



*“Promoting Cooperation among European Regions for Capacity Building of Integrated Care Systems based on Innovative Services and Technologies”*

**Nexes**

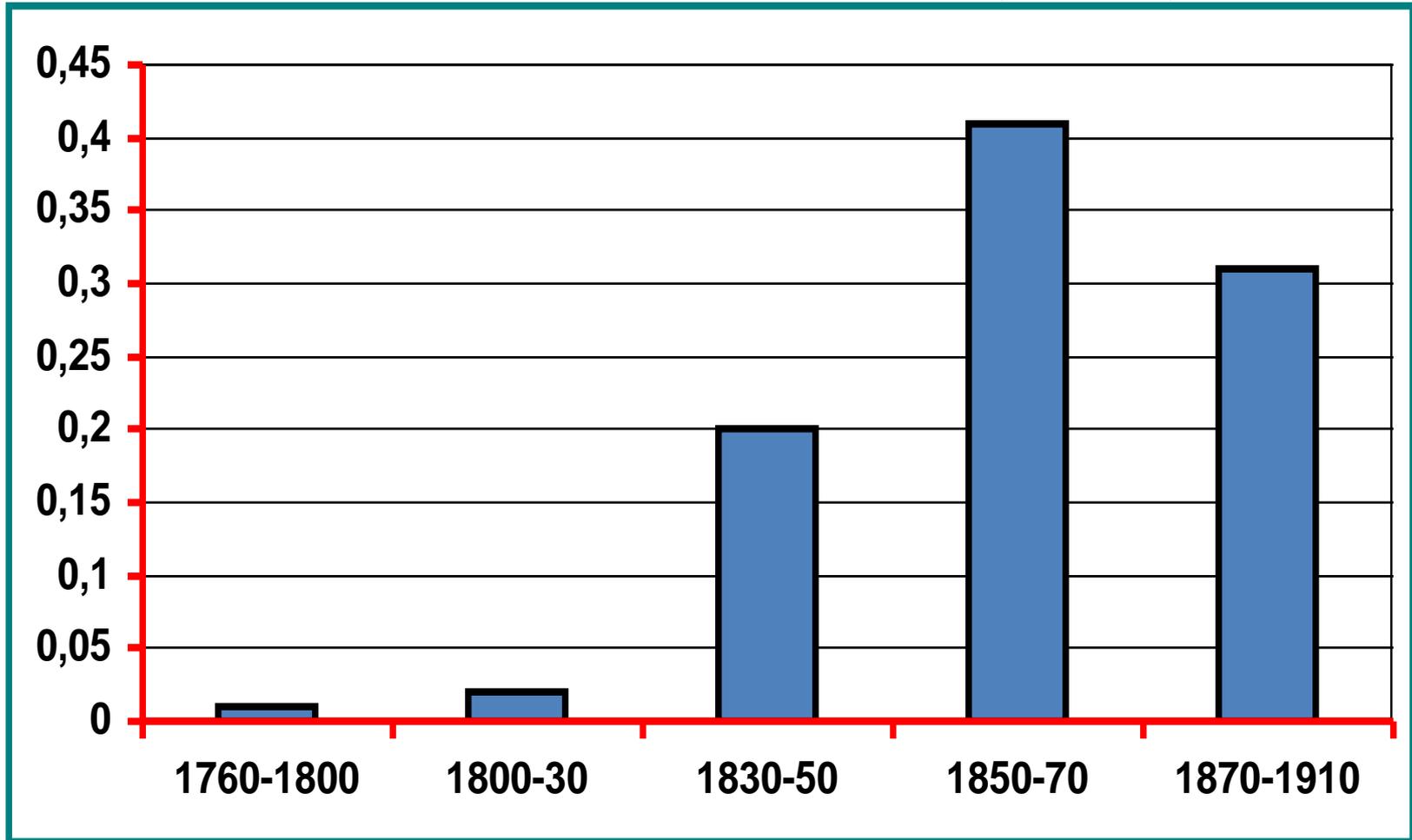
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# Premise

- 5 years of work in trying :
  - First, to understand what impact policy makers want to evaluate
  - Evaluate them
  - Analysing innovation and business models in healthcare
- New emerging impressions and interest

# It took steam almost a century...

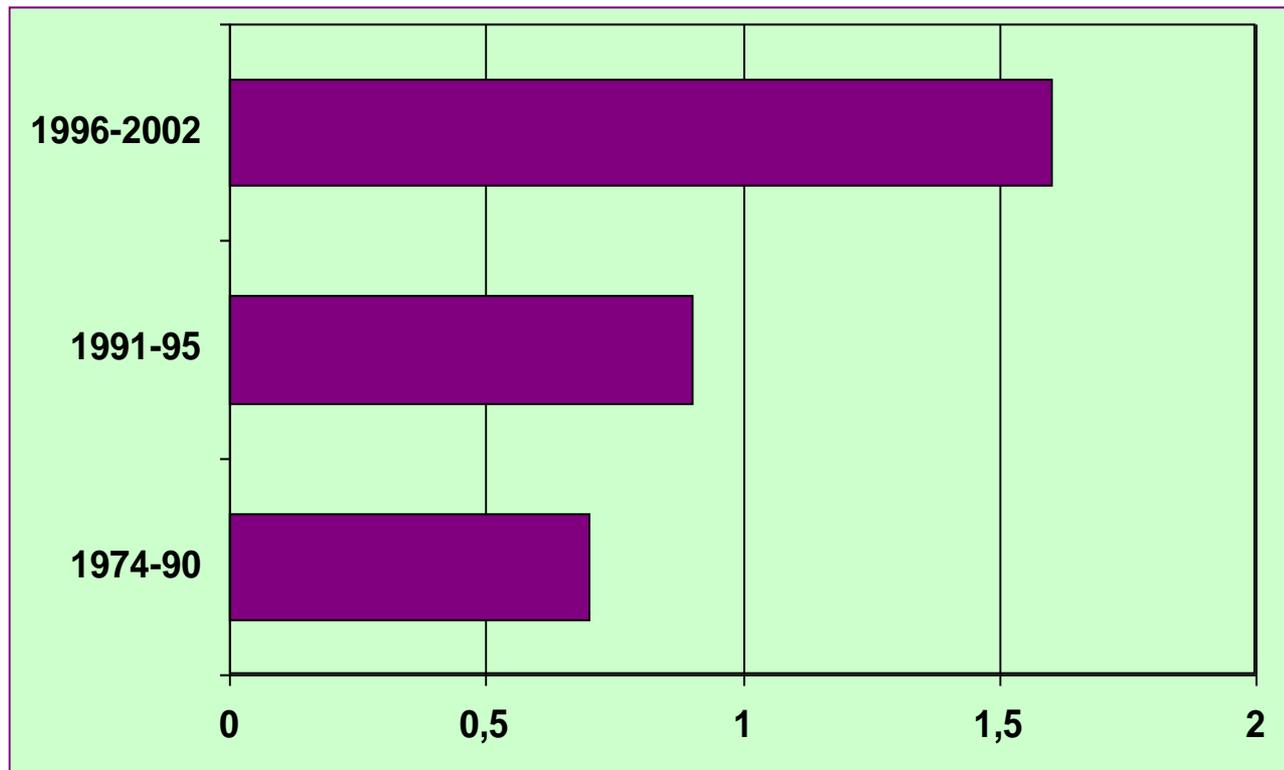
*Steam Contribution to Growth of Labour Productivity (% per year)*



Source: Craft 2005

# ... and only 22 years to ICT (in industry)

*ICT Contribution to US Labour Productivity Growth (% points per year)*



Source: Oliner and Sichel (2003) Reported in Craft 2005

# Health IT productivity paradox?

- Most systematic meta-reviews conclude that evidence on HIT cost-effectiveness is inconclusive
  - Lag Time
  - Measurement errors (i.e. narrow focus of RCT)
  - Variable returns to scale in combination with inflexible factors of production are responsible for efficiency discrepancy
  - The realisation of benefits from ICT implementation strongly depends on contextual conditions, which further compound the problem of comparability

(\*) Whitten, P.S., et al., Systematic review of cost effectiveness studies of telemedicine interventions. *BMJ*, 2002. 324(7351): p. 1434-7  
(\*\*) Chaudhry, B., et al., Systematic review: impact of health information technology on quality, efficiency, and costs of medical care. *Ann Intern Med*, 2006. 144(10): p. 742-52  
(\*\*\*) Lapointe, L., M. Mignerat, and I. Vedel, The IT productivity paradox in health: a stakeholder's perspective. *Int J Med Inform*, 2011. 80(2): p. 102-115

# **Epistemic uncertainty or ontological unpredictability?**

- **Epistemic uncertainty (world in principle could be known and predicted):**
  - **Measurement errors, unobservable / omitted variables**
  - **Problems of model specification and identification**
- **Ontological unpredictability:**
  - **Creative evolution**
  - **Disruptive innovation**
  - **The world, itself, is a process**
  - **Evolution invents new ontological realities.**

# Evidence based policy ontological problem

- Fact-based policy structure knowledge and information in categories that used to be important;
- They can tell very little about ontological realities that will be important;
- Fact-based policies blind to future opportunities and limit our possibilities to those aspects of the world about which we have data.
- We have time-series data on those historical trends that were considered to be important long time ago.
- National statistics and income accounts create continuity also where it does not exist,

# Technology and ontological domains

- Technological evolution is creative, it produces new ontological domains that did not exist in the past
- No amount of data is enough to predict or open up these novel domains; You know only afterwards and retrospectively what types of data would have been relevant.
- When based on currently existing categories, “future” challenges are necessarily extrapolations of history.
  - These extrapolations require complex systems of contextual assumptions.
  - The assumptions remain unquestioned because they used to be the most relevant assumptions of the past

# Example of Ageing

- The problem of aging EU population: Assuming the 20th century systems of employment, education, public financing, and healthcare, the growing relative size of >65 generates a “sustainability gap.”
  - Other things being equal, aging leads to socio-economic problems
  - The social and economic meaning of “age” remains as it was in the Industrial Age
  - No change in life-patterns, value creation systems, industrial organization of work... i.e. no knowledge society transformation

# New impressions

- We will see the black swan only if there is a demand side pressure slowly building up and eventually turning care provision upside down
- ...or if Schumpeterian entrepreneurs, coming mostly from outside, will trigger creative destruction...
- Unless we do as in Scotland
- Real innovation can be helped but not planned and governed but it should be a clear priorities beyond talks about barriers