

# Outsourcing, Real Estate, and the Silicon Valley Economy

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# This Recovery Looks Different for Silicon Valley

1995-2000

- Employment surging--  
4.4% annually ROG
- Tech jobs driving  
growth 11.7% annual  
ROG
- High income growth:  
Per Capita Income 187%  
of US in 2000
- Commercial rents  
highest in US

2001-2003

- 18% of Jobs lost since  
2000
- Tech jobs down 25%  
from peak
- Per Capita income down  
7.4% in one year
- Job growth flat Q4 2003  
(still -3.8% for year);  
tech jobs still dropping

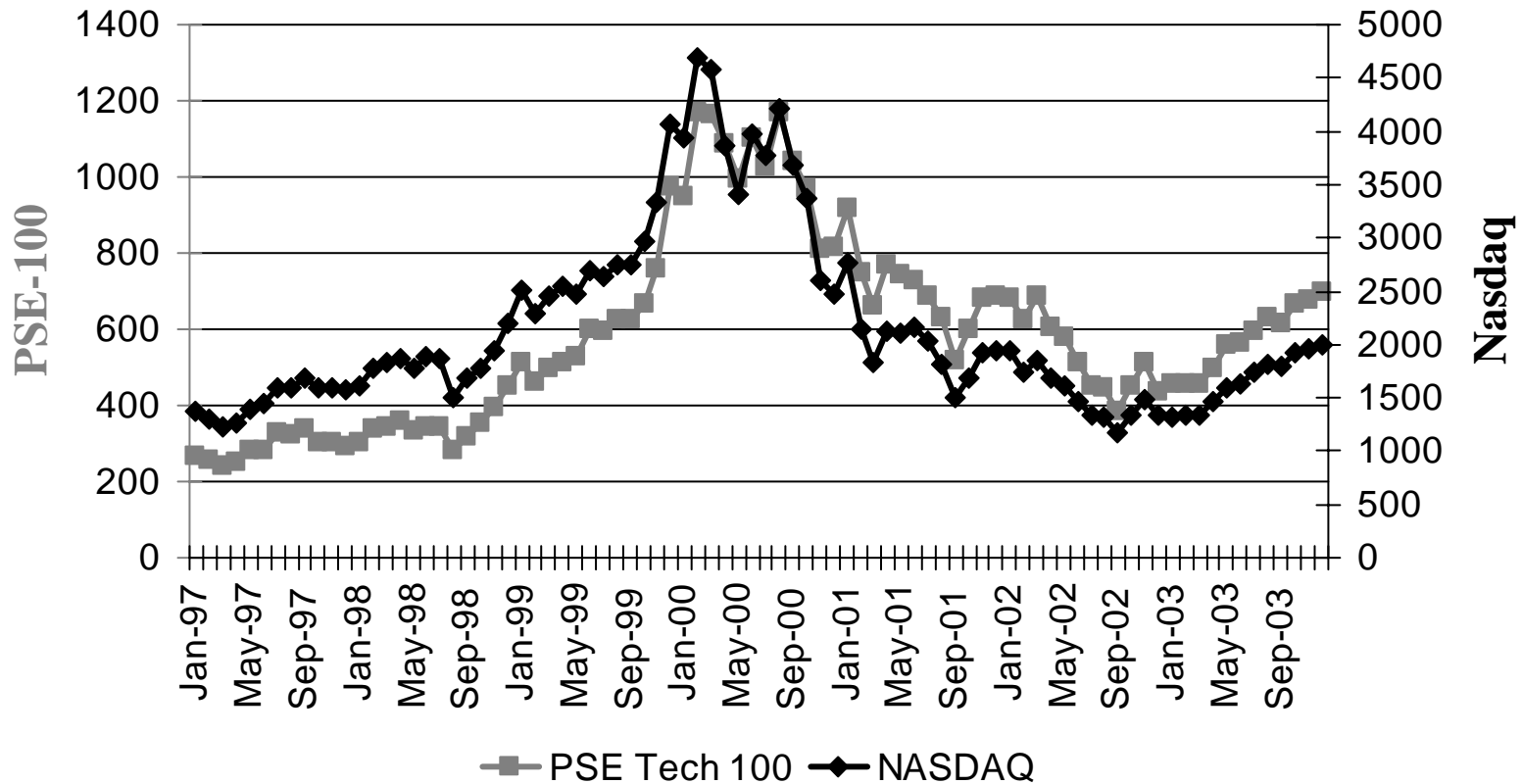
# Why So Different?

- Dot Com Bubble
- US “Jobless” recovery
- Local excess capacity
- Globalizing trends in tech sectors--  
Outsourcing/Offshoring

Dot Com Bubble

# Selected US Stock Indices

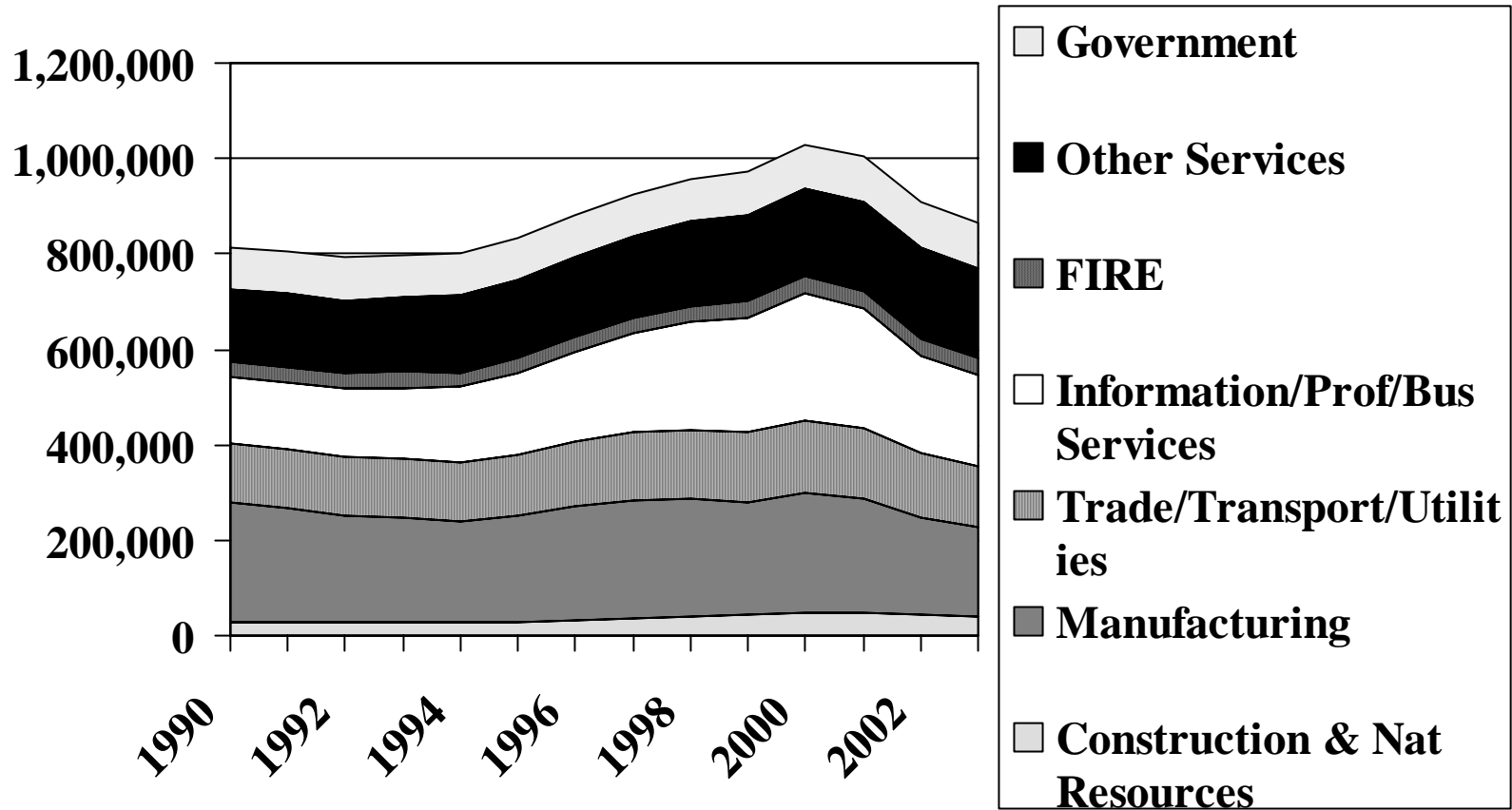
## Monthly, 1997-2003



Source: FCREUE using Pacific Stock Exchange and NASDAQ data taken from Yahoo!Finance.

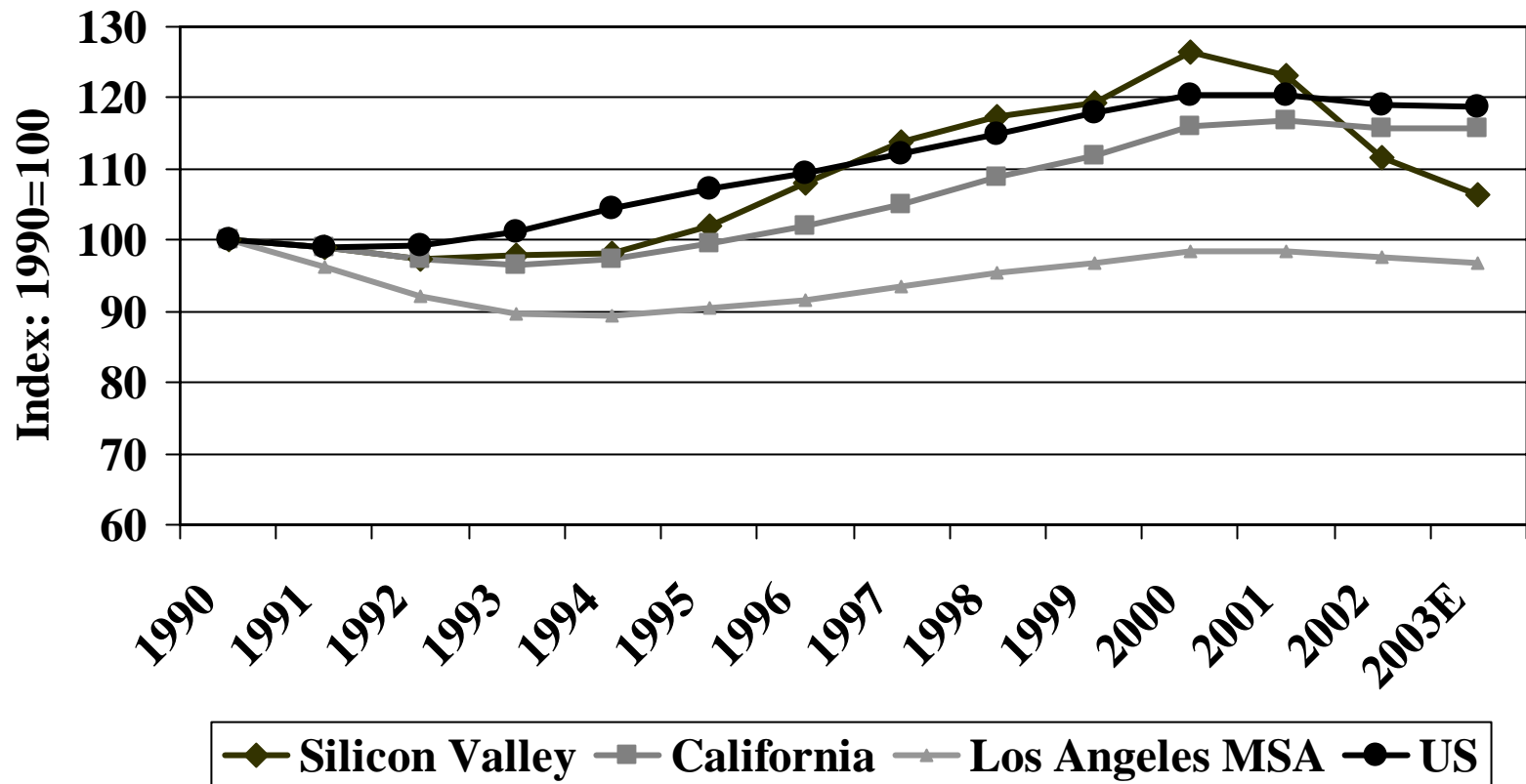
FCREUE  
UCB

# Employment Trends Silicon Valley, 1990-2003E

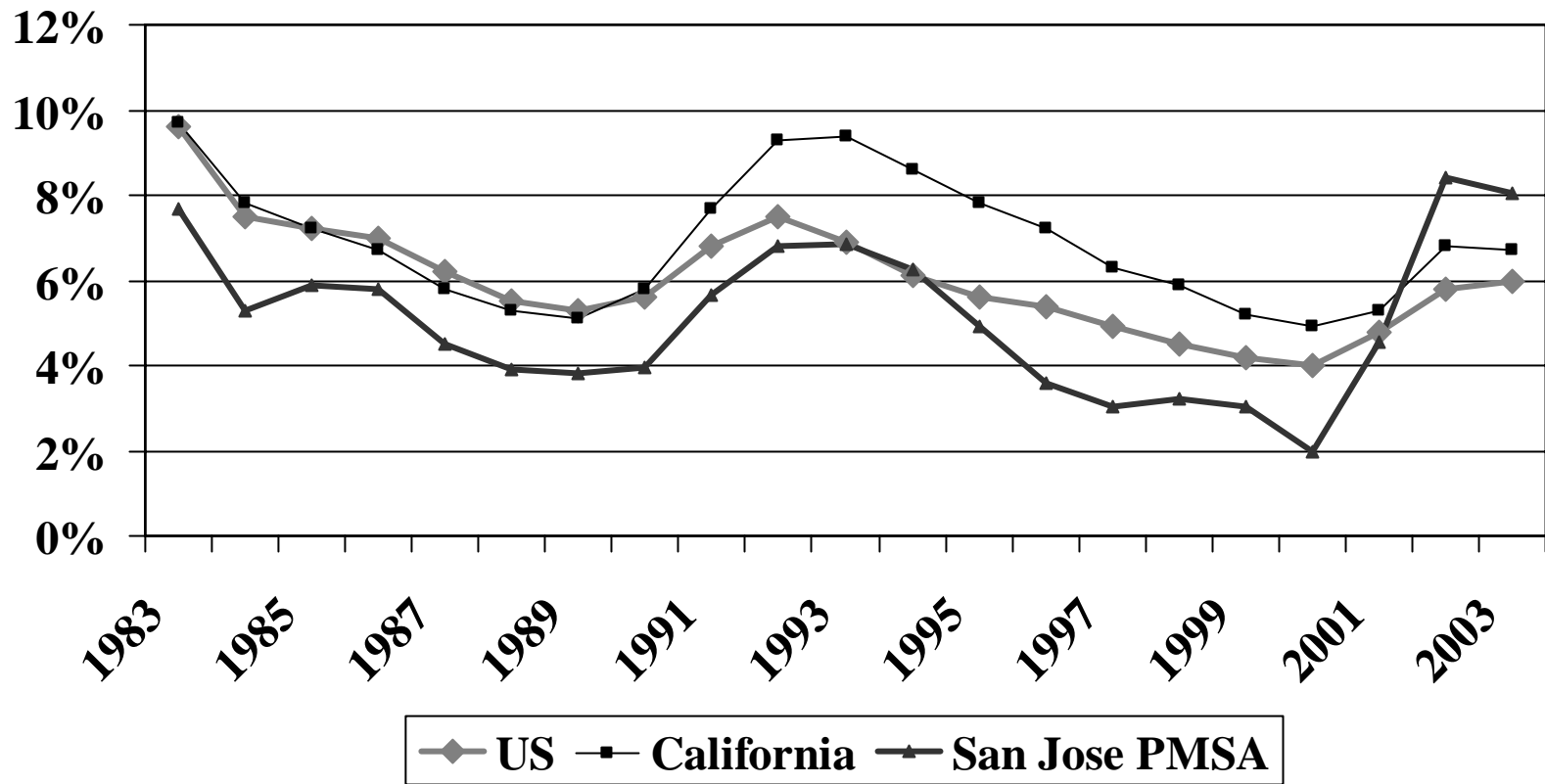


# Jobless Recovery

# Silicon Valley Trends Compared to US, California and Los Angeles, 1990-2003

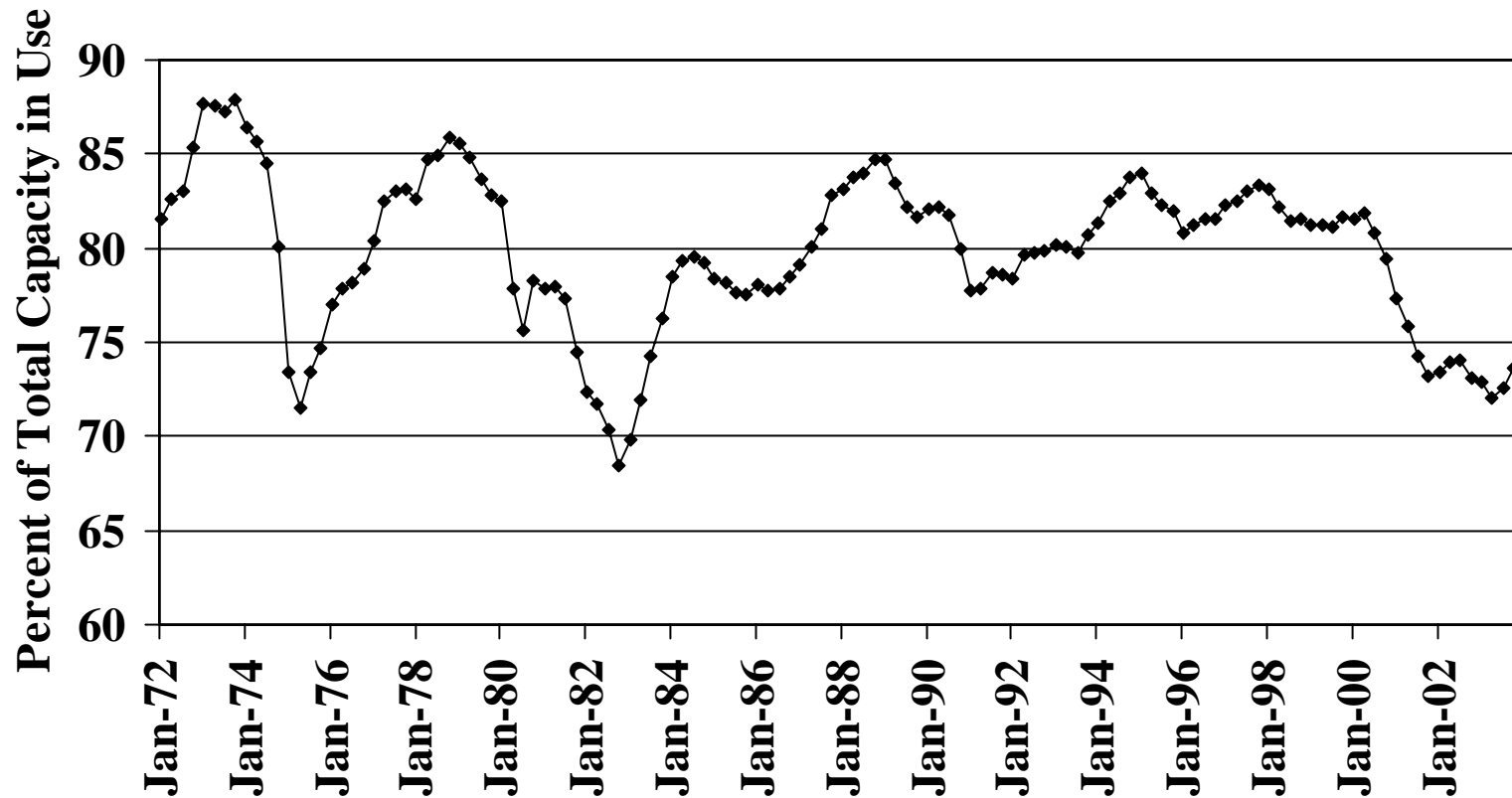


# Unemployment Trends, California, US and Silicon Valley



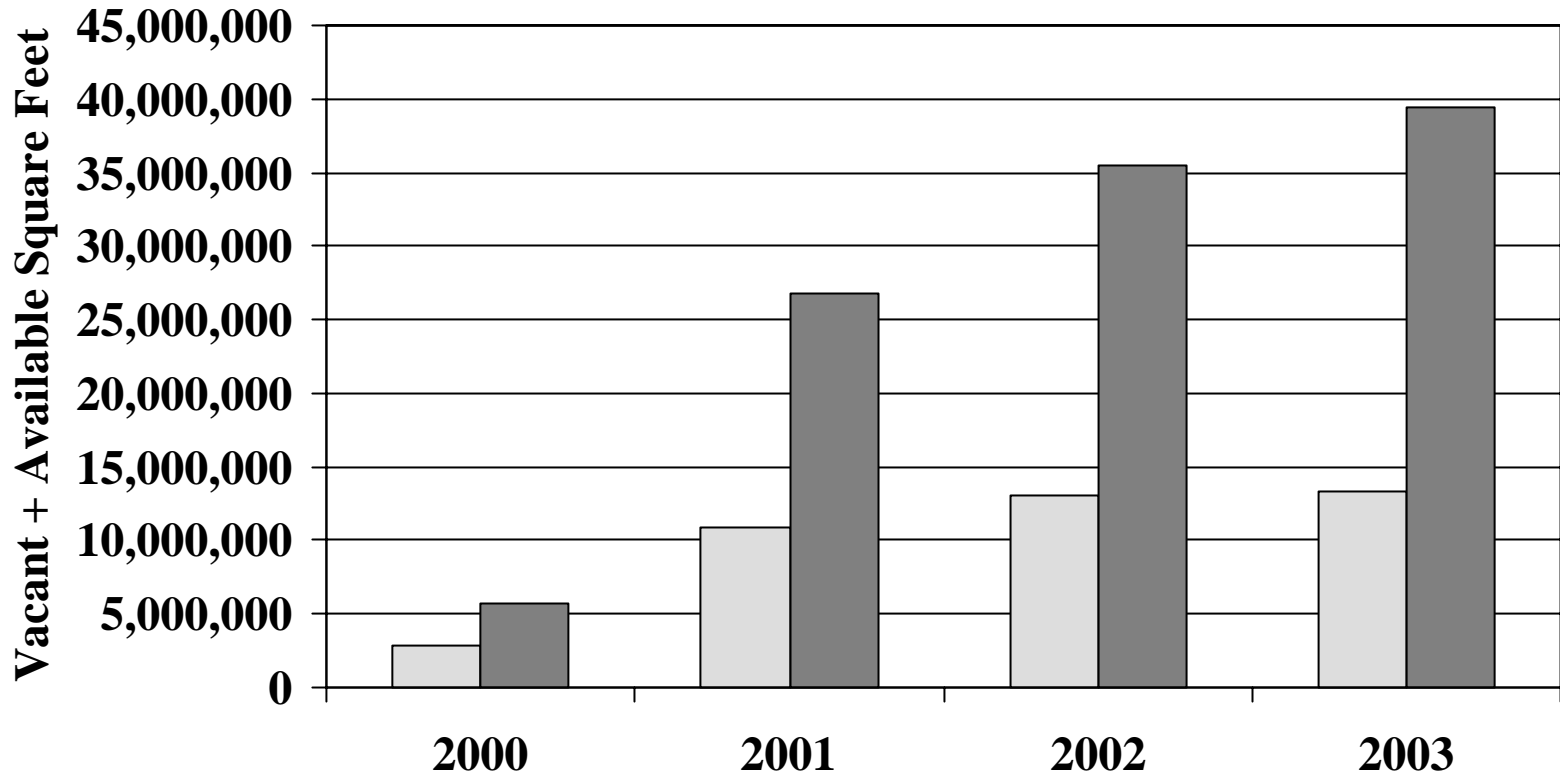
# Excess Capacity

# US Capacity Utilization, Manufacturing 1972 Q1 - 2003 Q4



Source: Board of Governors of the Federal Reserve System

# Office and R&D Vacancy Silicon Valley, 2000-2003



Source: Colliers International.

# Globalization and Structural Change

# Key Elements of Structural Change

- High-tech companies increasingly focused on global production
  - Lower costs
  - Specialized skills
  - Strategic markets
- Globalization leads to employment shifts
  - Off-shoring of production activity
  - Changing domestic job mix
- Globalizing is changing
  - First stage: Manufacturing Jobs
  - Next stage: Services Jobs

# Foreign Outsourcing Activity Then and Now

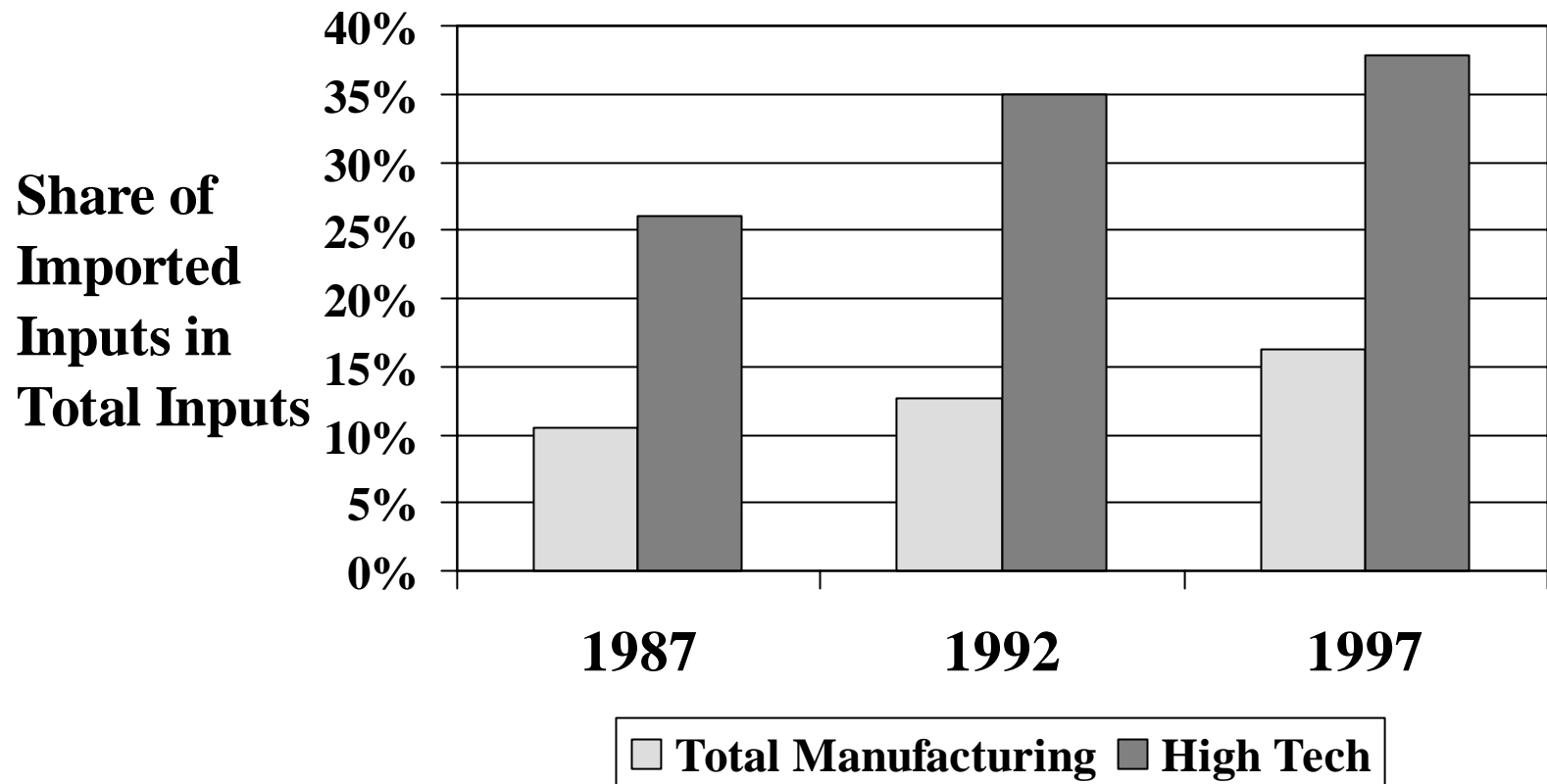
## EARLIER PERIOD

- Primarily blue-collar jobs
- Primarily in manufacturing
- Wage driven
- Production centers emerged
- High capital investment required

## NEW WAVE

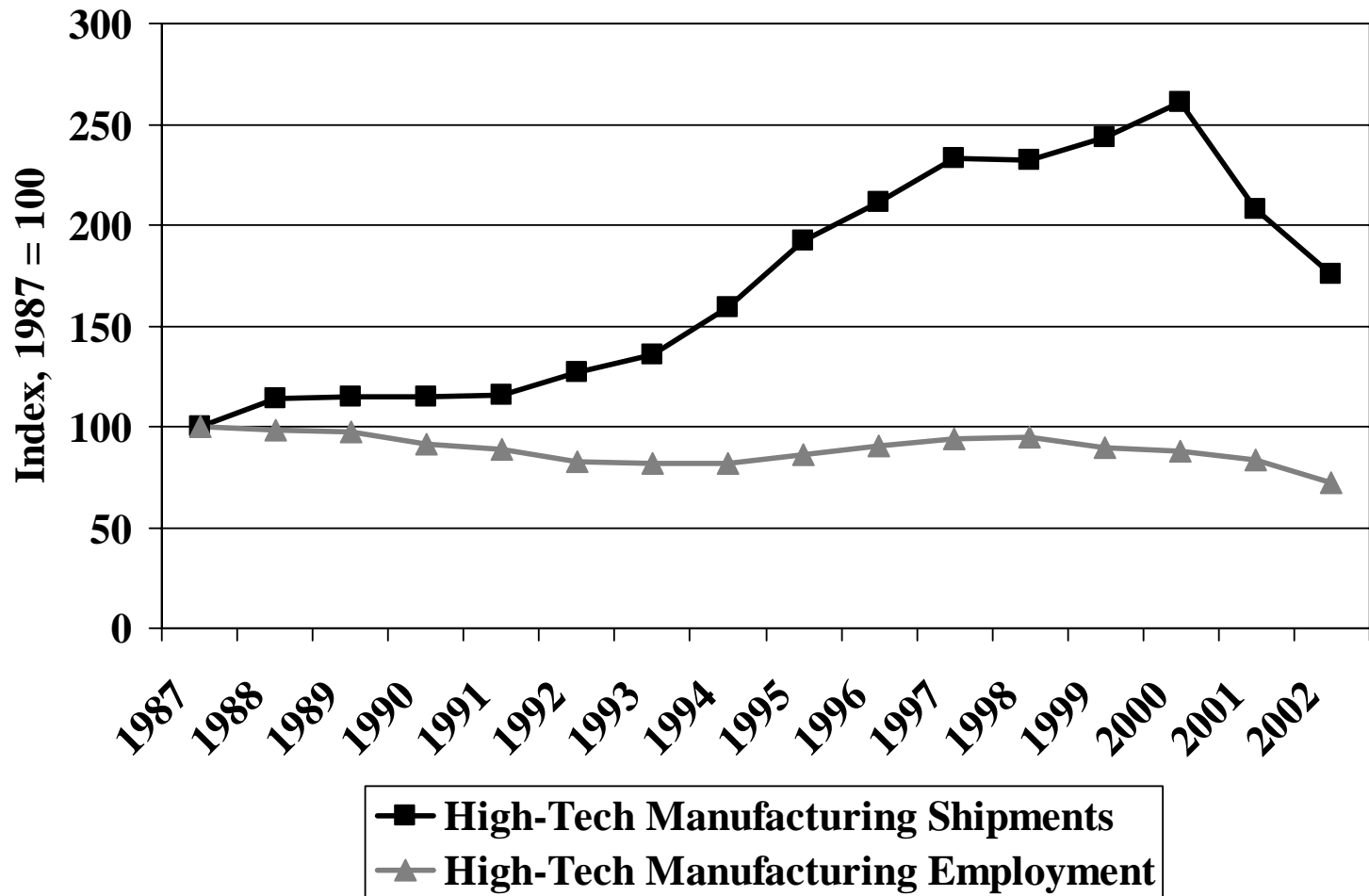
- Primarily white-collar jobs
- Occurring across industries—services occupations
- Driven by wages, English language, technical training
- Internet enabled
- Low capital requirements

# Off-Shore Outsourcing in Manufacturing



Source: Bardhan, Jaffee and Kroll, *Globalization of a High-Tech Economy*, Kluwer, Forthcoming.

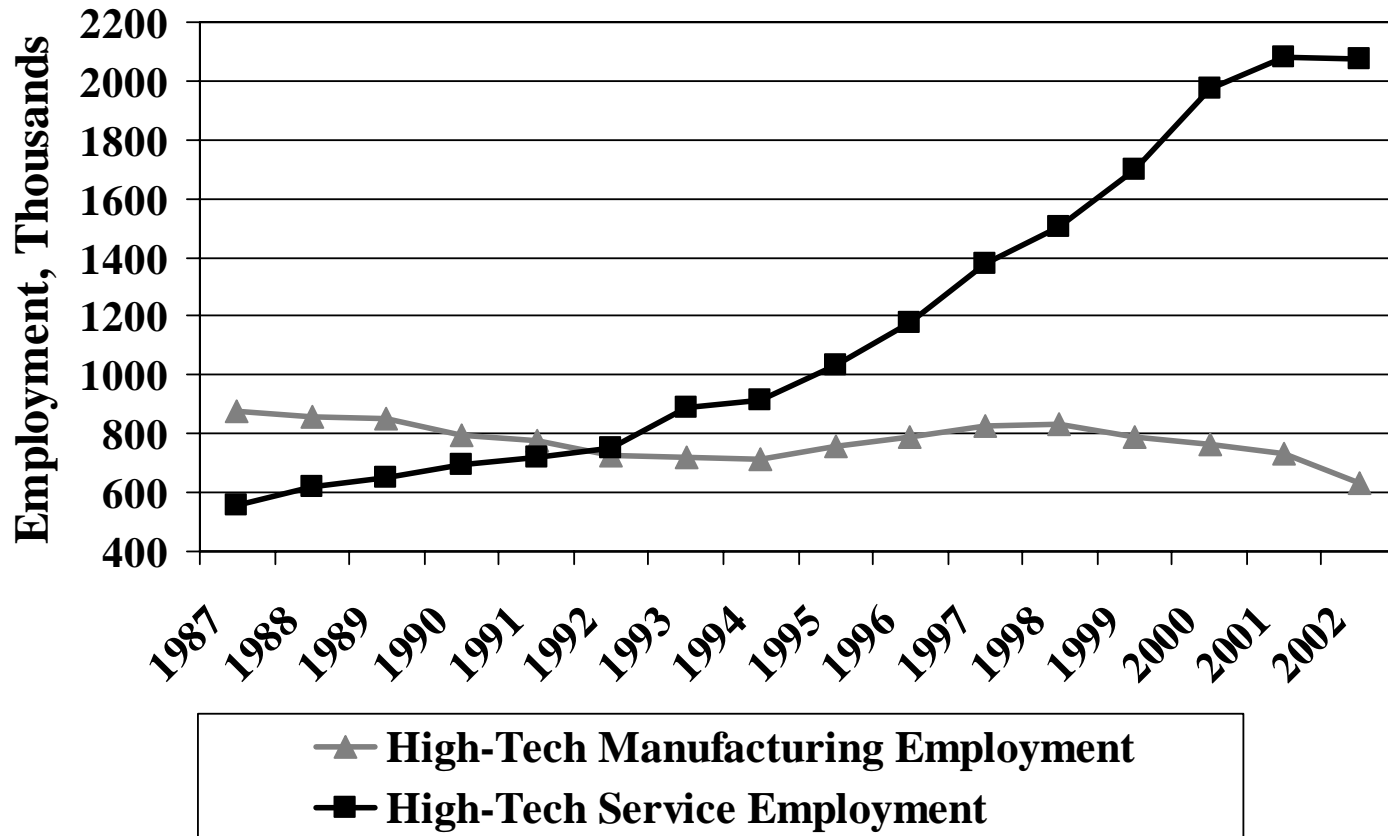
# High-Tech Manufacturing Employment Dropped—But Sales Rose Sharply



High-Tech Sectors = Computers (NAIC 3341) + Semiconductors (NAIC 3444)

Source: Bardhan, Jaffee, and Kroll, *Globalization of a High-Tech Economy*, Kluwer, forthcoming

# High-Tech Service Jobs Grew as Manufacturing Jobs Declined



Source: Bardhan, Jaffee, and Kroll, *Globalization of a High-Tech Economy*, Kluwer, forthcoming

# When Can a Services Job Be Outsourced to Foreign Locations?

- No face-to-face customer service requirement
- Information the major component of the “product”
- Work via remote communications: telecommunications and Internet
- Low set-up barriers
- High wage differentials
- Low social networking requirement

# WHAT kinds of jobs? Says who?

## Quotes from the Internet

*“Bush Lays Off Congress; will Outsource Lawmaking to India”*

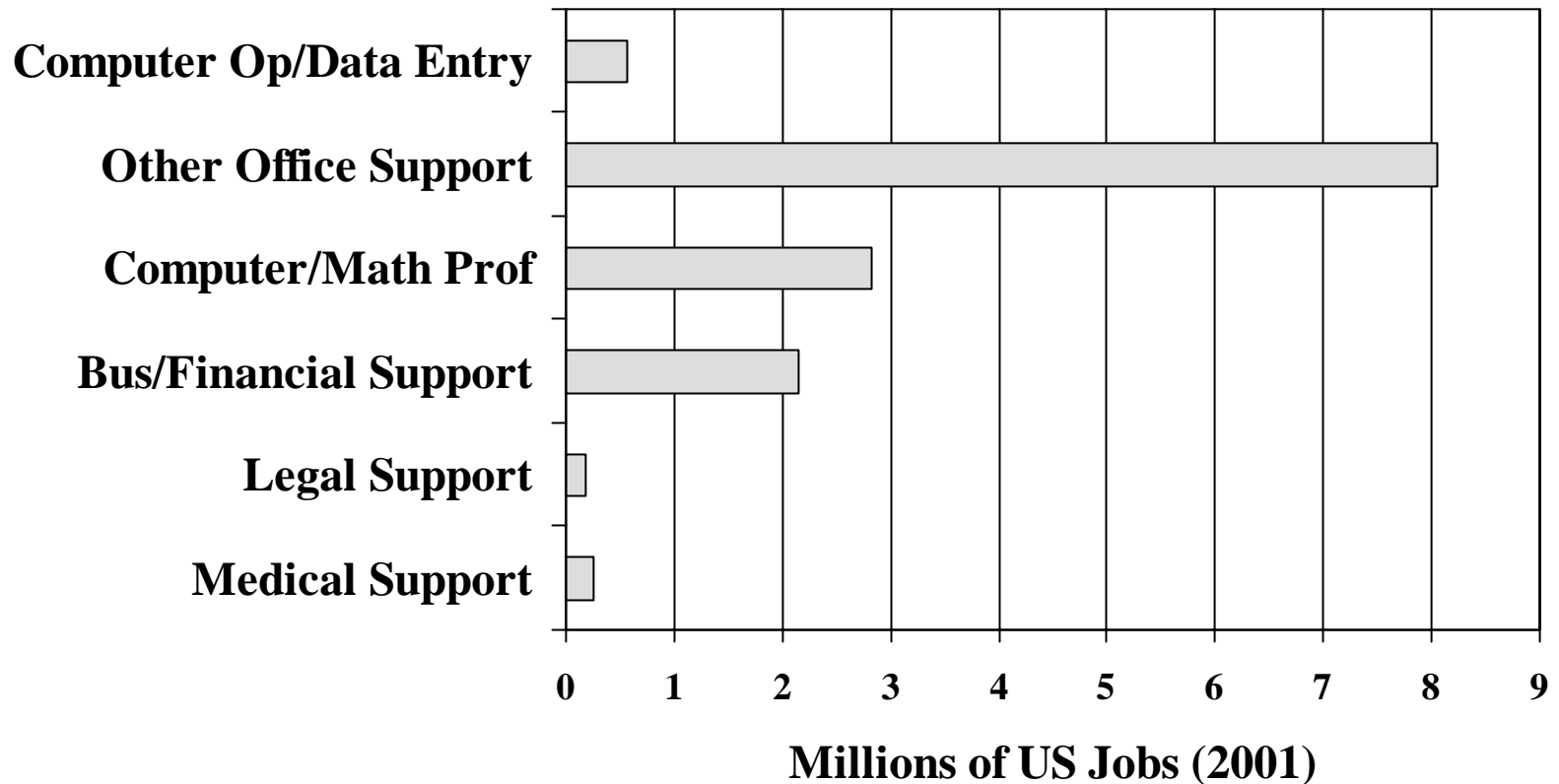
*“One Fortune 500,000 company becomes the first in the United States to outsource its CEO position to Indonesia”*

*“[Federal] Agencies report 75,000 jobs could be outsourced”*

*“Leftists Outsource Propaganda Machine Operations to India”*

*“Republican Party Outsourcing to India”*

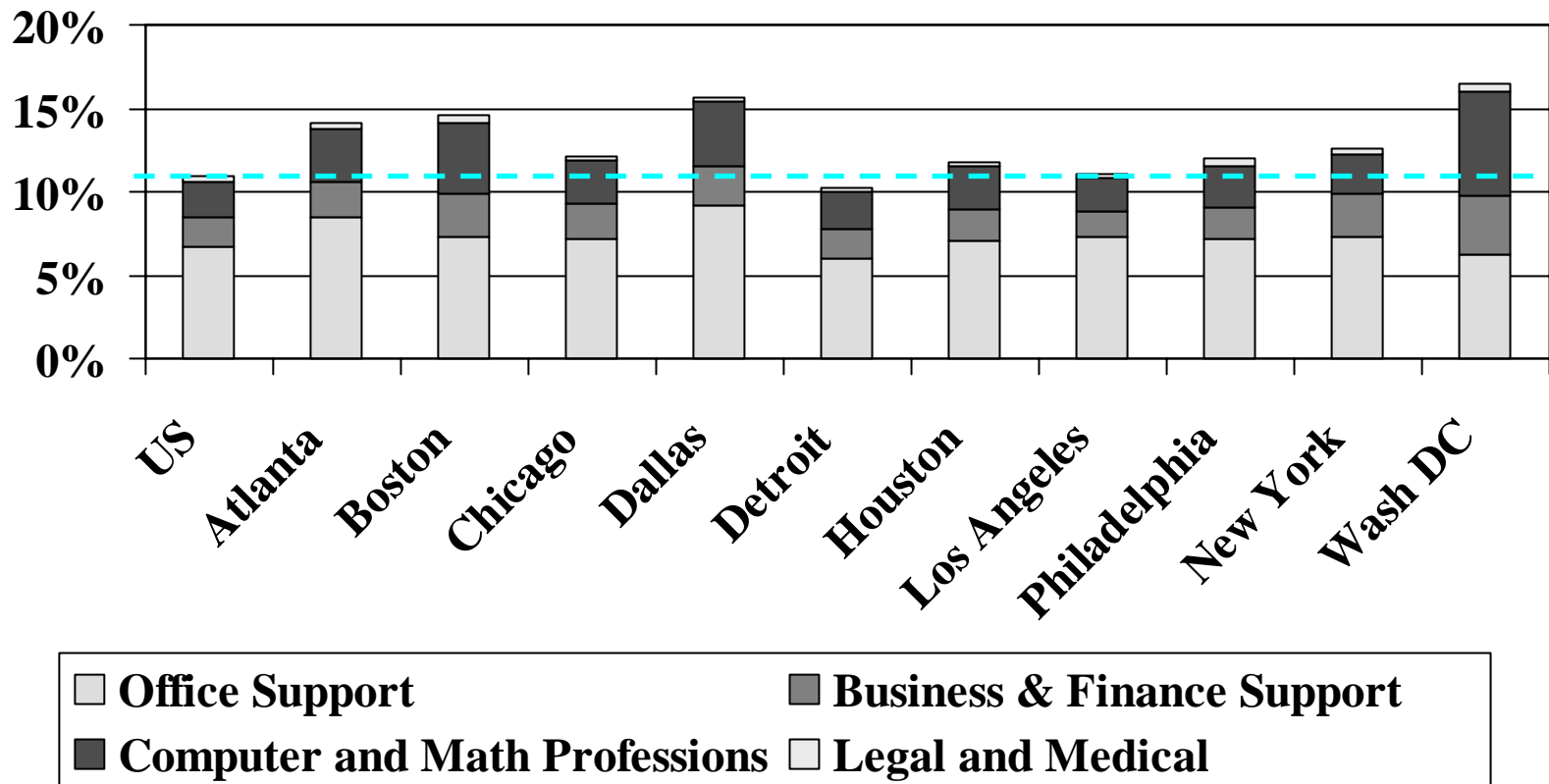
# Occupations At-Risk of Outsourcing -The Outer Envelope-US



**TOTOL JOBS: US: 14,063,130; 11% OF ALL US JOBS**

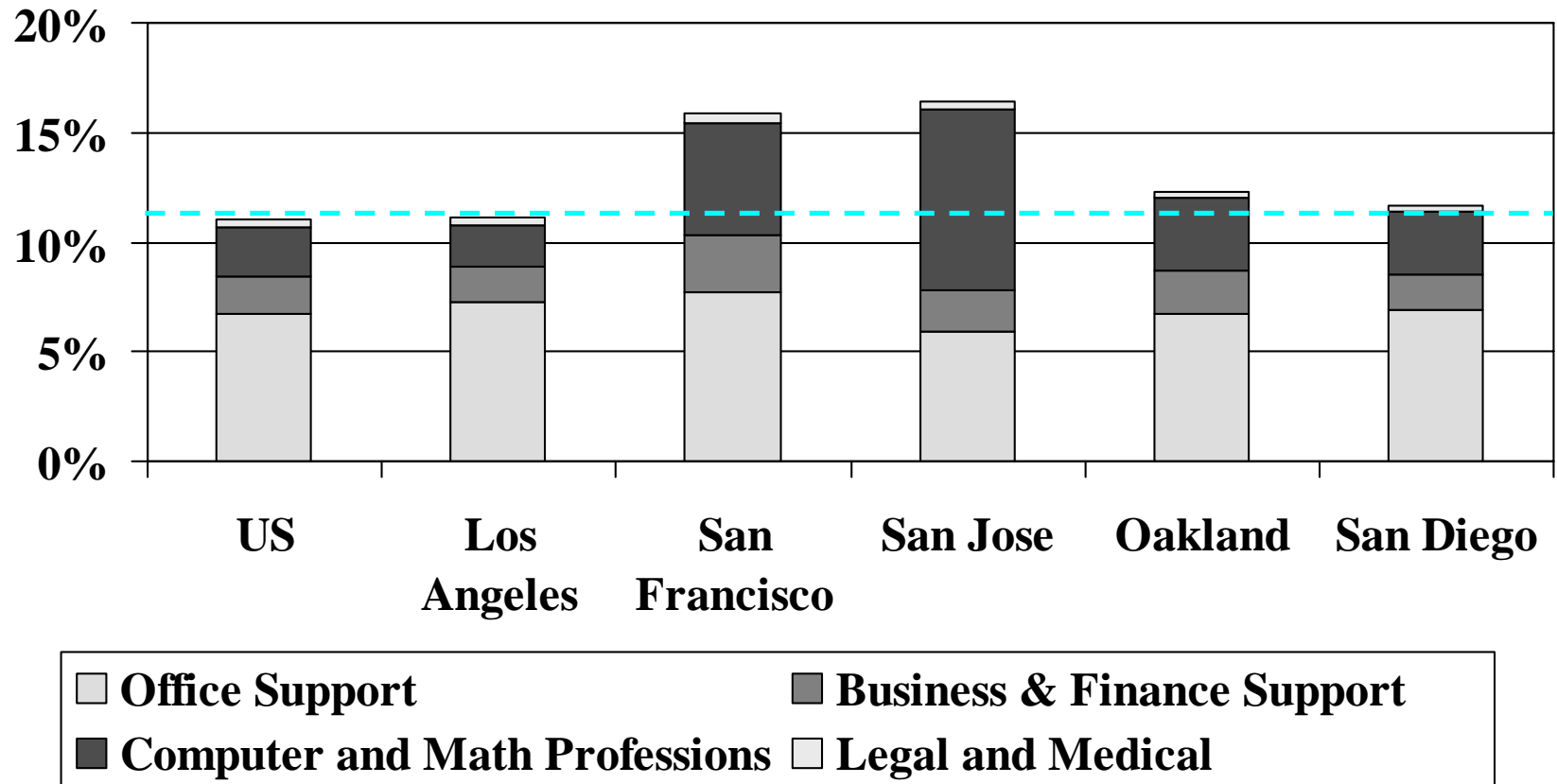
Source: Bardhan and Kroll, *The New Wave of Outsourcing*, from US Bureau of Labor Statistics data.

# Percent of Total Jobs in Occupations At-Risk for Outsourcing: Largest US MSAs



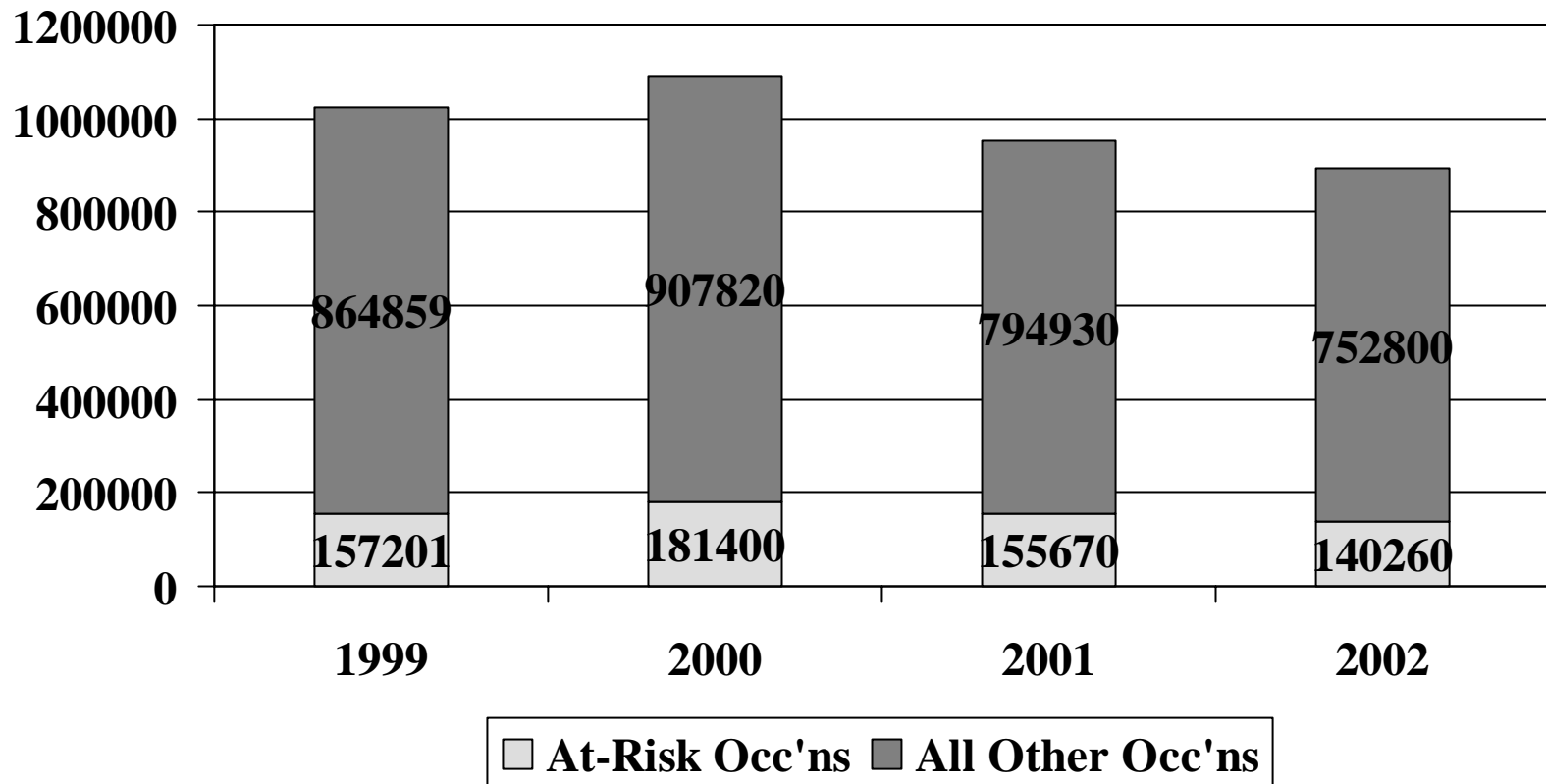
Source: Authors from Bureau of Labor Statistics data.

# Percent of Total Jobs in Occupations At-Risk for Outsourcing: Selected California MSAs



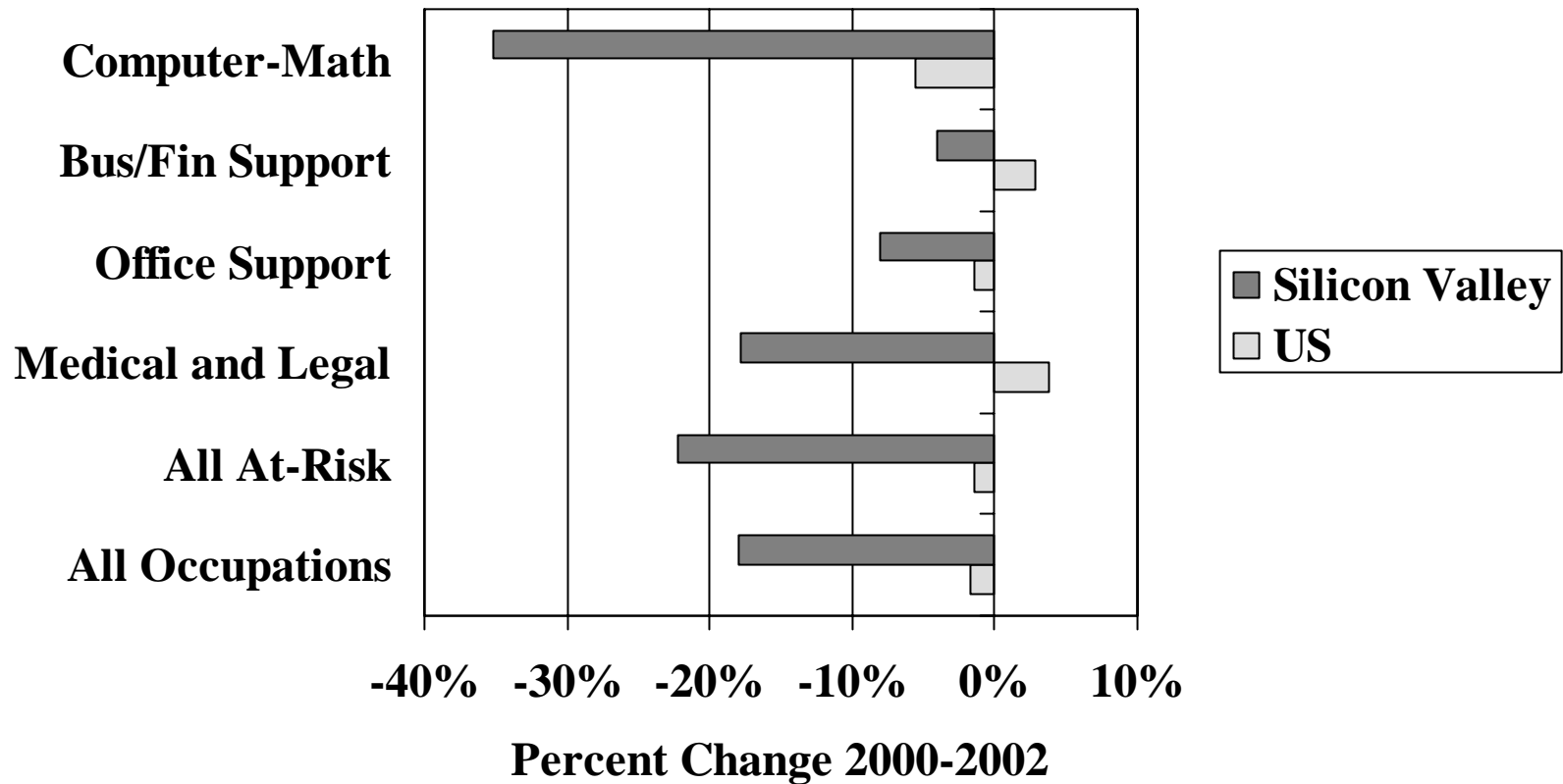
Source: Authors from Bureau of Labor Statistics data.

# Silicon Valley Jobs At-Risk to Business Services Foreign Outsourcing 1999-2002



Source: FCREUE estimates from Bureau of Labor Statistics data.

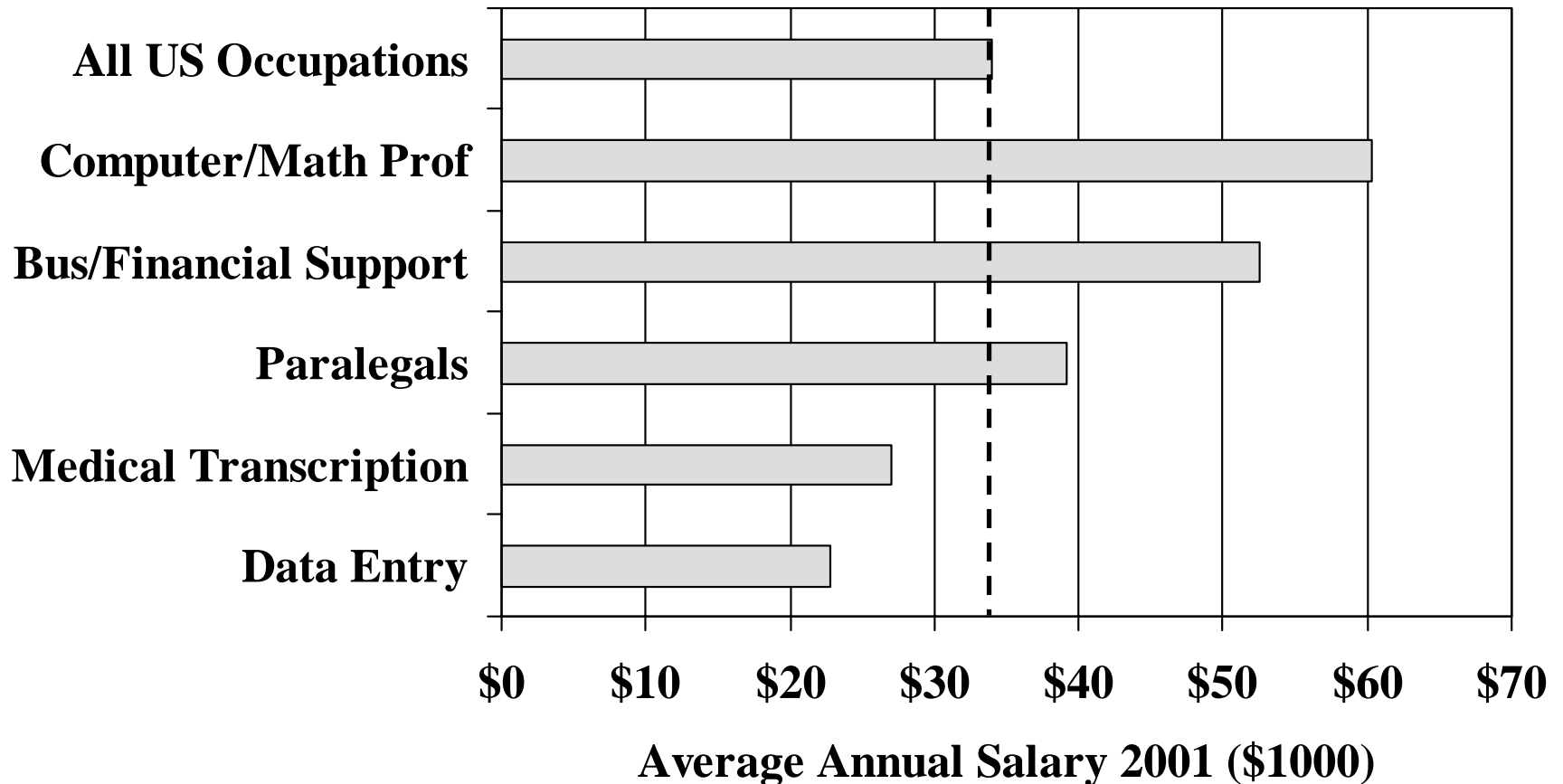
# Silicon Valley Employment Change in Occupations At-Risk to Outsourcing 2000-2002



Source: FCREUE from Bureau of Labor Statistics occupations data.

# White-Collar Middle-Income Jobs

## Average Annual Salary in At-Risk Occupations



Source: Bardhan and Kroll, *The New Wave of Outsourcing*, from US Bureau of Labor Statistics data.

# Salary Gap—US Compared to India

<b>Occupation</b>	<b>US Hourly Wage</b>	<b>Sil. Val. Hourly Wage</b>	<b>India Hourly Wage</b>
<b>Telephone Operator</b>	<b>\$12.57</b>	<b>\$13.24</b>	<b>&lt;\$1.00</b>
<b>Health Record Techs</b>	<b>\$13.17</b>	<b>\$14.54</b>	<b>\$1.50-\$2.00</b>
<b>Payroll Clerk</b>	<b>\$15.17</b>	<b>\$19.50</b>	<b>\$1.50-\$2.00</b>
<b>Legal Assistant</b>	<b>\$17.86</b>	<b>\$25.44</b>	<b>\$6.00-\$8.00</b>
<b>Accountant</b>	<b>\$23.35</b>	<b>\$27.00</b>	<b>\$6.00-\$15.00</b>
<b>Programmer</b>	<b>\$28.90</b>	<b>\$35.85</b>	<b>\$2.65-\$6.00</b>
<b>Financial Analyst</b>	<b>\$33.00-\$35.00</b>	<b>\$34.00</b>	<b>\$6.00-\$15.00</b>

Source: FCREUE from US BLS, interviews and reviews of Want Ads.

# “Pull” Factors for Outsourcing Jobs: India

- Cost differential
- English speaking workforce
- Common accounting and legal structure
- Institutional compatibility
- Time difference offering 24/7 capability, overnight turnaround
- Technically skilled graduates

# “Pull” Factors for Outsourcing Jobs: Russia

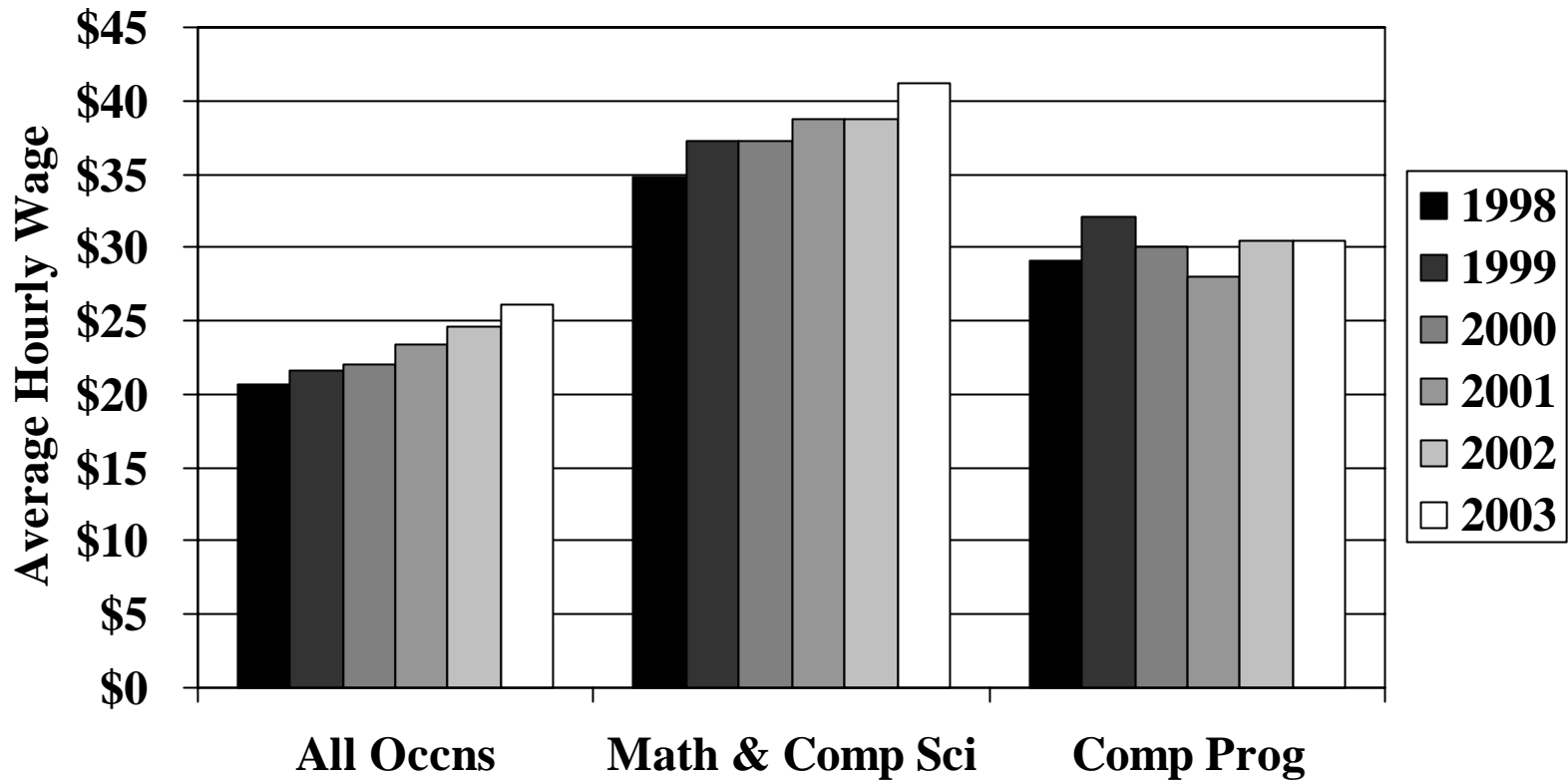
- Highly skilled engineering and science professionals
- Technical strength of education system
- Research centers available for partnerships
- Cost differential
- Time difference offering 24/7 capability, overnight turnaround
- US based management of Russian workers

# Silicon Valley “Push” Factors

- Cost, Cost, Cost
  - Salaries
  - Housing Prices
  - Office/Industrial space
- Tight supply
  - Labor
  - Real Estate
  - Transportation

Will recent changes be enough?

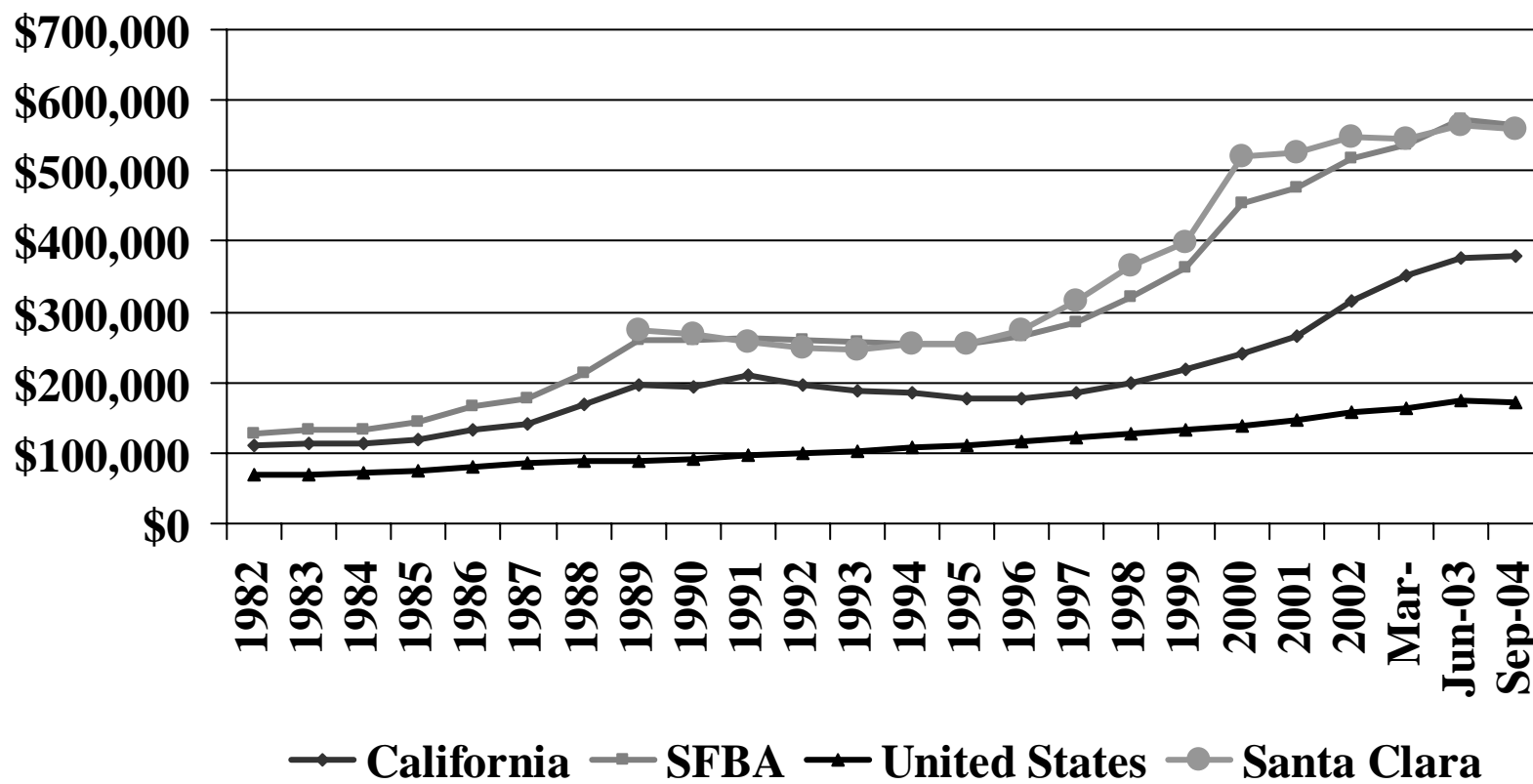
# Tech Wages in Silicon Valley 1998-2003



Source: FCREUE from US Bureau of Labor Statistics web site data.

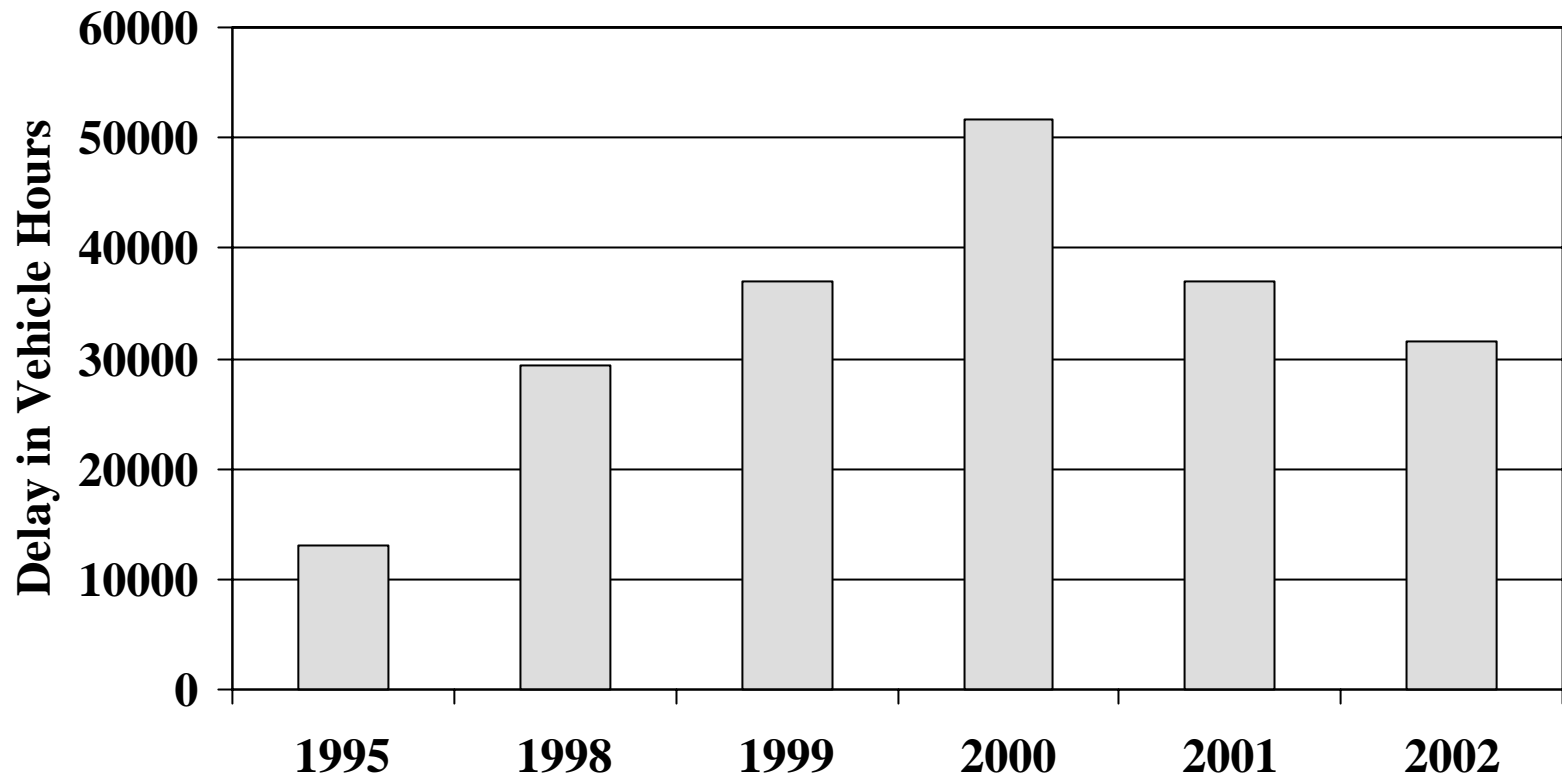
# Prices Up in Most of State

## Median Home Price, Existing Homes California, US, SFBA, LA and Central Valley 1982-2002 and 2003 year to date to Sep.



Source: California Association of Realtors & National Association of Realtors

# Daily Traffic Congestion, Santa Clara County, 1995, 1998-2002



Source: CALTRANS District 4 Highway Congestion Monitoring Program.

# Consequences for the Demand for Space

- 144,000 jobs at-risk. If 25% are outsourced, then 36,000 jobs affected.
- At 200 sq ft/employee, this could affect 7,200,000 square feet of office & R&D space.
- = 3.3% of total office + R&D stock in Colliers International database.
- Multiplier effects would be in addition (eg. business services to displaced activities).
- Lower square footage requirements would reduce impact.
- Growth of alternative sectors could mitigate impact.

# Advantages and Risks of Outsourcing

- Lowers costs for local firms, improved competitiveness
- Allows firms to remain where labor force tight and growing slowly
- Frees resources for new investments
- May generate demand for new industries, activities
- Stabilizing factor overseas
- Displaced workers
- Downward pressure on wages, real estate prices
- Risk of downward spiral? (fewer jobs, lower demand...)
- Security risks—for the individual, the company
- Exporting of knowledge base and potential for new innovation

# Space Exploration Initiative?

- Business expansion
- Absorb technical labor force
- Develop new technologies
- Opportunities for extra-terrestrial outsourcing?