

Global Sourcing & High-Tech Jobs: Productivity Gains & Policy Challenges

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The Job Picture: A Struggling Economy

Assessment of remedies requires disaggregation and cutting through boom and bust

The Current Employment Situation, Thousands

	1999	2000	2001	2002	2003	Current, February 2004(P)
Total Nonfarm Private Employment¹	109,996	111,643	109,312	108,501	108,491	108,594
Manufacturing¹	17,277	17,175	15,702	14,899	14,324	14,308
Private Service Providing¹	85,417	87,071	86,227	86,332	86,823	86,931
Business and Financial Occupations²	na	5,180	5,389	5,320	5,568	5,637
Computer and Mathematical Occupations²	na	3,325	3,397	3,032	3,291	3,137
Architecture and Engineering Occupations²	na	3,012	2,839	2,798	2,606	2,628
Unemployment Rate (16y and above)						
Annual Average	4.2%	4.0%	4.8%	5.8%	6.0%	na
End-of Period	4.0%	3.9%	5.8%	6.0%	5.7%	5.7%

¹ Data from the BLS Current Employment Survey. Annual data from the month December, seasonally adjusted

² Data from the BLS Current Population Survey. Annual data from the month of February, seasonally unadjusted

Source: Bureau of Labor Statistics Monthly Current Population and Establishment Data

Manufacturing continued decline=>adjustment policies

White collar & high skills reviving=>skill-matching policies

Two-Pronged Policy Strategy

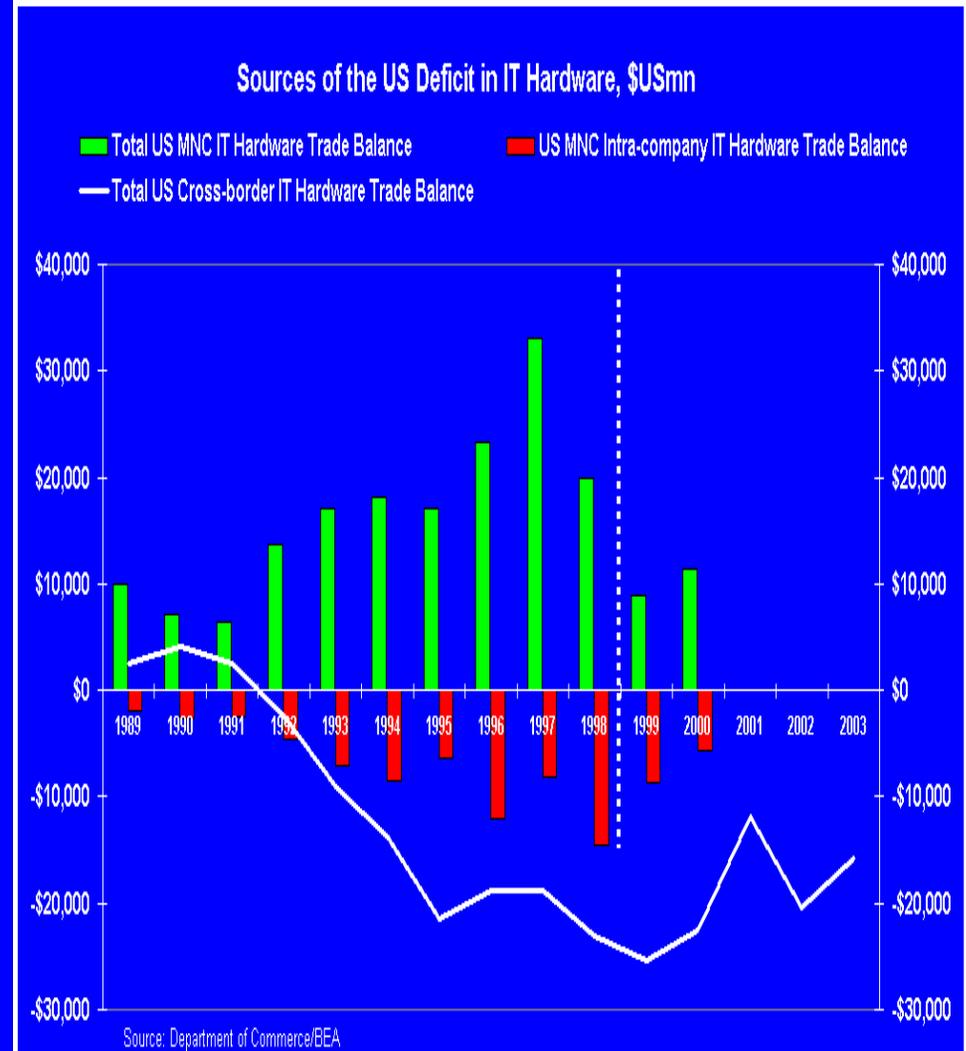
- Domestic strategy: Match workers to changing jobs
 - Adjustment to new careers
 - Entry and up-skilling within career
- Global strategy: Negotiate two-way trade
 - Open markets abroad, especially for competitive services
 - Macro policies abroad

⇒ Combined strategy: New wave of productivity, growth, and job creation

Global sourcing of IT hardware

Macroeconomic gains and trade overview

- Reduced IT hardware prices by 10-30 % more
- Diffused IT investment through US industry sectors
- Accelerated productivity growth
- Raised GDP growth 0.3 /yr
- Added at least \$230 billion to GDP
- Net positive trade in IT hardware exports from US multinational firms

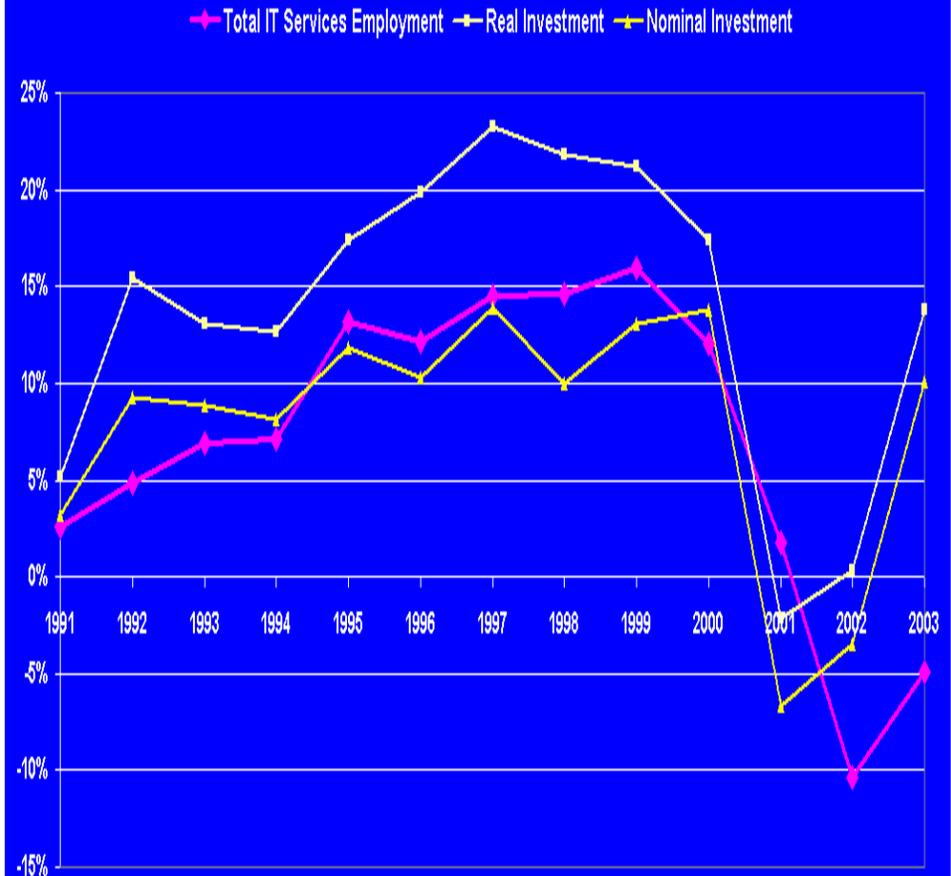


But what about IT jobs?

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- IT investment & IT jobs: move in lock-step
- Diffusion of IT throughout: 2/3 of IT jobs are in non-IT sectors
- Average salary in all IT occupations: \$62,000
- Rising skill demands

Annual Percent Change in IT Services Employment and Private Investment in Information Processing Equipment and Software



Source: BLS Current Employment Survey, BEA NIPA Tables

Evolution in IT Occupations and Demand for Skills 1999-2002

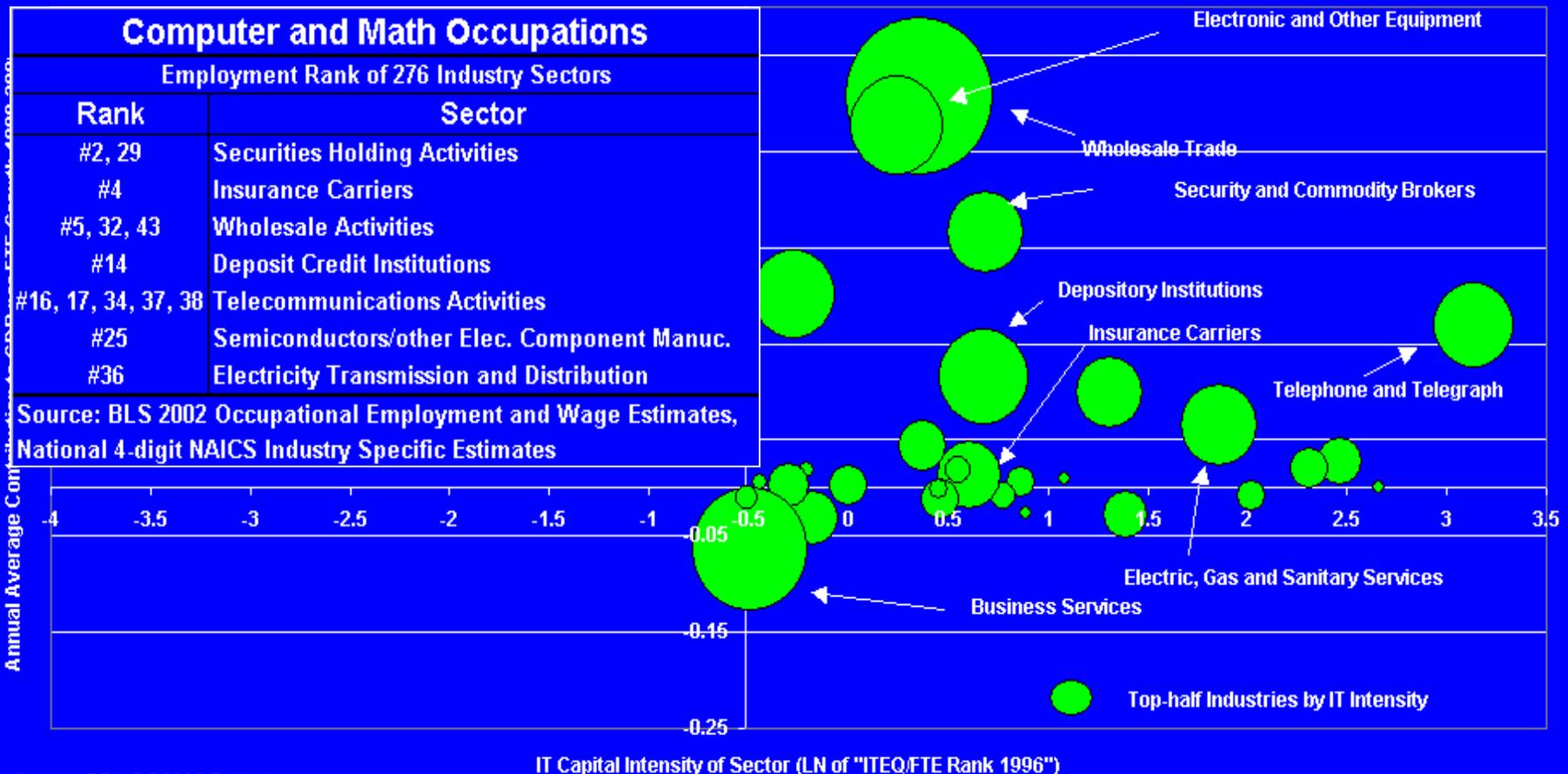
	Change 1999-2002	Av. Wage	2002 Emp. Level
Data Entry Keyers	-143250	\$ 23,190	377,000
Computer Operators	-25860	\$ 31,640	173,000
Computer Programmers	-71280	\$ 63,690	457,000
Computer Software Engineer	115170	\$ 74,615	612,000
Total "White-Collar IT" Occupations	-144630	NA	5,492,000

Source: BLS 2002 Occupational Employment and Wage Estimates, National 4-digit NAICS Industry Specific Estimates

Which sectors lead the US economy?

Those that invest more in IT & employ more IT workers

IT Intensity and Contribution to GDP per FTE Growth 1989-2000
(Size of bubbles indicate share of GDP By Individual Sector)



Source: BEA, DE2002 Table A.4.4

AND, post a trade surplus

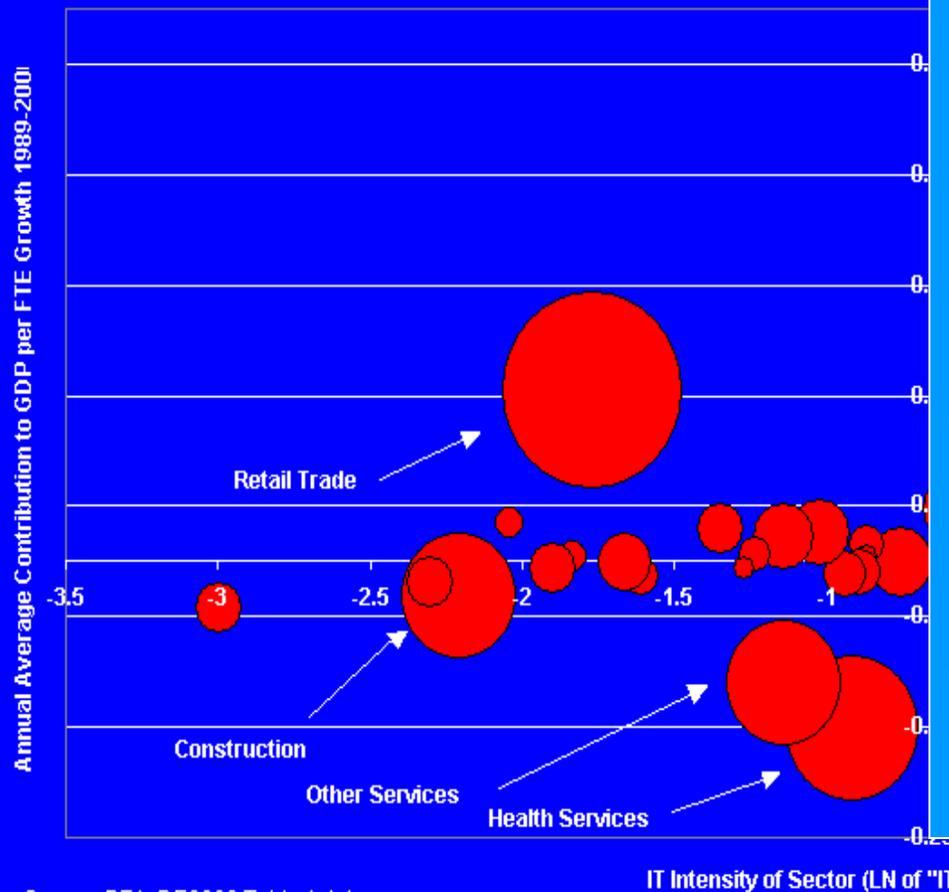
despite slow growth and closed markets abroad



Which sectors need to improve

For the next wave of productivity growth & job expansion

IT Intensity and Contribution to GDP per FTE Growth 1989-2000
(Size of bubbles indicate share of GDP By Individual Sector)



Source: BEA, DE2002 Table A.4.4

Software cost is an increasing share of the cost of the IT package (about 50% today).

Small firm size, culture, and regulations make writing software & service applications more costly for some of these sectors.

Outsourcing some IT jobs that do not involve design, marketing, integration will reduce the price of the software & applications, and re-start the IT innovation and growth drivers.

Re-Ignite American Innovation & Growth

- Domestic strategy: Better match workers to changing jobs
 - New-jobs policies for displaced workers:
 - Unemployment extension, Wage insurance
 - Entry and up-skilling policies within a career-ladder
 - Human-capital investment tax credit through firms
 - Movement/flexibility policies to mitigate costs of adjustment
 - Realistic and affordable health care and pension portability
- Outward strategy: Two-way trade in services
 - Open markets abroad for internationally competitive US services
 - Off-shoring of some products increases competitiveness of others

The Human-Capital Investment Tax Credit

Invest in people for a competitive economy

- The ITC instrument fits a 'classical' economics case
 - Private benefit captured by firms is less than national (social) benefit
 - Rationale for the R&D tax credit and the investment tax credit.
- H-ITC for incumbent workers to move up career ladder
 - An H-ITC mitigates the firm's disincentive to train workers for fear of losing them to a rival firm that does not train
- H-ITC for entry level workers
 - A internship credit mitigates students' concern about technical careers and recognizes that the 'first job' may no longer be US

The Human-Capital Investment Tax Credit

- 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?
 - Cost: $\text{number of workers} * \text{training cost} * \text{credit \%} = \text{reduction in taxes owed} = ?$
 - Compared to what: R&D and capital investment tax credits estimated to reduce tax receipts by approx. \$25 B and \$50B respectively to 2010.
 - Benefit: Supports next wave of productivity growth and internationally competitive knowledge economy