


**The Weightless Economy:
Strategic Implications for
Business and Government**

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Commonwealth Top Management Programme:
Transformation towards the Knowledge Economy



Outline of talk

- Why the weightless economy
- Growth, technology, and productivity
 - Facts. Two views: New and conventional; not so traditional
- Some first strategic implications
- ... a massive economic failure
- Some more lessons
- What is new, and what not so new

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Why the Weightless Economy?

- New Economy/ Electronic/ E- /Digital /
- e-Commerce. Internet. Information and Communications Technology (ICT)
- Tech stocks
- End of business cycles. Death of inflation
- Growth and Productivity. Economic Development

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Issues

- What is it?
 - “How revolutionary could it be, it’s just a big out-of-town shopping center for selling groceries”
- What new issues emerge?
 - Intellectual assets
 - Geography and distance
 - Importance of demand
 - Education in consumption

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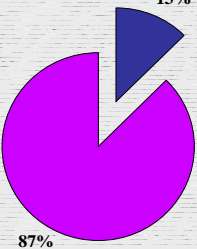
Growth and Productivity

- Dams, roads, and bridges
- Technology and capital in economic growth: TFP
- Productivity paradox: Introduced, deepened, resolved?
- TFP across countries

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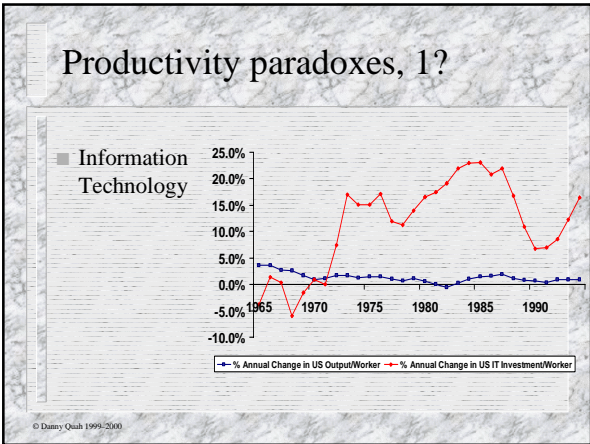
Technology in Economic Life

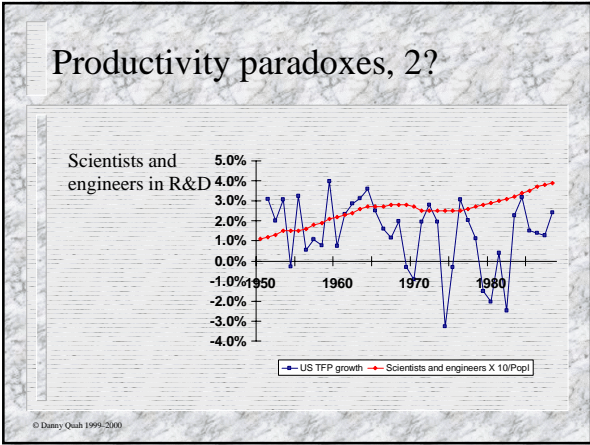
- The engine of growth
- 20th century
- and earlier ...

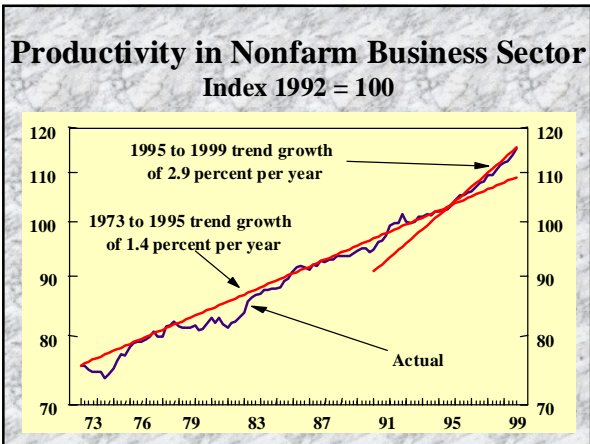


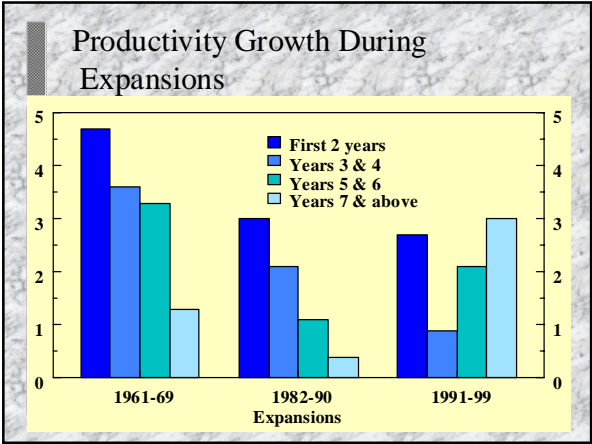
| Category | Percentage |
|------------|------------|
| Capital | 87% |
| Technology | 13% |

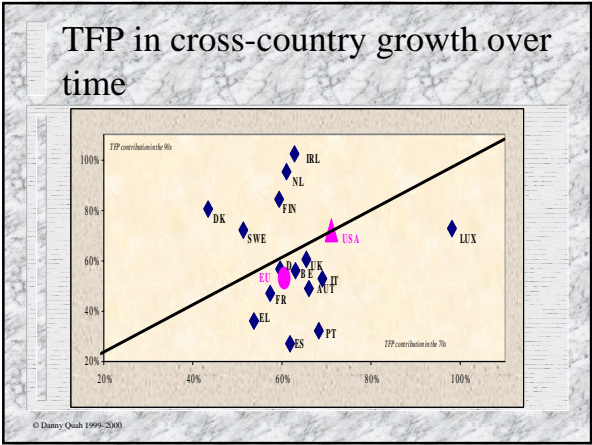
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A thing less ordinary

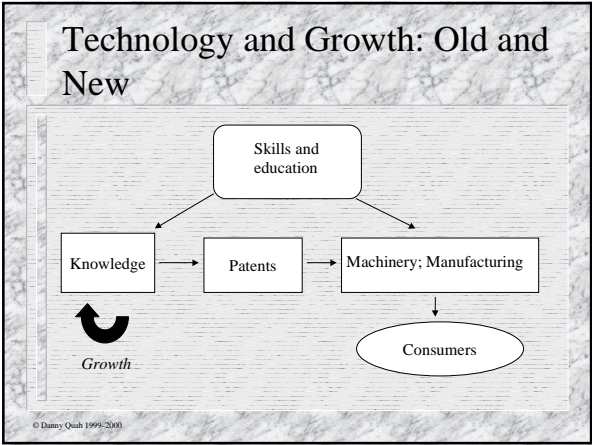
- Napster in a \$50bn-a-year worldwide industry
- Physical geography
- Property protection. Encryption in software
- Intellectual assets: Ex ante/ex post tension
- Identity and privacy
- Pipes
- Not sold but licensed? Services

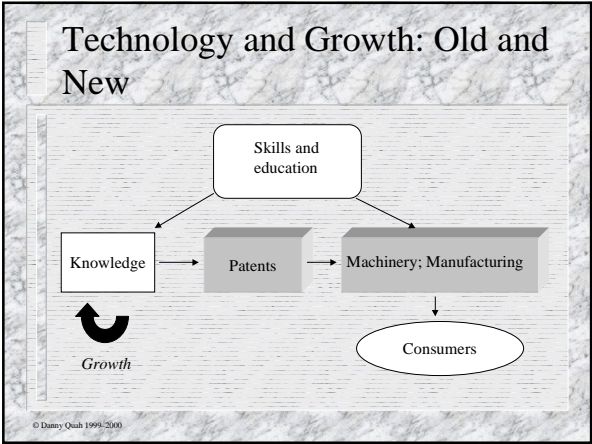
What is The Weightless Economy?

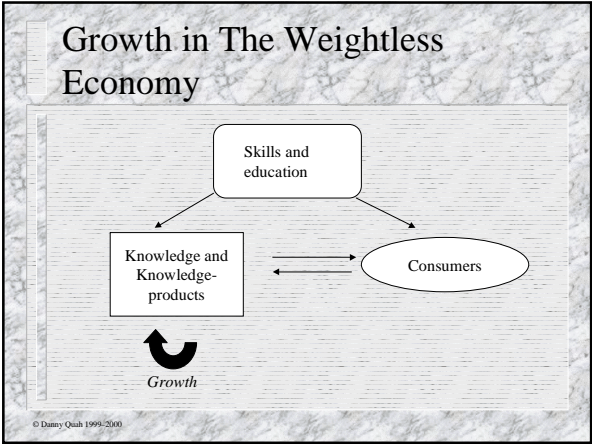
- Information and communications technology.
The Internet
- Intellectual assets
- Electronic libraries and databases
- Biotechnology: Carbon-based libraries and databases



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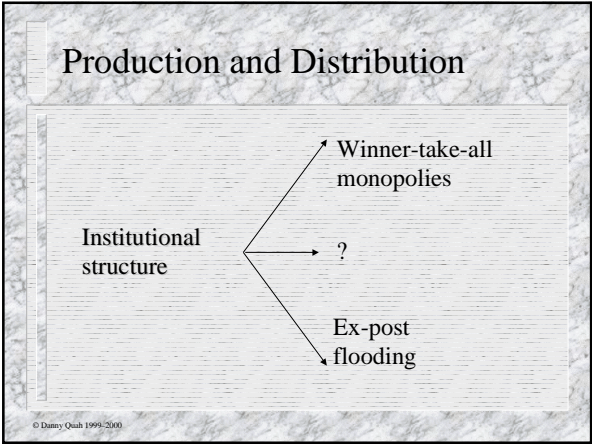




Special Significance?

- High concentration of knowledge, but also ...
- ... Products behave like knowledge
 - infinite expansibility
 - inherent unknowability
 - ranking priority and nonadditivity
- New geography

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Macroeconomic Lessons


- Superstars and inequality
- Dynamics: First mover and market size
- Costs of entry and competition
- Global reach
- Rise of the consumer



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Business Models

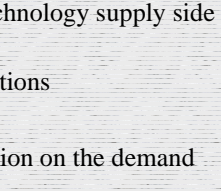
- Marginal cost pricing
- Importance of demand
- Winners and superstars
- Local versus global



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Is supply alone enough?

- Massive changes on technology supply side and productivity
- Institutions and applications
- Education ...
- ... a discerning population on the demand side



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Industrial Revolutions... and historical failure

- Agriculture
- Manufacturing
- High-quality materials
- Energy
- ...
- 14th-century China?

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14th-century Sung China: Materials

| | |
|---|------------------------------|
| ■ Iron | ■ West |
| Blast furnace, and pig to wrought iron 200 BCE | later than 14th C. |
| Coke in blast furnaces by early 11th C. | 18th C. |
| Output per capita by 1078 exceeded | 17th C. |
| Price/grain, fell from 6 to 2 from 997 to 1100 | ... not until 18th C. |

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14th-century Sung China: Paper, power, ...

| | |
|---|---------------------------|
| ■ Printing | ■ West |
| Paper invented 1st C. | 1,000 years later |
| Water-power spinning machines 1100 | Only early 18th C. |
| Block printing by 7th C. | |
| Porcelain moveable type by 1045 | Gutenberg 1450 |

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Policies for the weightless economy in development

- Economic growth
- Intellectual assets
 - Institutions for production and dissemination
- Privacy and Identity
- Inequality and mobility
- Location
- Access and more important **participation**
 - Wide-sense education ... attitudes towards knowledge and learning: (14th-century) China syndrome

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Summary

- Rip van Winkle
- What's not so new
- What's really different?
 - Golden era of unprecedented productivity growth?
 - Changed business rules?
 - First-mover advantage and monopoly: Few winners, but big ones?

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Not so new

- Increasing returns: Competition, concentration (Marshall)
- Creative destruction in high-tech industries (Schumpeter)
- Knowledge-based economy
- Technology and economic performance. Productivity
- Asset market exuberance

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