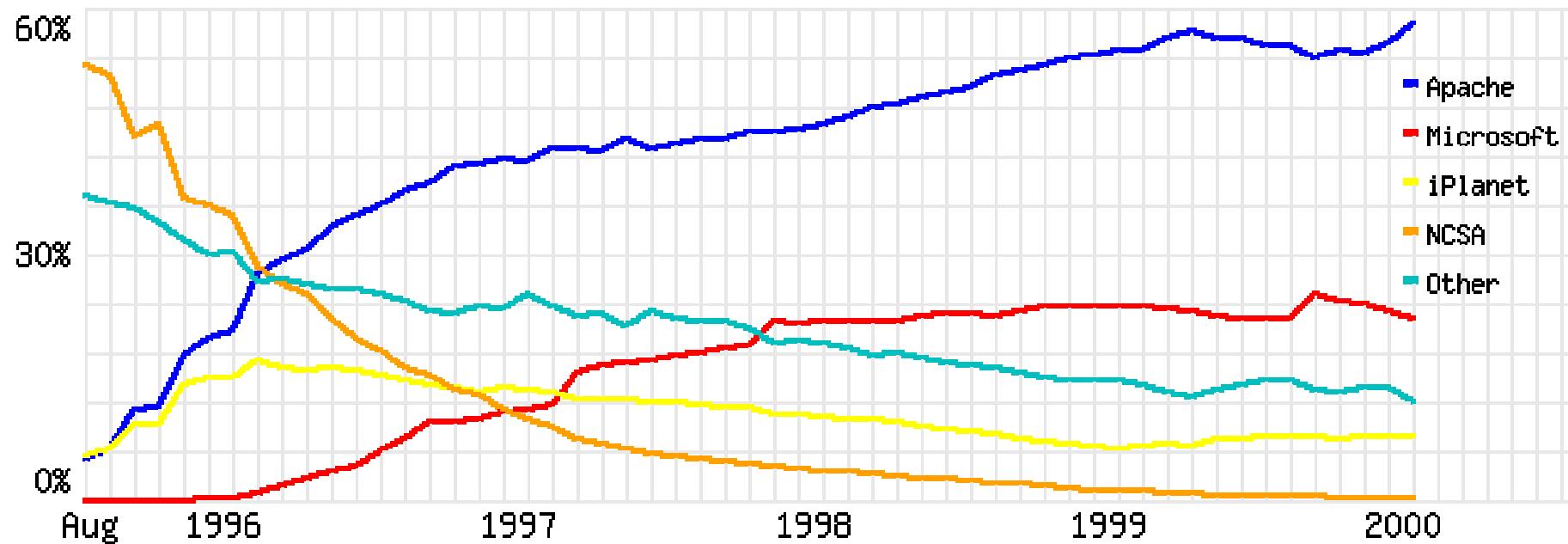


Becoming a Member in the Global Networks of Innovation

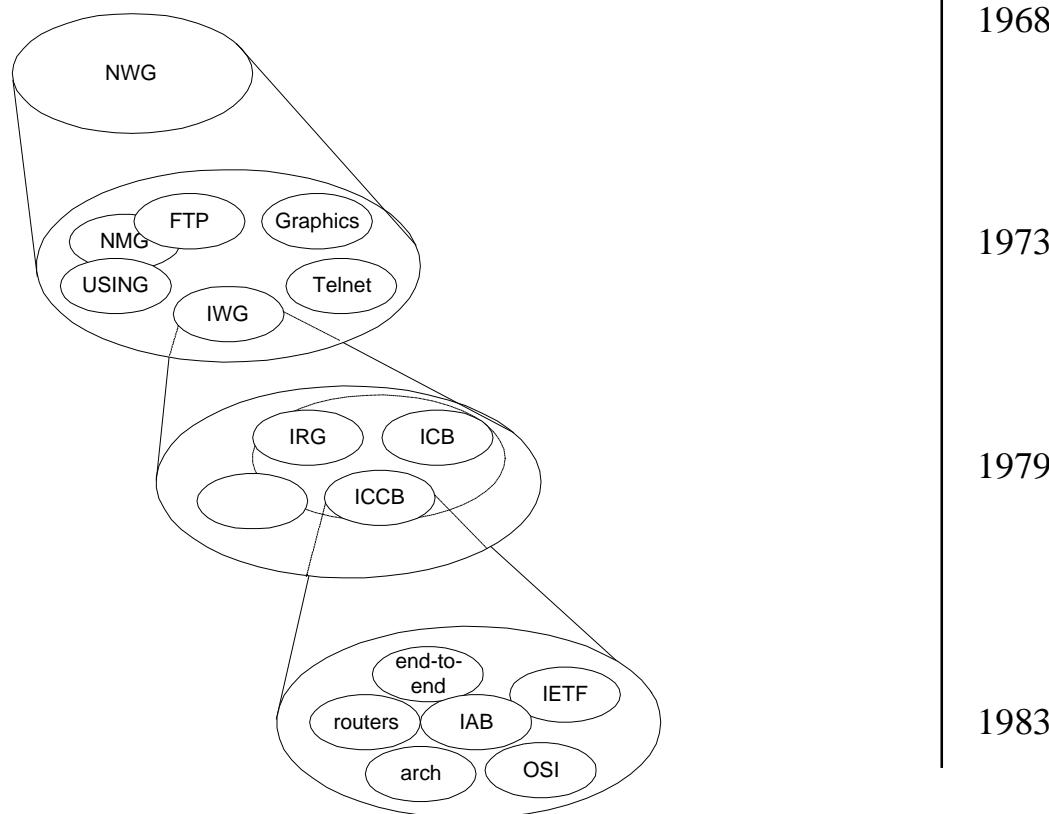
Linux Developers, Example Countries, Sep. 1991-Jun. 2002



Web Servers in Use



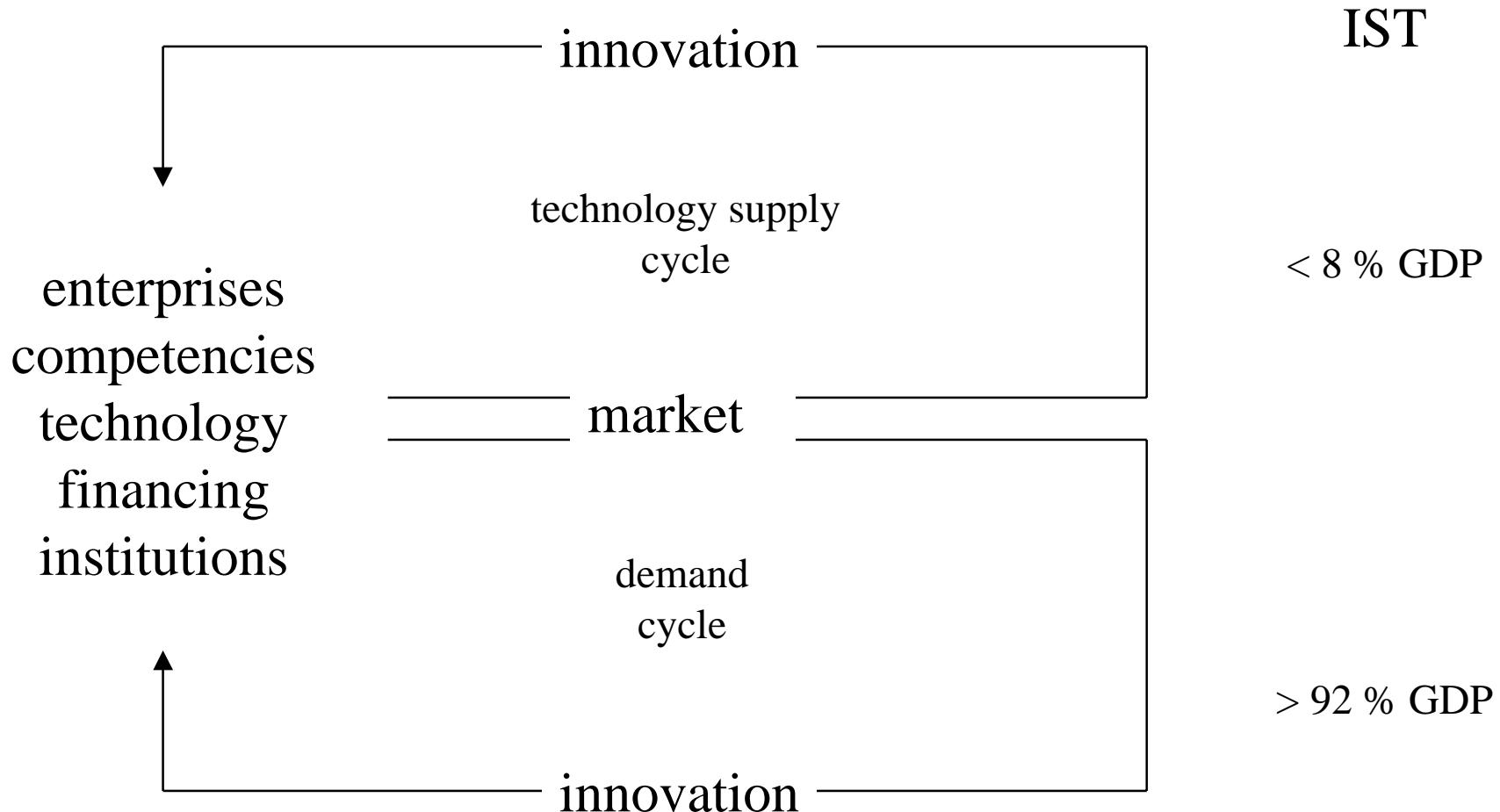
Evolutionary Communities and Division of Labor in the History of the Internet



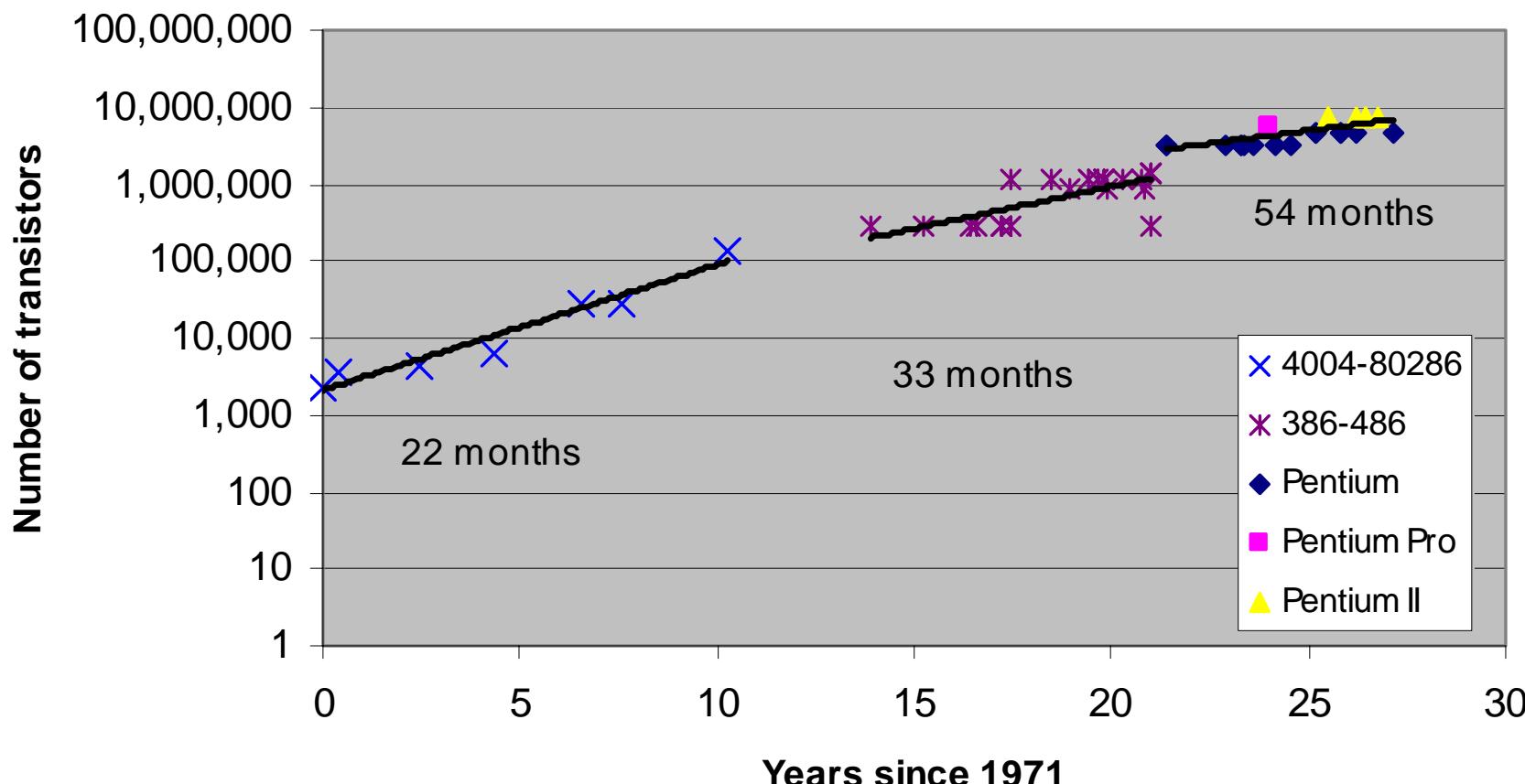
“fractal organization in time”

Networks of Innovation, Oxford University Press, 2002.

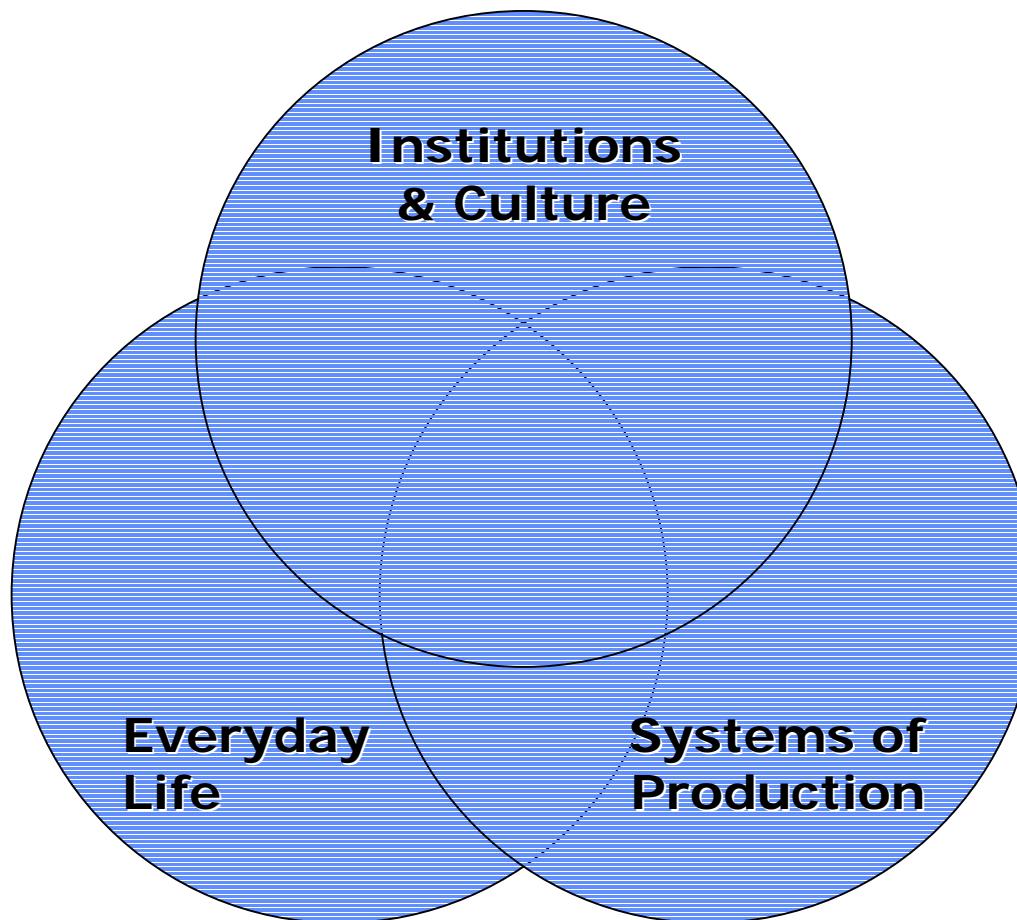
Balancing Supply and Demand



“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/
- 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/

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