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Technology and Trade: Accelerating Change in America

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Older and Out of Work: Jobs and Social Insurance for a Changing Economy
National Academy of Social Insurance
January 19-20, 2006

Technology & Trade:
Globalization in a petri dish

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- **Fast pace of change**
  - In technology, in geography of production and spending, and in types of job skills needed.
- **Strong synergies**
  - Technological change & global sourcing go hand-in-hand. Having one means having the other.
- **The policy challenge**
  - Global sourcing pushes out the economic frontier. If policy does not support adjustment, economy foregoes potential gains.

IT and productivity growth:

Uneven diffusion means new opportunities

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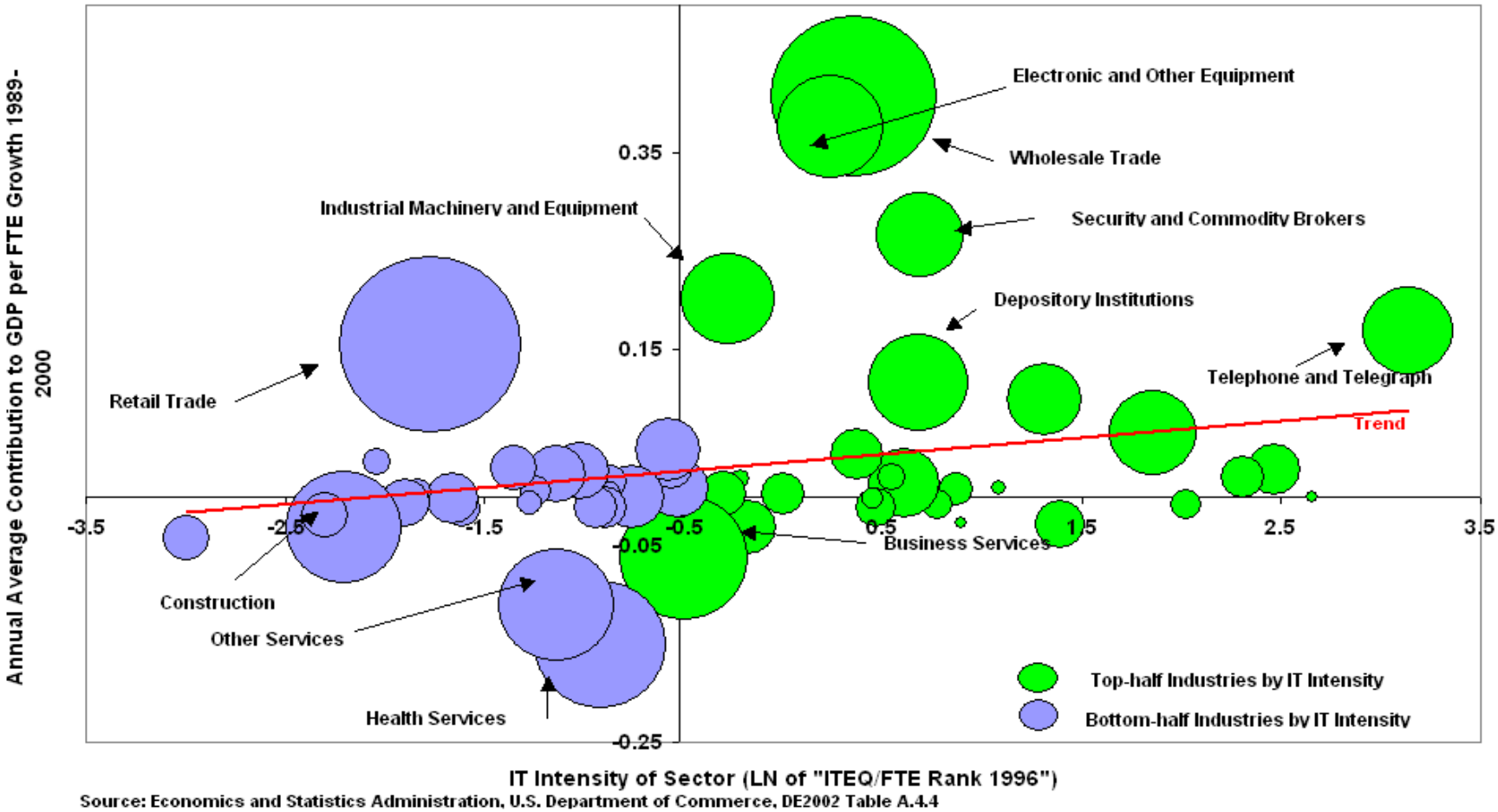

Source: Economics and Statistics Administration, U.S. Department of Commerce, DE2002 Table A.4.4

The more IT intensive sectors contribute more to productivity growth.
Leading and lagging sectors both are services.
Leading sectors—already networked, common software 'platform'.
Lagging sectors—diverse firm sizes, complex relationships, regulations.

IT Globalization & the US Economy

How much larger is the pie?

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Sources of price decline

1. US innovation is key:
   Technology accts for 70-90 % of price declines
2. Also global mktplace:
   regression estimate that 10-30 % additional price decline from global production & global markets

How important is 10-30% additional price decline from globalization?

Logic of macro gains

…. IT price decline => IT purchase
Diffused IT investment through US due to price elas. of demand > 1.0

…. IT investment =>transformation
capital deepening, but also new workplace practices, new products

…. Transformation => productivity
IT accounts for *more than ½ of increased productivity growth '90s;*

… 10-30% more price decline?
GDP growth 0.3 /yr higher (95-2000)
..adds up to more than ¼ $ trillion

Trade, Technology, and Jobs

Cyclical exposure & structural change

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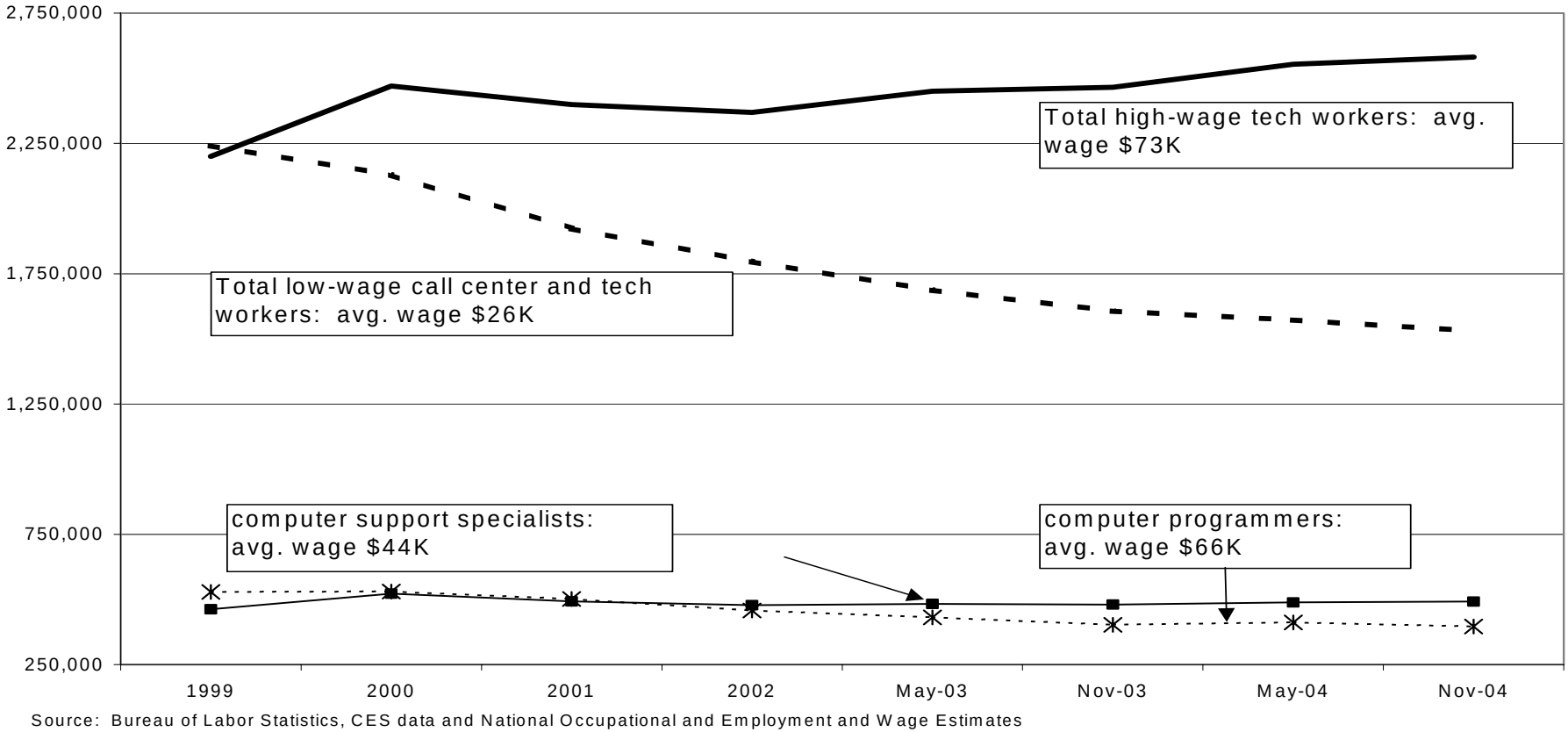

Source: Bureau of Labor Statistics, CES data and National Occupational and Employment and Wage Estimates

Diffusion of IT into whole economy exposes these workers to business cycle, trade, and technology risks

Low-wage in real trouble—from trade & technology

Increased 'codification' puts some high-wage at risk (programming)

Increased jobs at middle & high-wage demand integrative & analytical skills

Policy Implications

Not trade policy, but rather labor policy

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- **Transition policies for permanently displaced workers**
  - **Wage insurance and training credits**
- **Movement/flexibility policies to mitigate costs of adjustment**
  - **Affordable health portability; pension portability**
- **Human capital investment tax credit**
  - **Entry & up-skilling policies within a career-ladder**
  - **Firms & community colleges work together**

Human-Capital Invest. Tax Credit

Invest in people for a competitive economy

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- **ITC instrument fits 'classic' economics case of market imperfections:**
- **Free-riders, spillovers, incomplete information**
  - Free-riders: Firms worry about trained people quitting so do not train enough
  - Spillovers: Nation benefits from training but not enough done
  - Incomplete information: Individuals do not know what jobs to do (and schools by themselves don't either)
- **These 'market imperfections' are the rationale for the R&D tax credit & accelerated depreciation / investment tax credit**
  - **In a knowledge economy, ITC should extend to people-as-asset.**

Human-Capital Invest. Tax Credit

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- **How would it work?**
  - Firm is the locus for the tax credit, assists in developing job and internship matches, but recycles the money to educational institutions, thus augmenting their funding too
- **How much will it cost?**
  - Compared to what?: R&D and capital investment tax credits estimated to reduce tax receipts by approx. $25 B and $50B respectively to 2010. (CBO March 2004 baseline)
- **What's the benefit?**
  - The next wave of productivity growth (as software and services are integrated by lagging sectors)
  - An internationally competitive knowledge economy founded on its people-assets

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Presentation drawn from

Accelerating the Globalization of America: The Role for Information Technology

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Forthcoming
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