



# "The Economic Impact of ICT"

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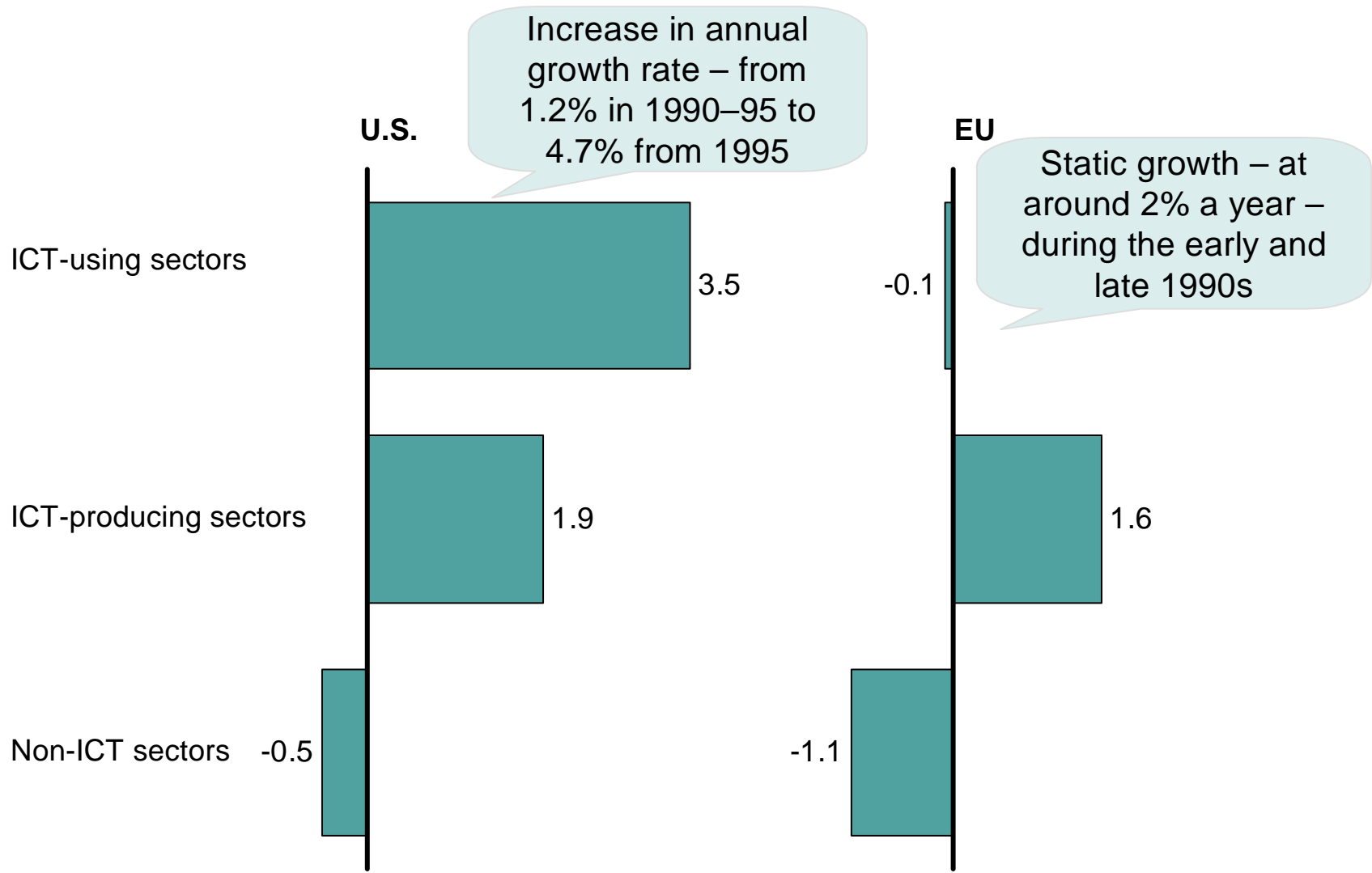
# Introduction



- New project will cover 4 areas:
  1. Impact of ICT on Competitiveness and Growth.
  2. Role of ICT in Driving the Knowledge Economy
  3. Impact of ICT on Globalization
  4. Future Scenarios

# Figure 1: US Productivity Miracle - "Nobody Does IT Better"

Change in annual growth in output per hour from 1990-95 to 1995-2001 %



# Specific Questions

- Impact on productivity, drivers of ICT uptake, spillovers and industry clusters (1)
- Interaction of ICT with R&D, patents, management practices and other intangibles (2).
- ICT and trade competition, technology & multinationals (3).
- Look at uptake and productivity effects over time and countries (4)



# Approach



- “Micro to macro”: Use microdata to get underneath aggregate trends.
- Approach answers the challenge of giving a unified answer to a sprawling set of questions.
- Uses a number of unique databases that CEP has been developing in-house.
- “Bureaucracy-free” with statistical agencies in the way.



# Datasets (1)



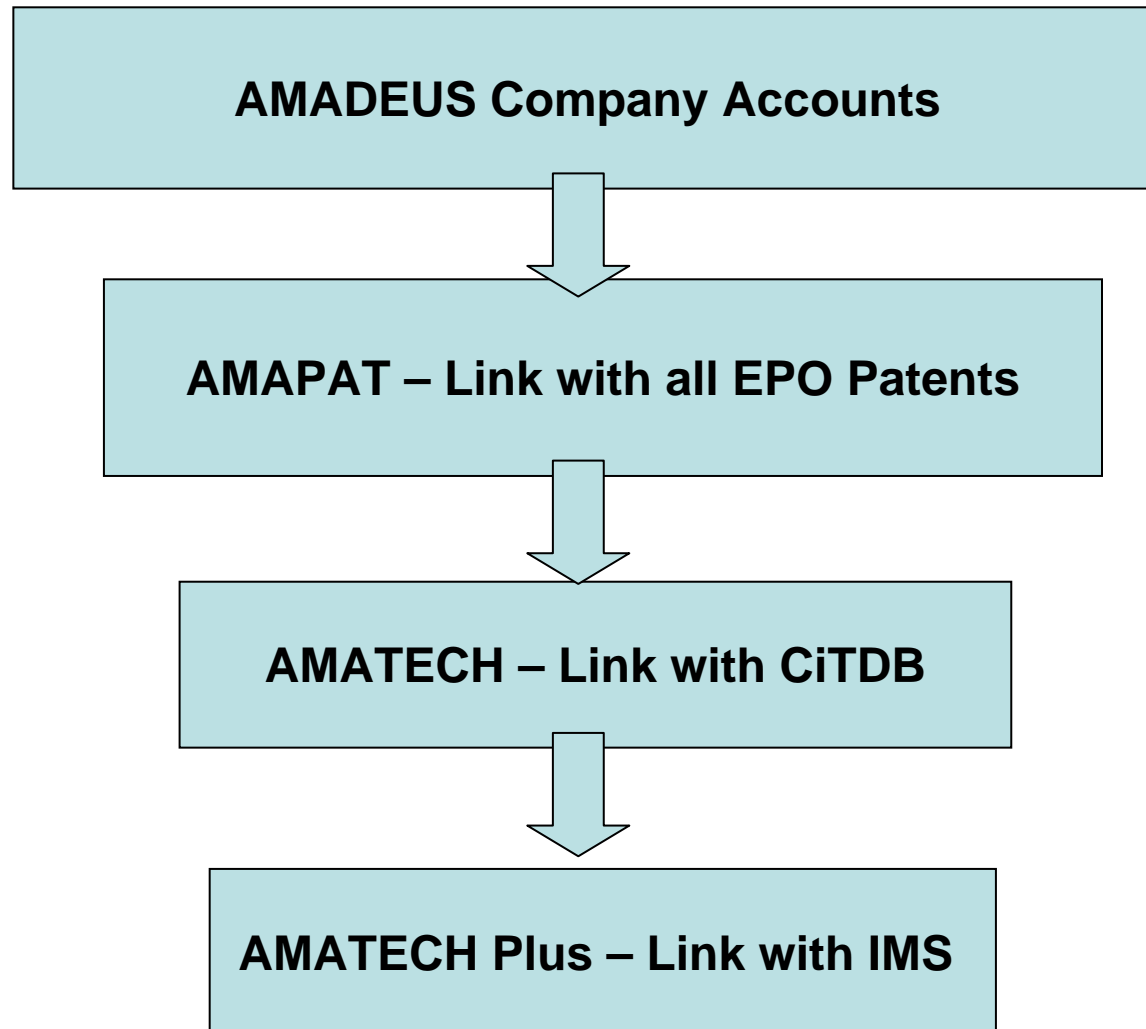
- Ci Technology Database: From international marketing company Harte-Hanks. Contains software and hardware info & covers 22 countries (inclusive of Europe/US).
- Linked by company name to AMADEUS company accounts database to form AMATECH.



## Datasets (2)



- Also linked into AMADEUS are:
  - EPO Patents database.
  - CEP International Management Survey.
  - OECD and EU KLEMS industry data on skills, R&D etc.
- Creates succession of datasets with increasing levels of detail.



## Datasets (3)

- **International Management Survey (IMS)**
  - Novel survey instrument.
  - Highly trained MBA/Phd-level interviewers
  - 45 minute interview with “blind” scoring across different management practices.
  - 11 countries (US,UK, France, Germany, Italy, Sweden, Greece, Portugal, Poland, China and Japan).

# Modelling (1)

- **3 equation approach**
  1. Production Function – Determinants of output with respect to inputs (capital, labour, materials, IT capital).
  2. Technology Investment – Determinants of investment in IT (eg: industry, firm size, country, product & labour market regulation).
  3. Innovation – Determinants of innovative output, eg: patents or R&D\*.

\*Which is strictly speaking, an input.

## Modelling (2)

- **Interactions:** These interaction terms will show how returns to ICT or the speed of adoption vary with firm or industry characteristics.

eg: Firm\_Size\*ICT (small versus large)

MGMT\*ICT (well managed firms)

ORG\*ICT (organizational structure)

- Lets us uncover heterogeneity in impact & uptake of ICT.



# Conclusions



- Individual studies of inventors and consumer ICT markets will complement main study.
- Will represent the largest cross-country firm database on these issues. Innovative data collection methods.
- Genuinely integrated approach that builds from micro-to-macro.
- Capitalise on high media and policy impact of IMS study.