



Knowledge Society and Human Wellbeing

**GE 301 Science,
Technology and
Society**

Ahmet S Ucer

Contents

- Knowledge society and globalization
 - upgrading of information and communication.
 - Upgrading the Education system
 - Collaboration in research & technology – Knowledge/technology gap
- Knowledge society norms
- Human wellbeing
 - Material and social indicators
- Security – demographic changes – terrorism..

Knowledge Society - Globalization

- **Industrialized to post industrialized**
- **Main productive source in the economy and society:**

Information and Knowledge

- **Industrial Society**
Energy and raw materials
- **Agricultural Society**
Farming land



Conclusion

Social
development

cultural development

innovation

economic development

institutional stability and trust

Cost – lowering against productivity enhancing model

<http://menntun.khi.is/sigurjon/IT%20Global%20CASTELLS.pdf>

Conclusion

IT WILL REQUIRE

- Massive technological upgrading of countries
- Dramatic investment in the education system
- worldwide network of science and technology

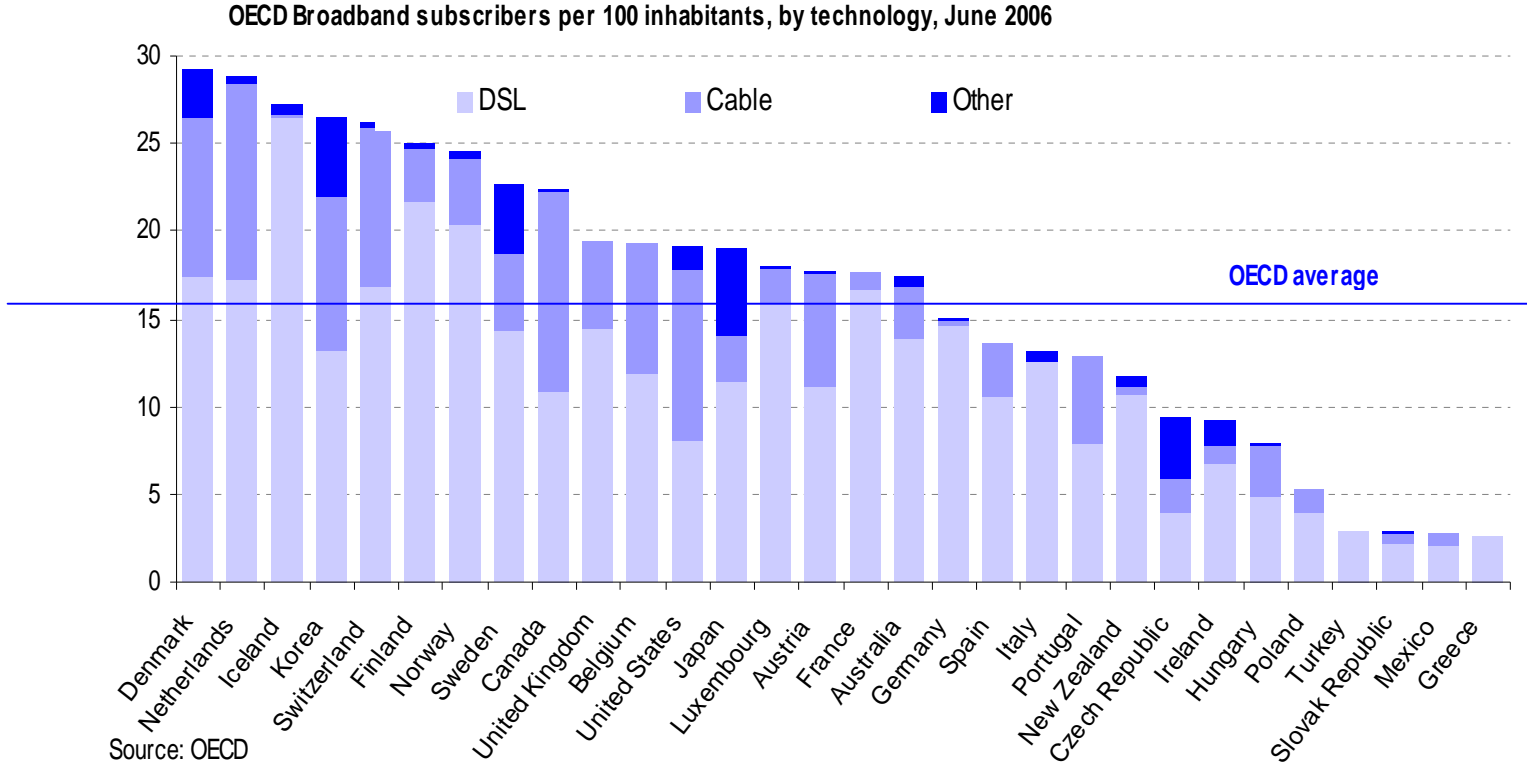
NEEDS SCIENTIFIC THINKING , THE USE OF HUMAN INTELLECT

Information & Communication Technology

- Computers
- Broadband (xDSL, cable modem)
- Bandwidth (frequency range)
- Mobile Phones

Speed of Communication and reliability

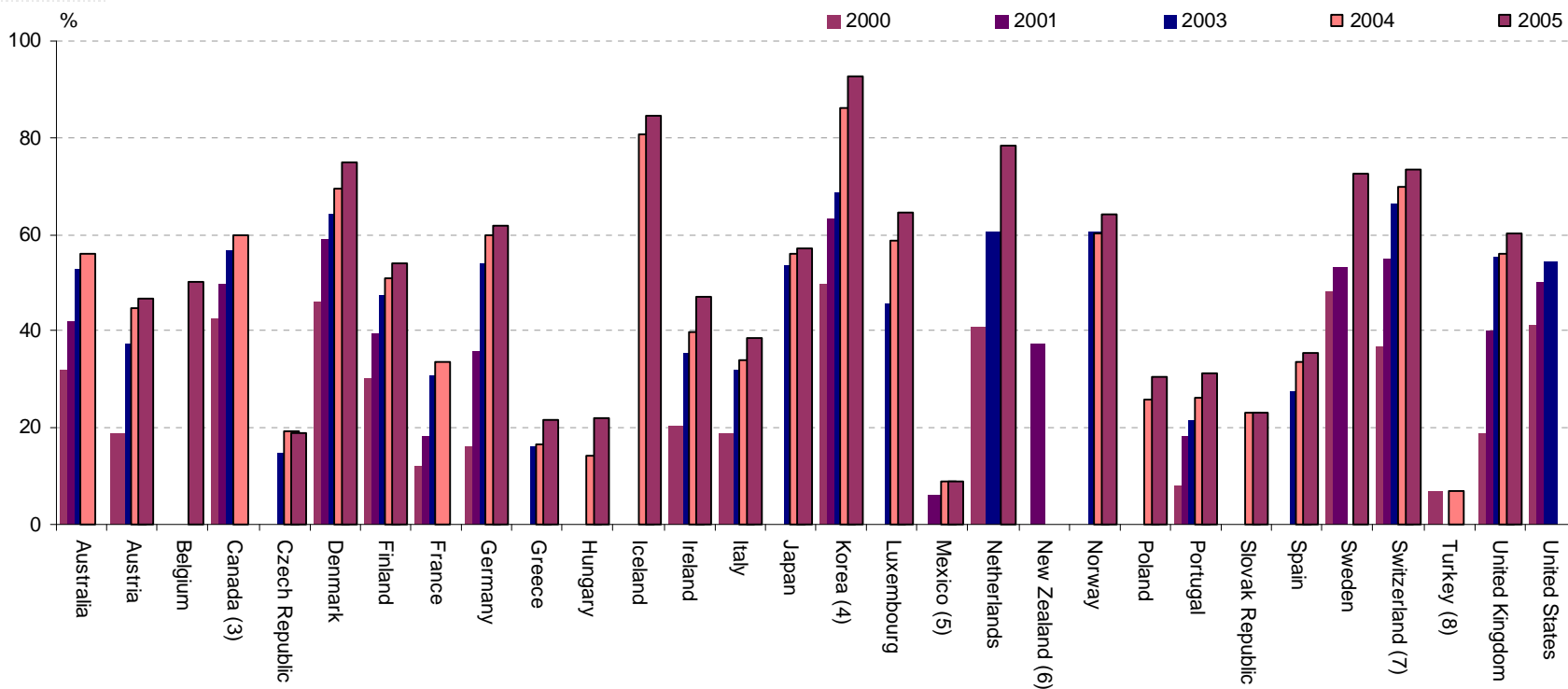
ICT Indicators



http://www.oecd.org/home/0,2605,en_2649_201185_1_1_1_1_1,00.html

ICT Indicators

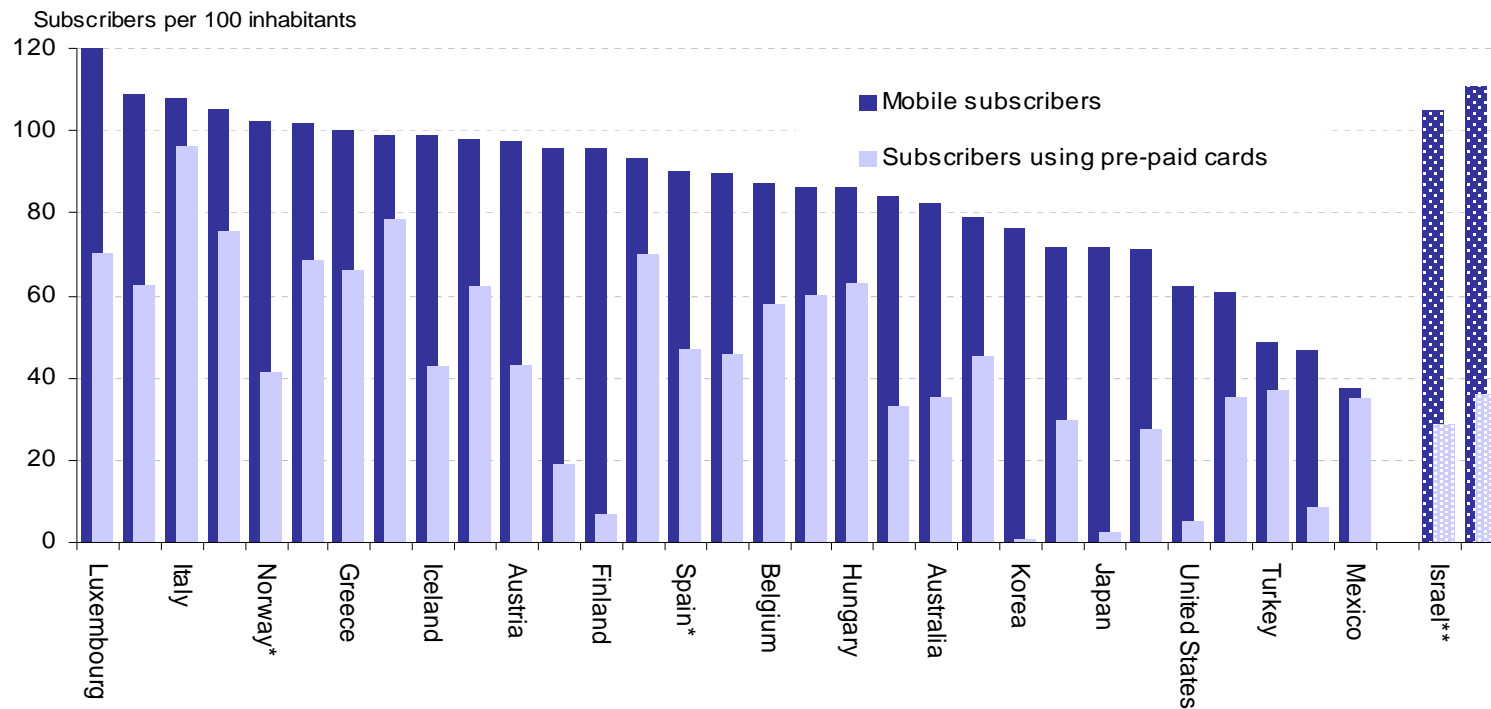
Households with access to the Internet (1) 2000-2005 (2), percentage of all households



http://www.oecd.org/home/0,2605,en_2649_201185_1_1_1_1_1,00.html

ICT Indicators

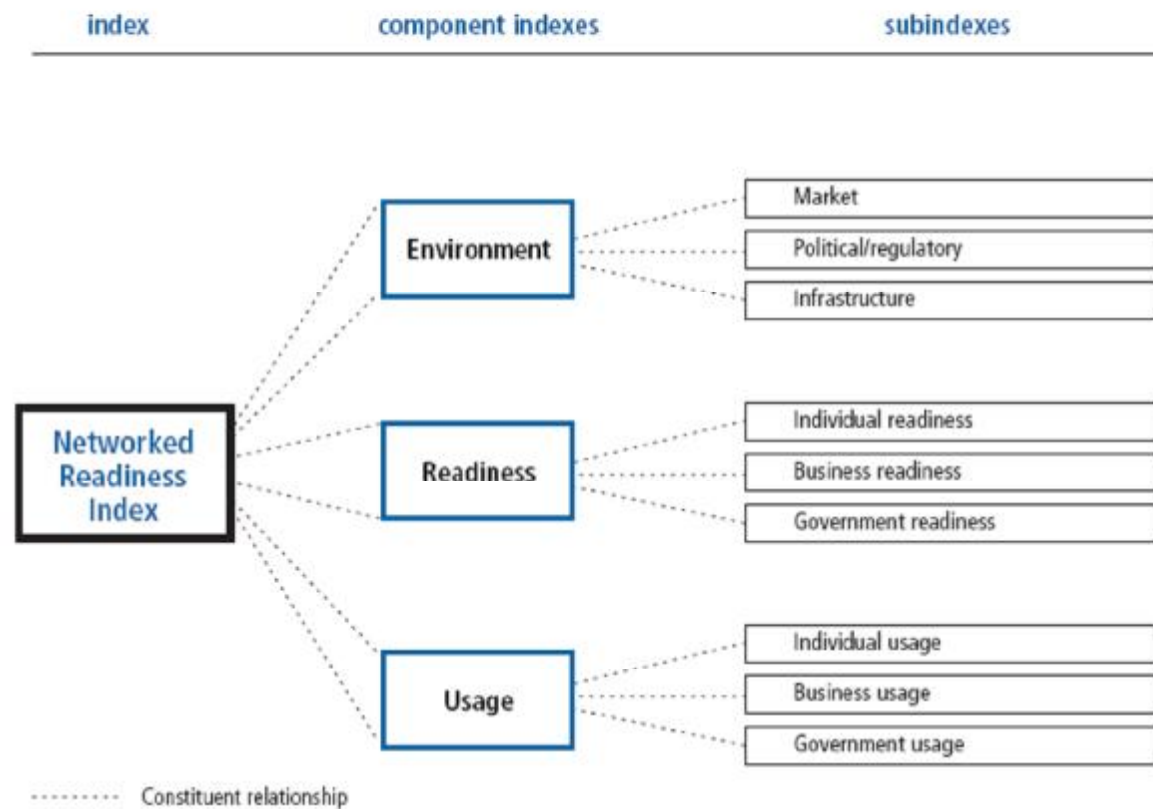
Mobile subscribers and Subscribers using pre-paid cards per 100 inhabitants in OECD and ICCP Committee observers countries**, 2004



http://www.oecd.org/home/0,2605,en_2649_201185_1_1_1_1_1,00.html

Networked Readiness Index

Figure 4. The Networked Readiness Index Framework 2002–2003



Source: INSEAD

http://www.weforum.org/pdf/Gcr/GITR_2003_2004/Framework_Chapter.pdf

Networked readiness index

- Finland,
- US,
- Singapore
- Turkey 49th



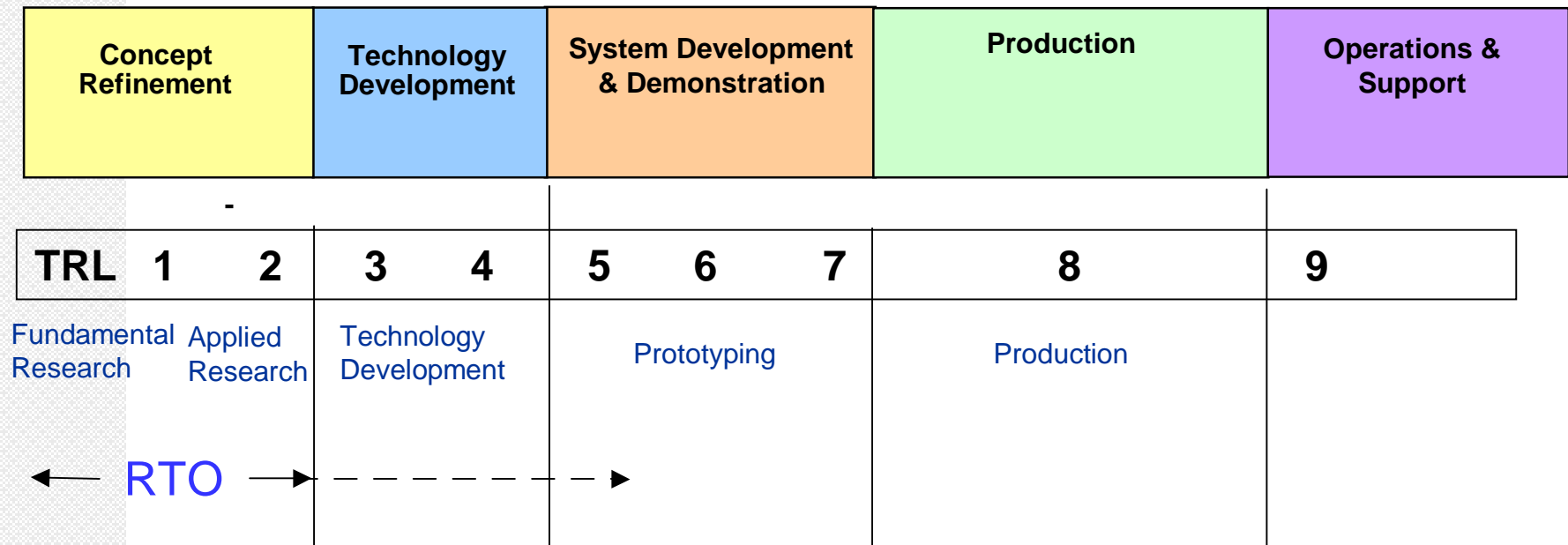
Education of knowledge society

- **Innovation - mediated** instead of Fordist – Taylorist production
- To be included or enhance:
 - Focus on abstract concepts
 - Holistic approach rather than discrete
 - Ability to acquire and utilize knowledge
 - Symbolic analyst (knowledge worker)
 - Increased quantity of scientifically and technically trained persons

Education of knowledge society

- blurring the distinction between mental and physical labor
- Teamwork, virtual teams around the world
- Lifetime learning
- Just in time, break the boundaries of space and time.
- **COMMUNITY BUILDING** (built awareness in the community)
- **LANGUAGE**

Innovation Process & Research



- RTO focus is principally fundamental and applied research- “precompetitive”
- RTO is becoming more involved with demonstrations

Research

- Collaboration in research and technology is the key
 - Framework programs 4 – 7
 - ERA - link
 - ERA - watch
 - Bilateral research agreements
 - COST
 - Transatlantic alliances (NATO, ext)

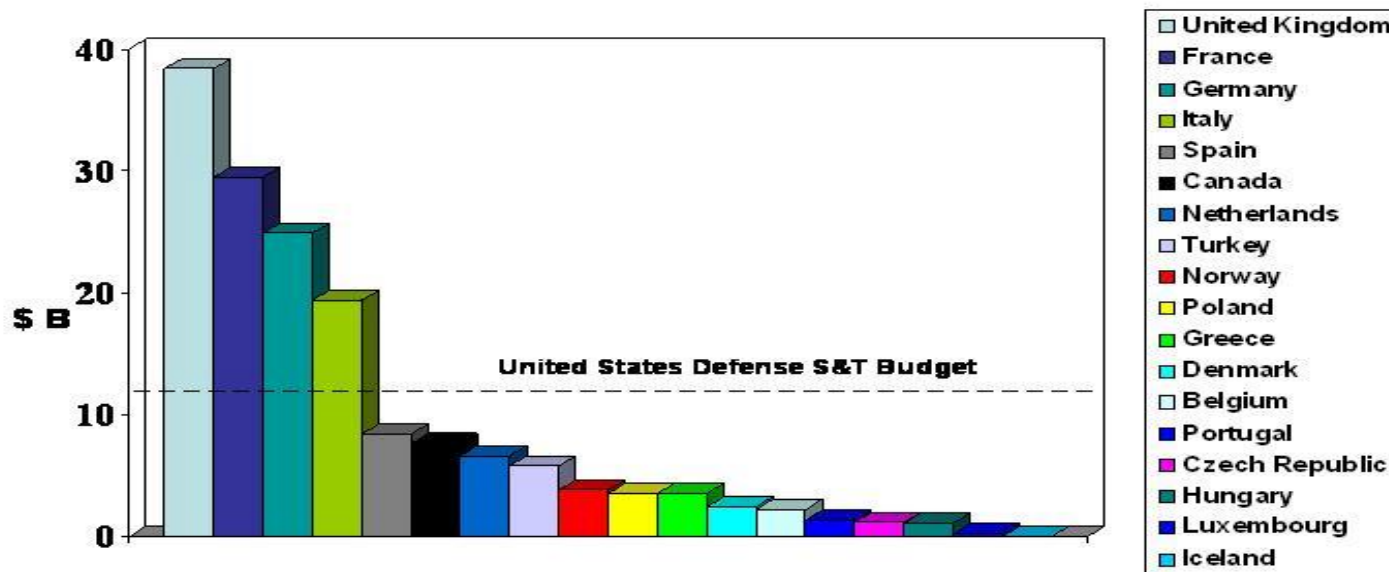
Knowledge Gap

- Inside nations
- Between nations
- R&T spending as a percentage of GDP
- Codified knowledge
- Tacit knowledge (for innovation)
- Need to do research and development



Technology Gap

- Gross Domestic Product of United States and Europe Approximately Equal at \$10 Trillion Each
- U S Defence Research/Technology Budget Larger Than Total Military Budget of Most NATO Nations

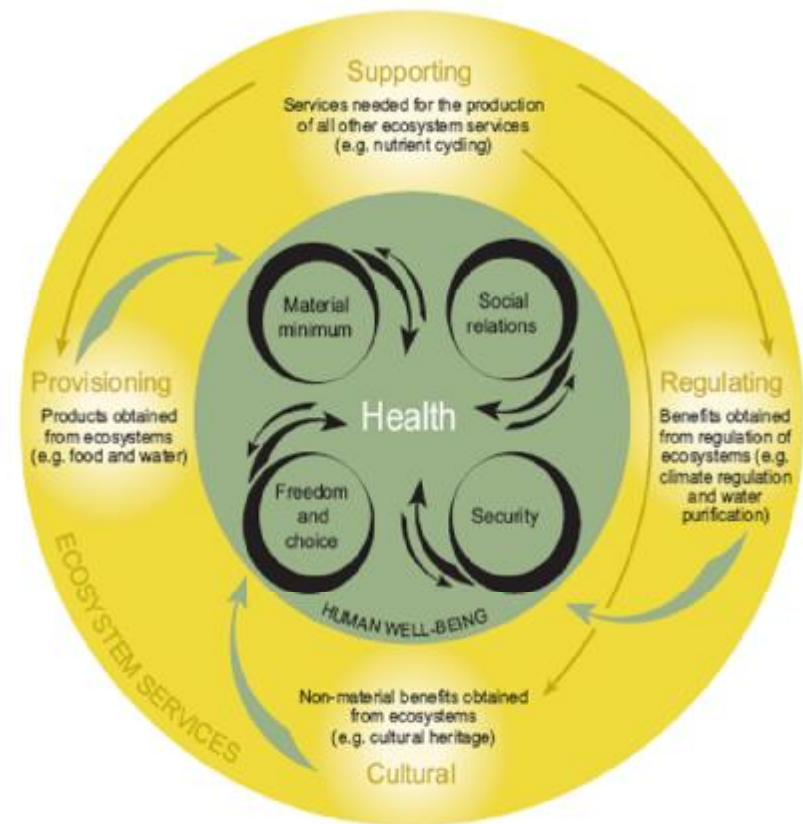


Knowledge society norms

- **How wired is your country or company?**
- **Is your country or company Shaper or adapter?**
- **How fast are you?**
- **How well your country is using its knowledge? (how much the county spending on teachers salaries/education)**
- **How much it weighs?**
- **How transparent to outside?**
- **How transparent to inside?**
- **Can you change management?**
- **Are you ready to get rid of the failures?**
- **How good are you in making friends?**
- **How good is your countries Brand?**

Human Wellbeing

- GDP (PPP) per capita
 - Material well being
- Other indicators
 - Social
 - Freedom and choice
 - Security



Human Wellbeing (social indicators)

- Food supplies per capita
- Infant mortality
- Child labor
- Life expectancy at birth
- Educational levels, literacy rates
- Access to safe water sanitation



Human wellbeing (freedom of choice)

- adherence to the rule of law,
- Government transparency,
- economic freedom,
- political freedom.
- Corporate governance



Nation state - globulation

- Transparency
- Standards (accounting principles)
- Corruption free
- Free press
- Bond and stock markets
- Democratization
- Honesty and ethics



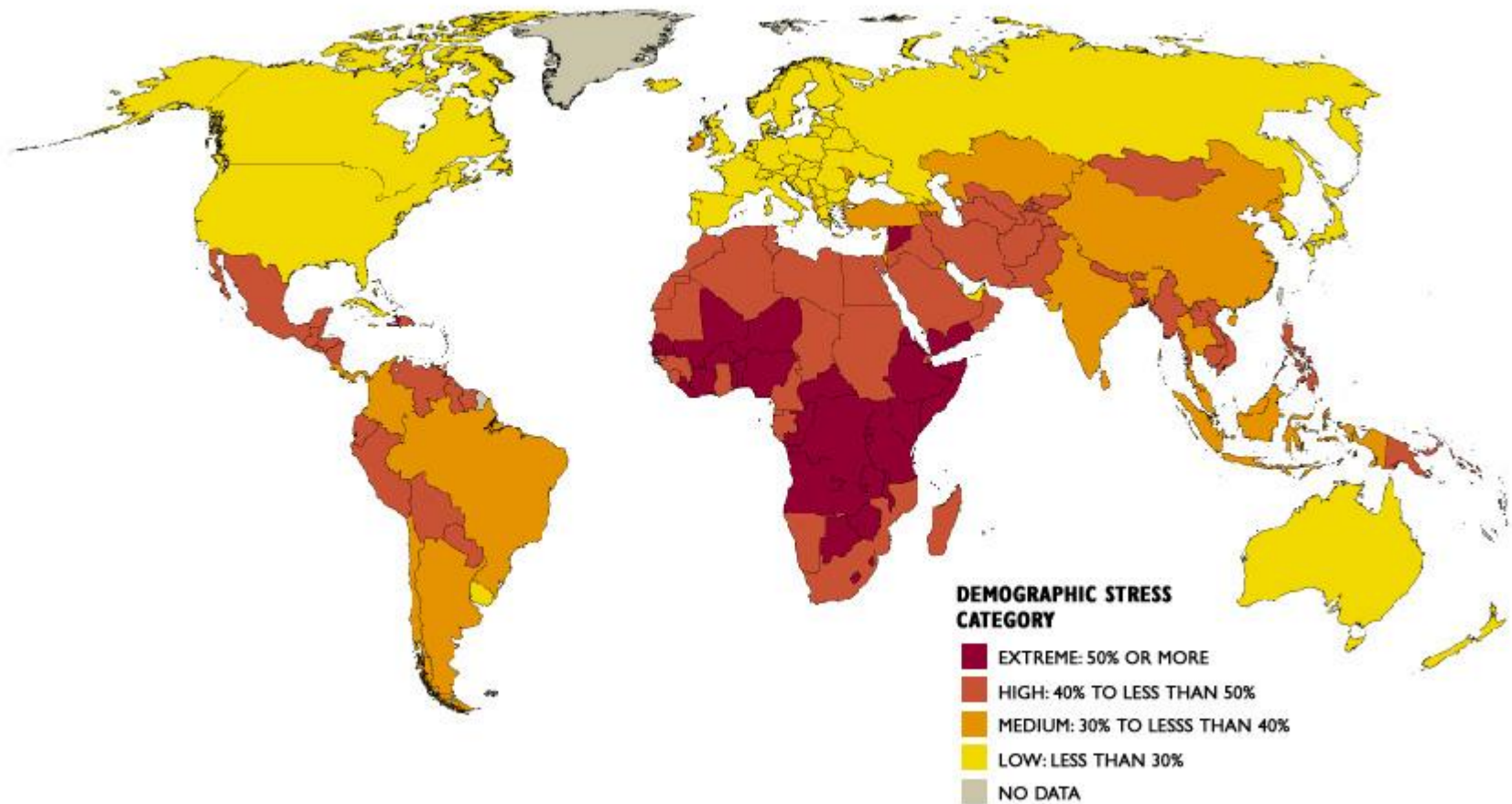
Economic globalization analogy of Friedman

- Actual machine **hardware** Free market economy
- Broad macroeconomic policies of a country **Operating system** DOScapital 0 – 6
(depending on the involvement of the state in the economy)
- Rule of law - **software**.



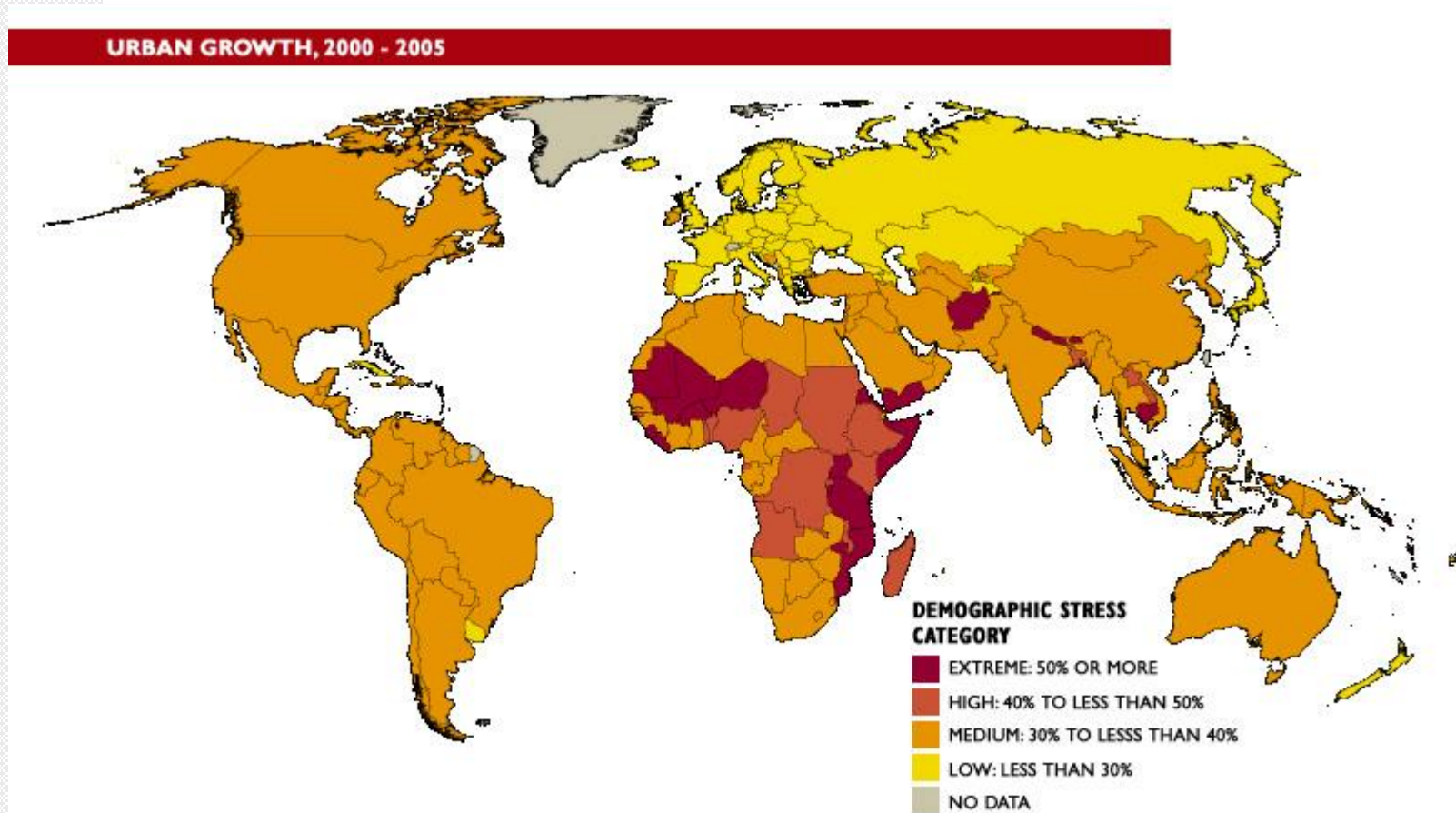
Youth Bulge (Security)

Young Adults, 2005



<http://www.populationaction.org/resources/publications/securitydemographic/>

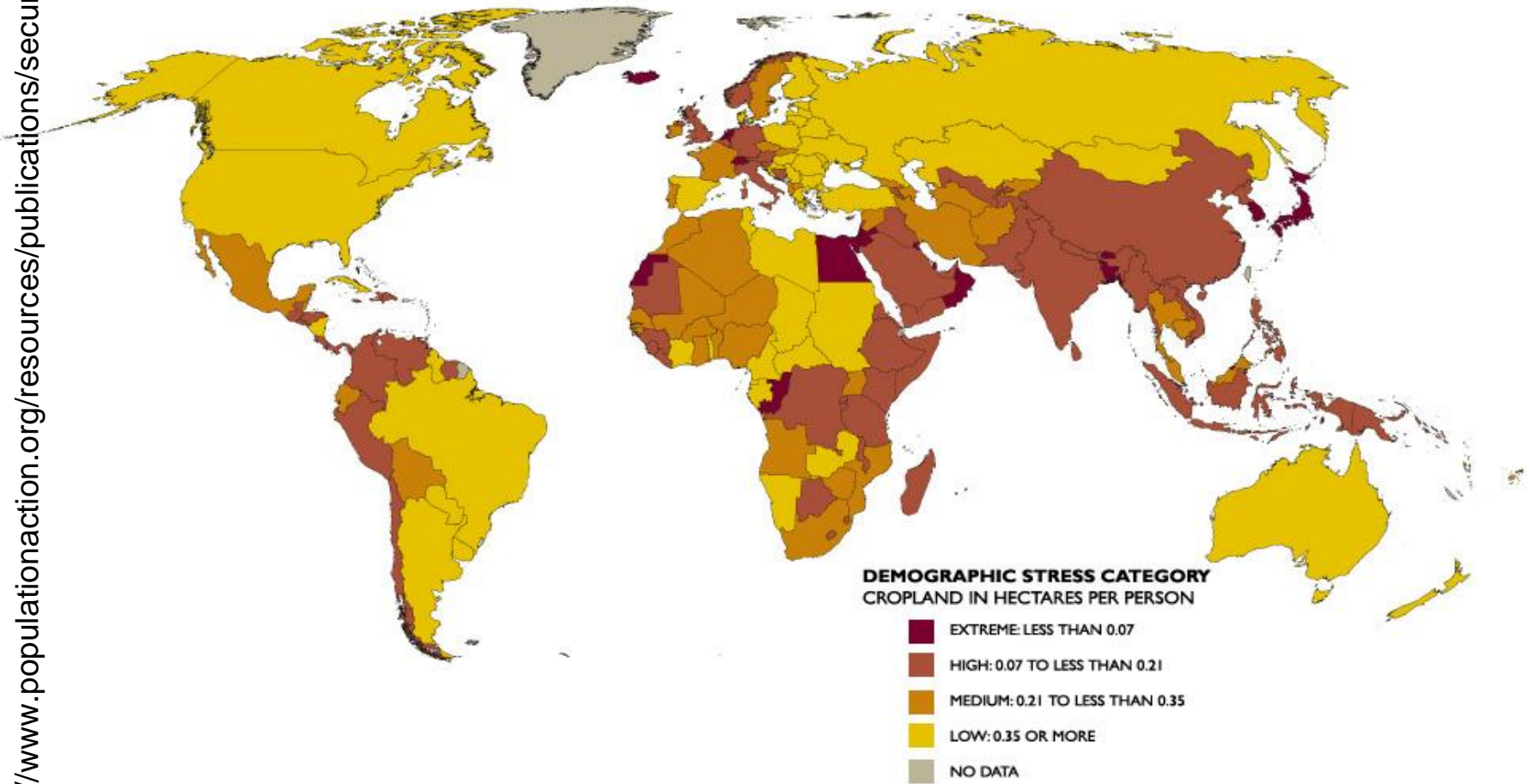
Rapid Urban Growth (Security)



<http://www.populationaction.org/resources/publications/securitydemographic/>

Cropland and Fresh Water (Security)

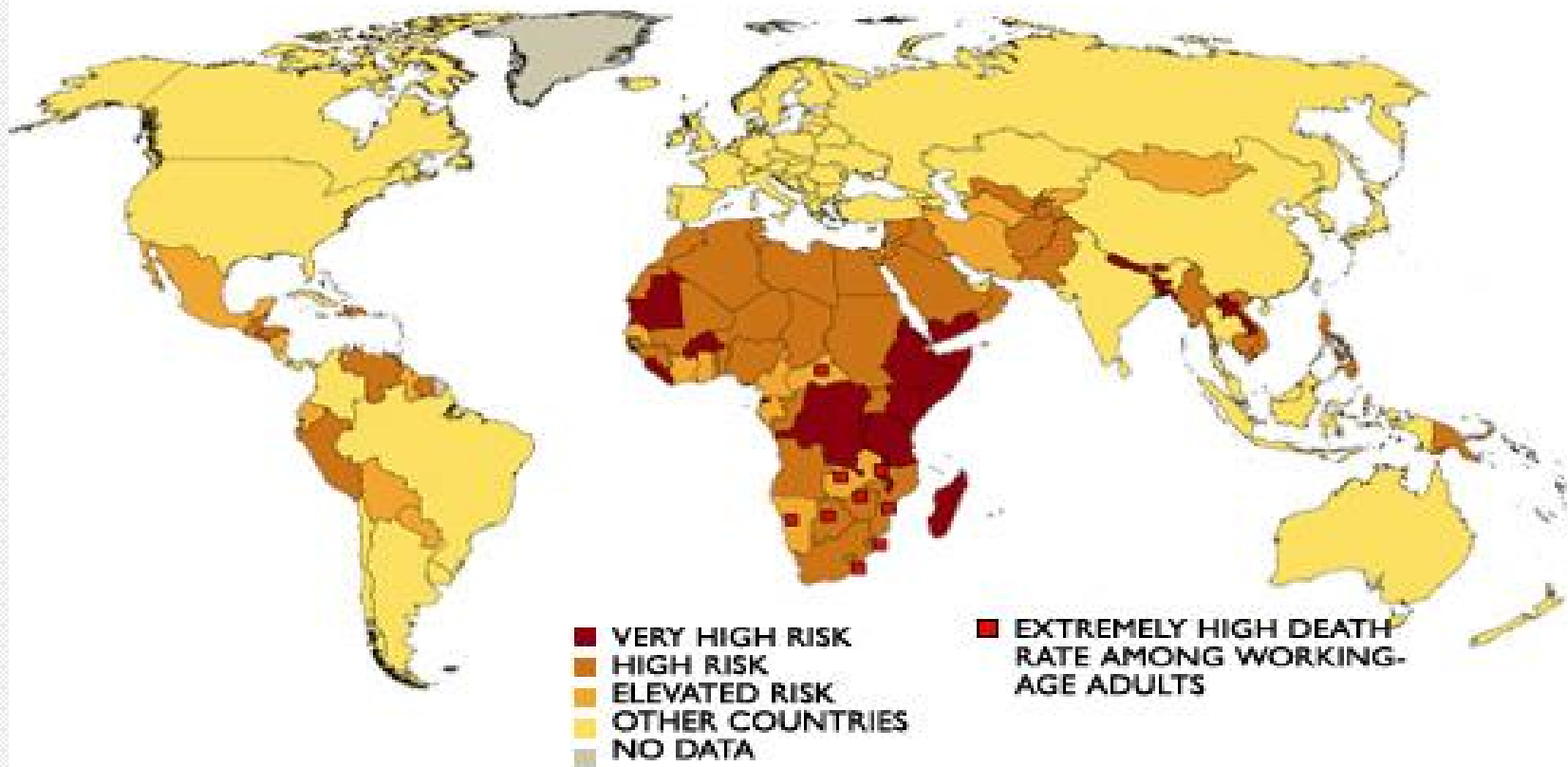
CROPLAND AVAILABILITY, 2005



Civil Conflict

A DECADE OF RISK, 2000 - 2010

A Global Assessment of the Demographic Risk of Civil Conflict



<http://www.populationaction.org/resources/publications/securitydemographic/>

Micro financing, fighting with world poverty

- Muhammad Yunus
- Grameen Bank
- Now 2.7 million families
- 500 mil families by 2015



From M Yunus

- ‘The one message that we are trying to promote all the time, that poverty in the world is an artificial creation. It doesn't belong to human civilization, and we can change that, we can make people come out of poverty and have the real state of affairs. So the only thing we have to do is to redesign our institutions and policies, and there will be no people who will be suffering from poverty’.