

The Future of Manufacturing



Bill Canis
Acting President
The Manufacturing Institute
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The NAM:

- **Largest multi-industrial trade association**
- **President: John Engler, former 3-term governor of Michigan**
- **14 million manufacturing employees**
- **350 member associations**
- **85 percent of U.S. manufacturing output**
- **Every industrial sector, all 50 states**

The Manufacturing Institute

Chairman: **Joe Loughrey**, president/Cummins

Mission: strengthen the manufacturing economy by--

- Increasing the knowledge of and respect for our industry;
- Creating and implementing human capital strategies

Focus on the 3 C's: competitiveness, careers and costs.

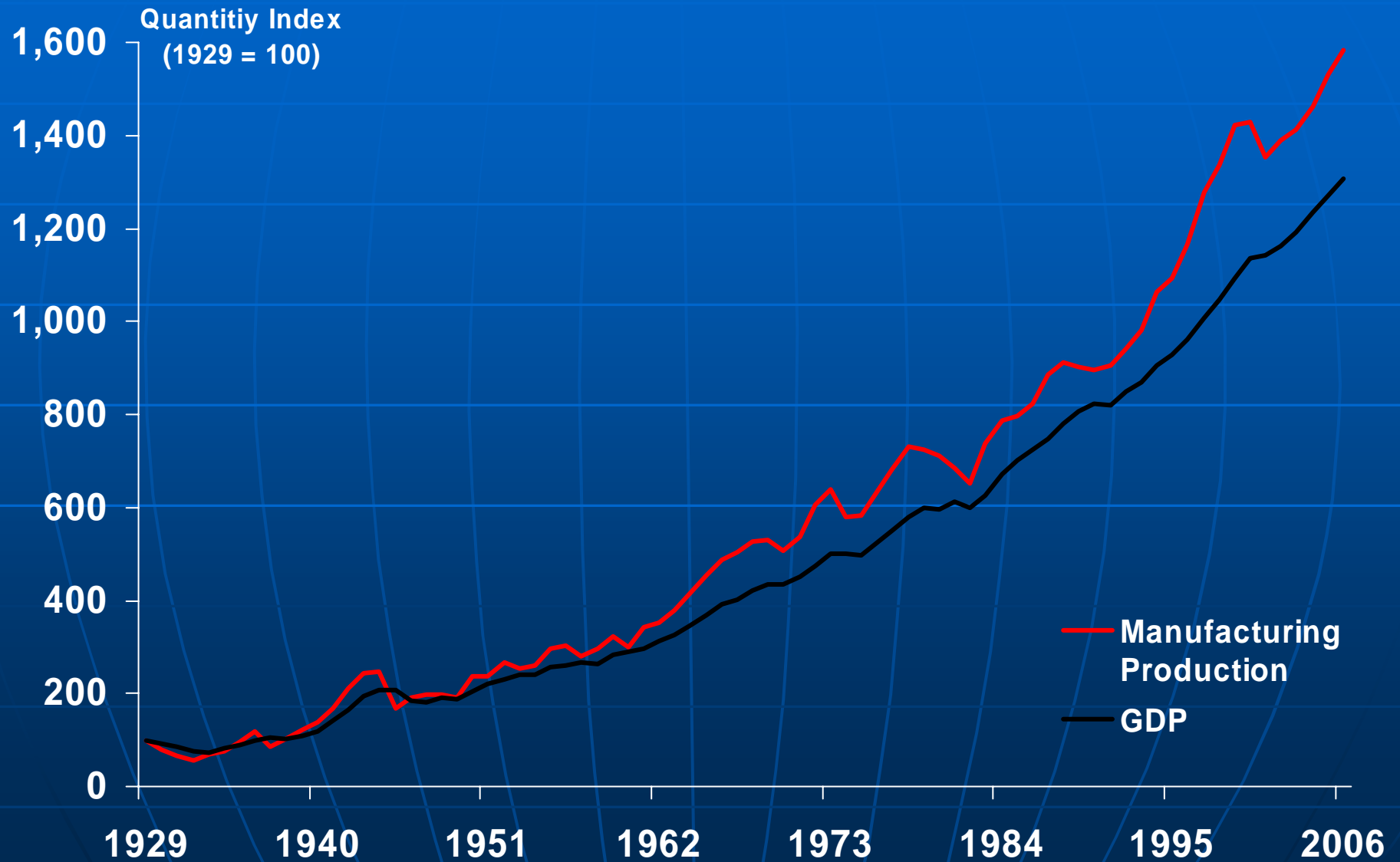
Today's Manufacturing

- Pillar of the U.S. economy
- Competitive factors in the states
- Two major challenges:
 - Structural costs
 - Skilled workforce

Five Manufacturing Pillars of the U.S. Economy

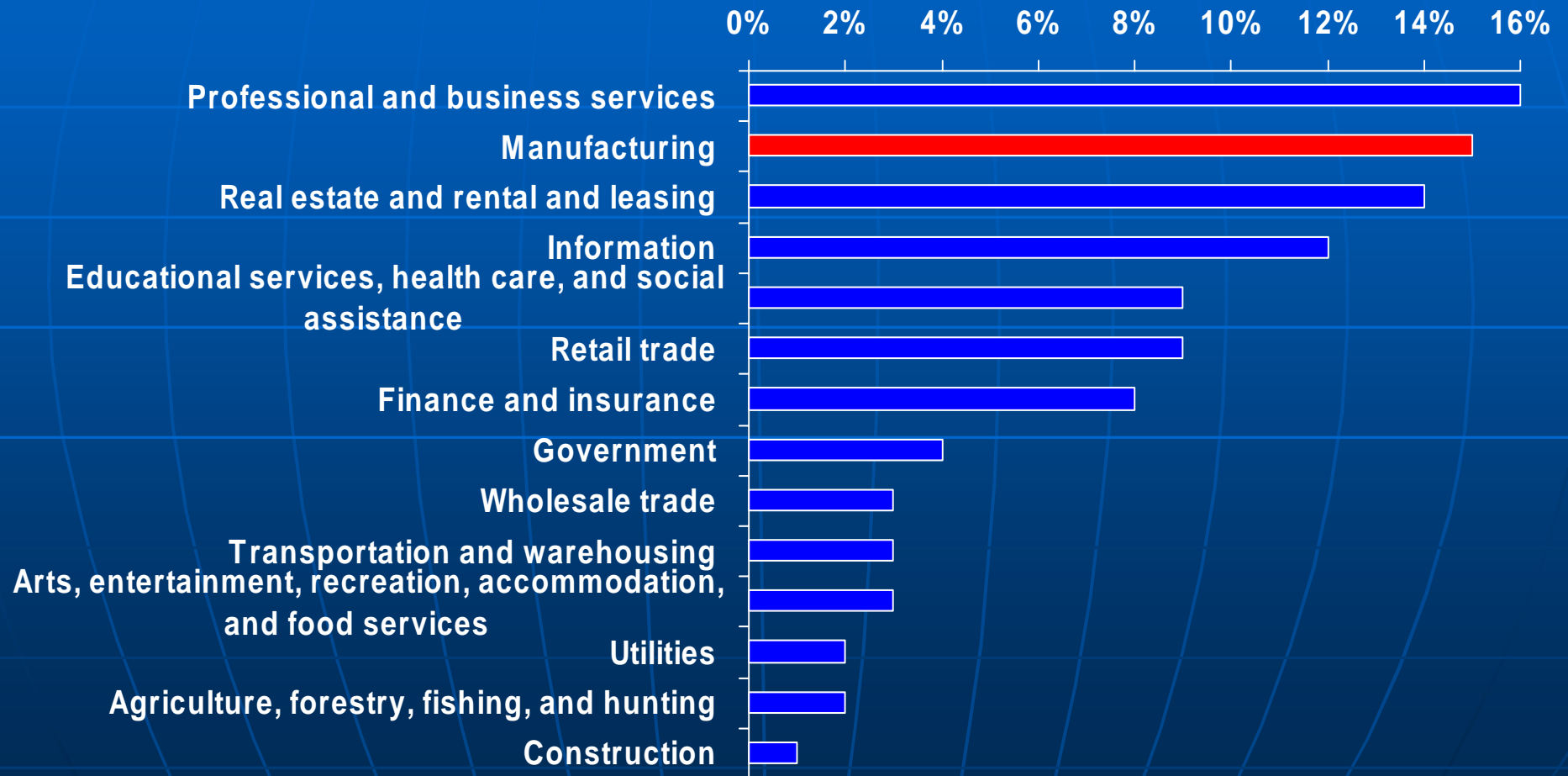
1. Engine of economic growth
2. Productivity
3. Total compensation
4. Innovation
5. Contribution to international trade

Nothing's Made in America Any More?



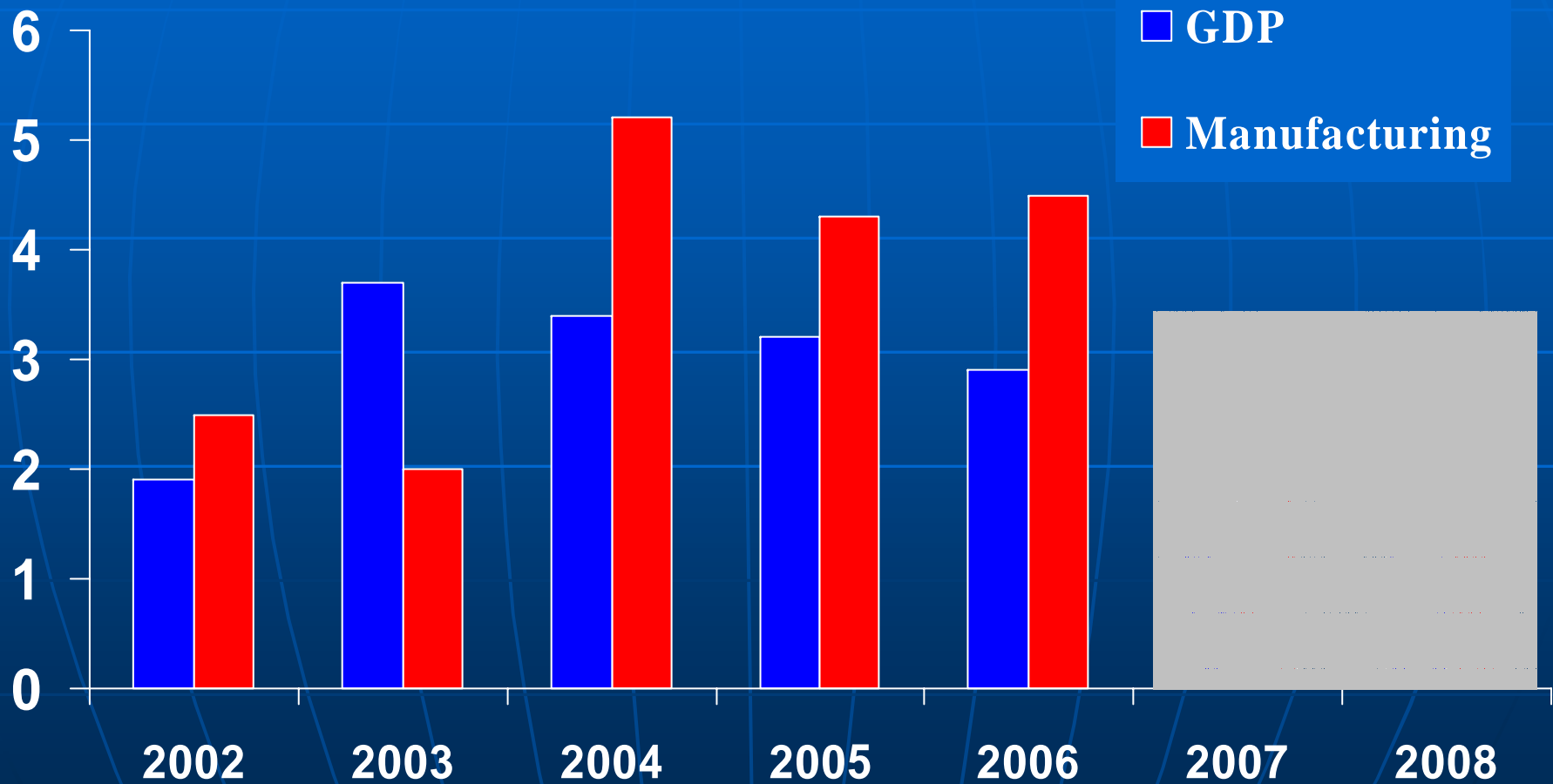
Pillar 1 of the Economy: Engine of Growth

Contribution to GDP Growth (2002-2004)

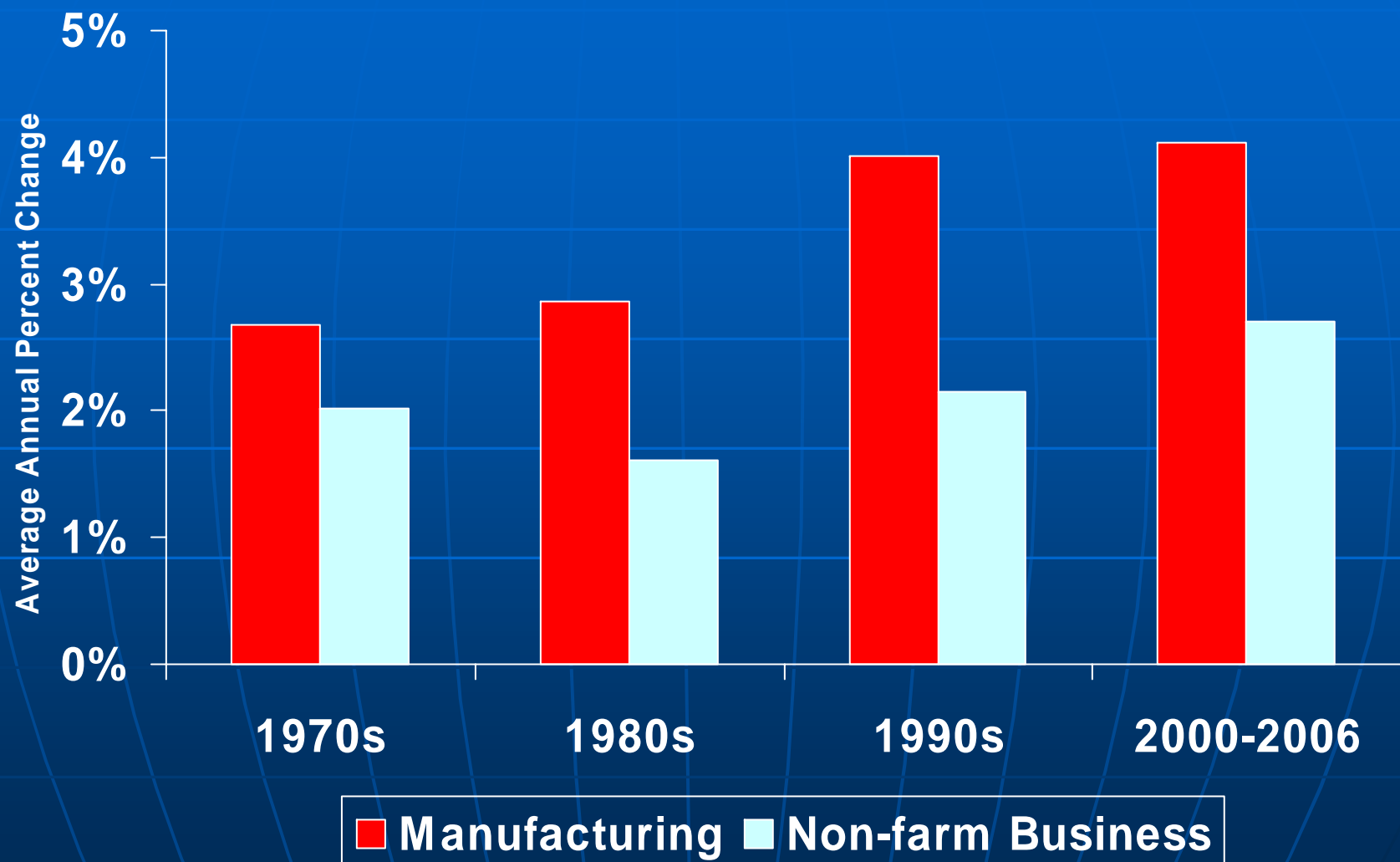


GDP and Manufacturing Outlook

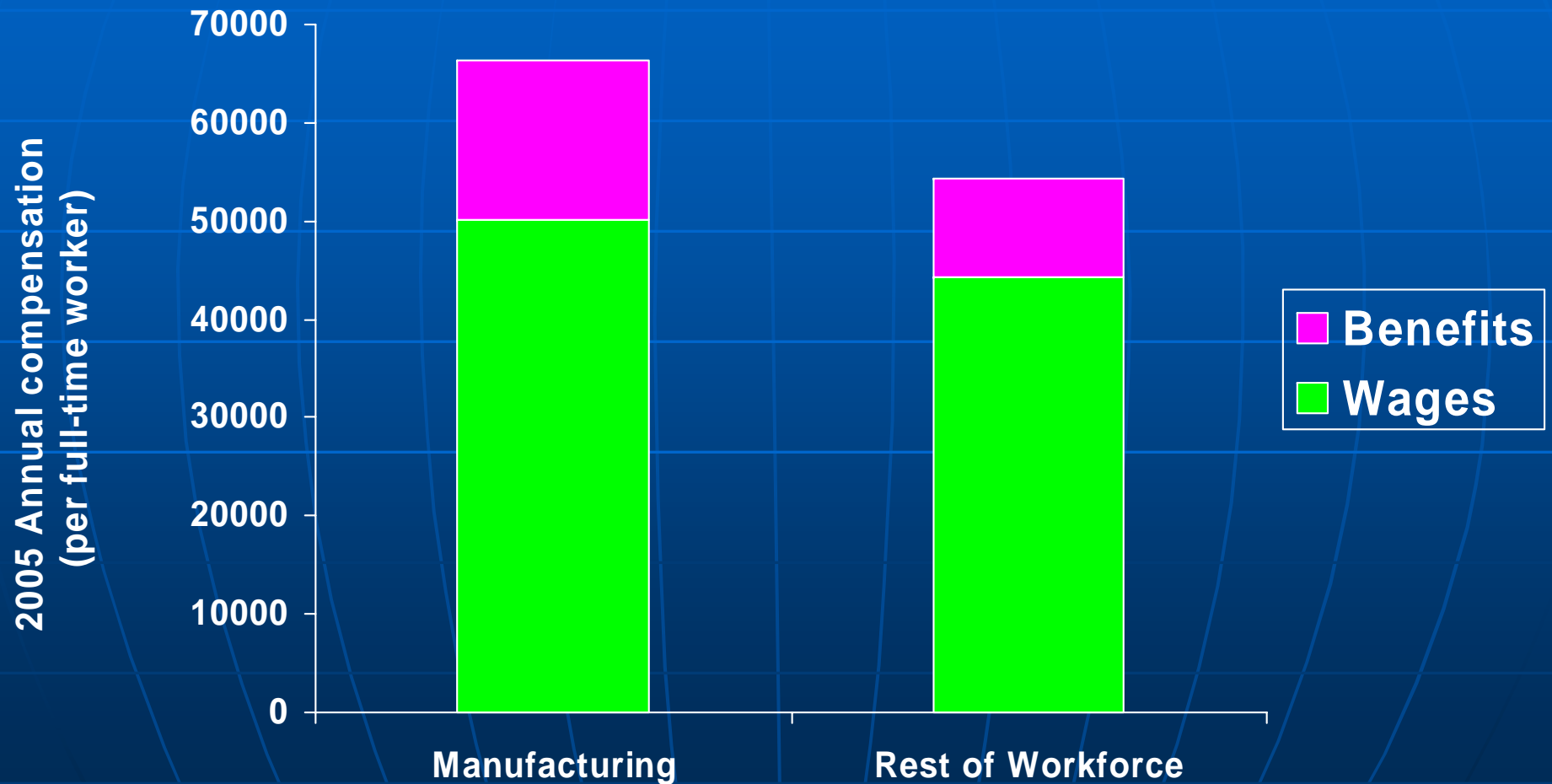
Percent Change



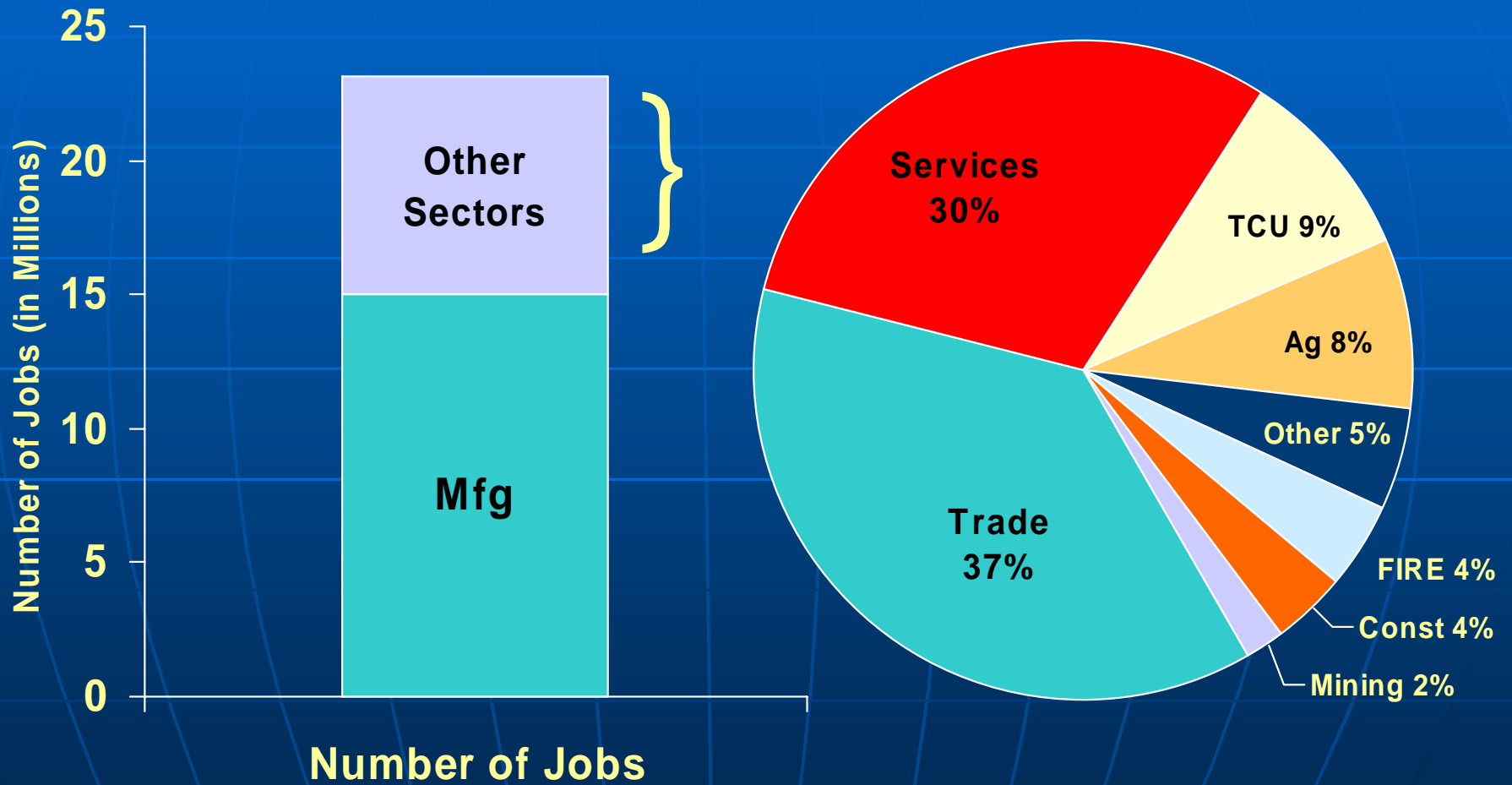
Pillar 2 of the Economy: Productivity



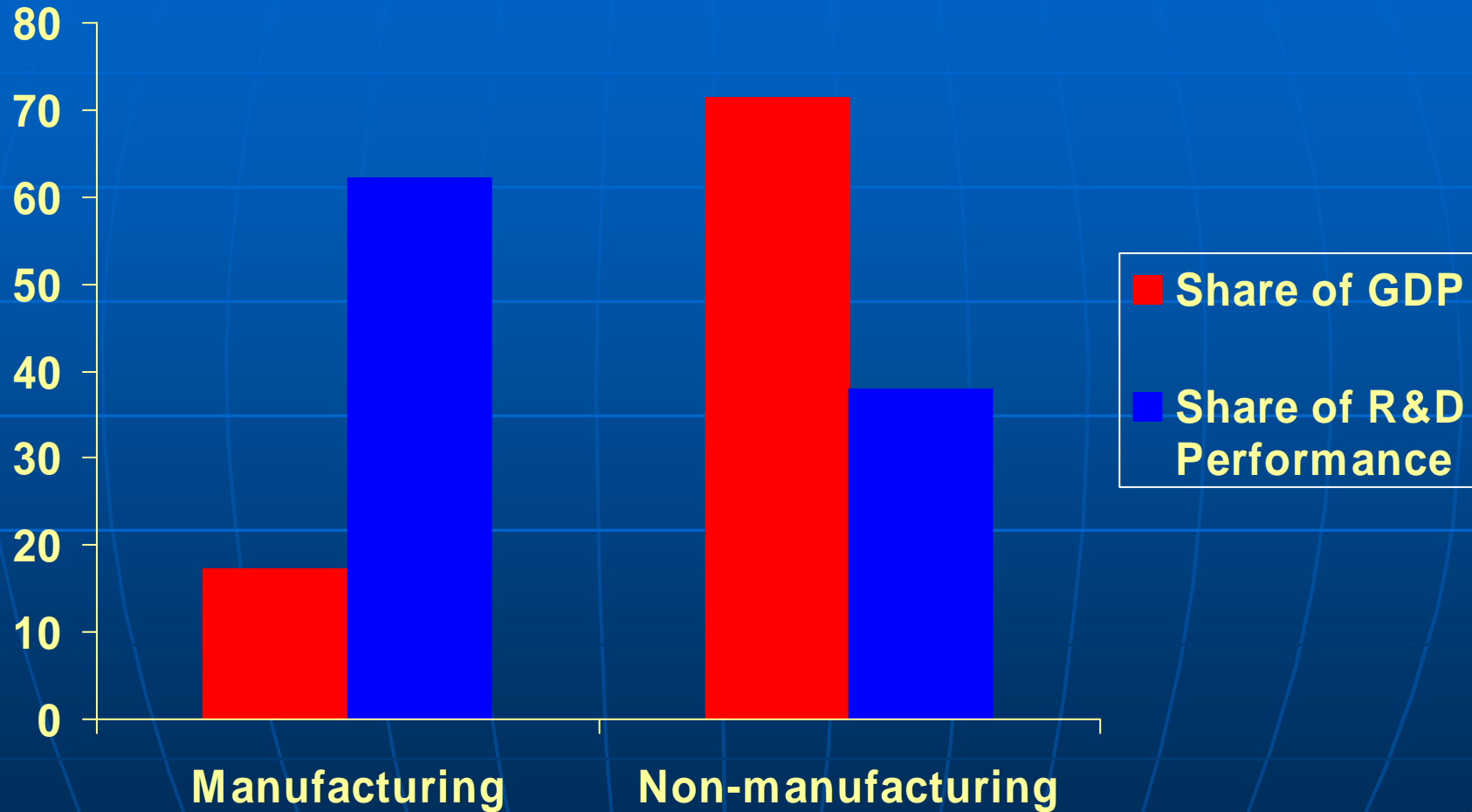
Pillar 3 of the Economy: Better Pay



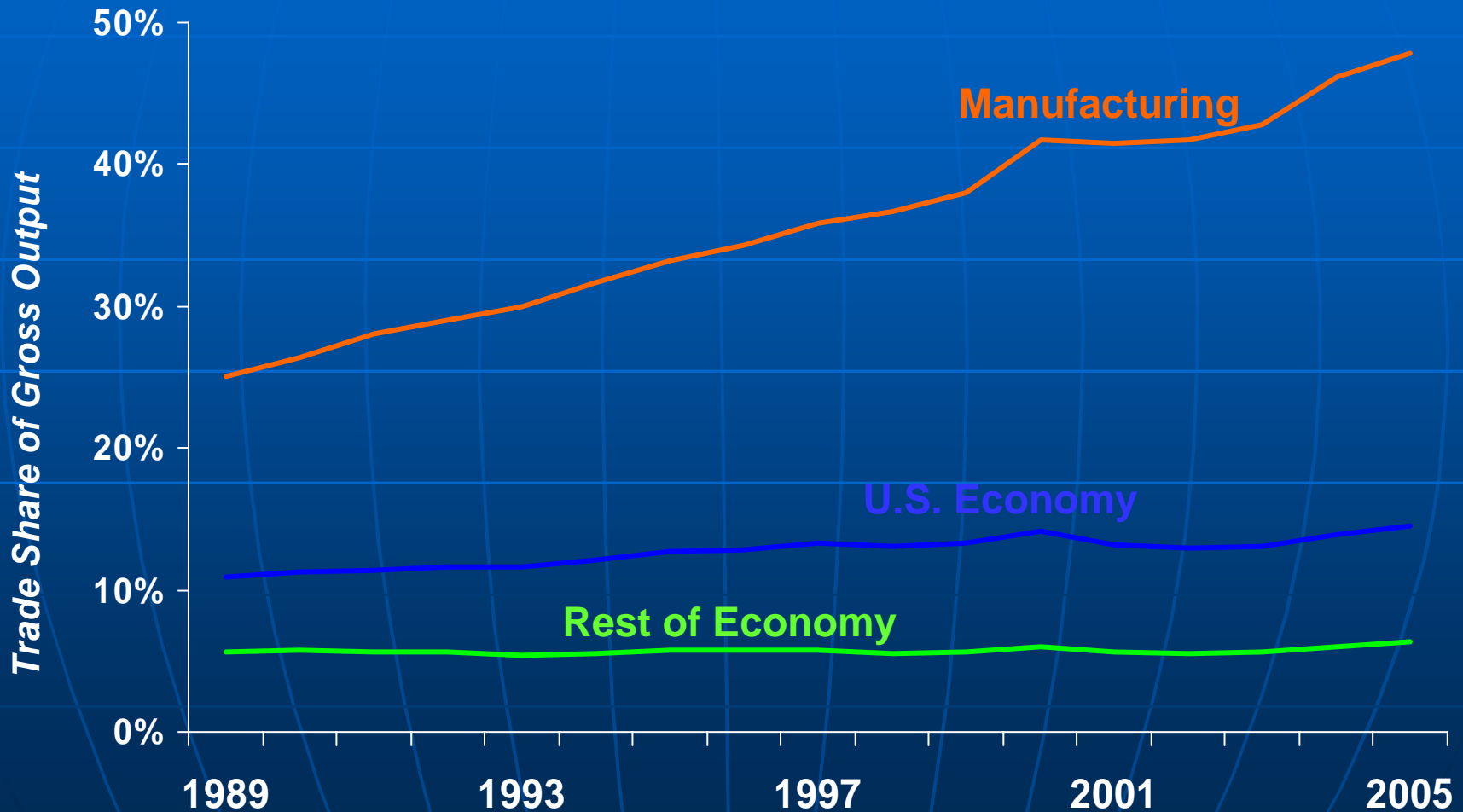
Pillars of the Economy: Jobs Multiplier



Pillar 4 of the Economy: Manufacturing R&D



Pillar 5 of the Economy: International Trade



State Factors for Manufacturing Retention and Growth

- **Demographics**
- **Costs**
- **Overseas markets**
- **Educational attainment**
- **Support for innovation**

Demographics

Will you have the workforce to support higher tech manufacturing?

- **26% of Idaho's population is under 18 years of age, ranking it #4**
- **It is #11 in net migration from other states**
- **But 39th in attracting international skilled workers**
- **It's non-agricultural employment growth has been over 5%, making it #2**

Costs

Low cost state on key variables—

- Idaho's **business taxes** as a percent of all taxes are relatively low, ranking #39
- Idaho is has the 5th lowest **costs of doing business**
- Idaho's **manufacturing wage rate** is 5th lowest in the country and its value added per hour is 6th highest;
- In the middle of states on **workmen's compensation costs**;

Reaching Overseas Markets

Is the state geared to tap growing overseas markets?

- **Ranked 27th in exports per capita –but half as large as #1 Texas**
- **27 % of Idaho roads are ranked mediocre, the #1 ranking**

Educational Attainment

Are you training young people for the manufacturing jobs of the future?

- Idaho does well on **high school graduation** rankings (#23) but sinks on bachelors degrees (#37)
- Grade 4 **math scores** are high for Idaho (#9) but drop in 8th grade (#20)
- Average annual **investment in manufacturing employees** – at over \$15k per employee and \$860 million in machinery/equipment ranks Idaho 3rd.

Support for Innovation

Promoting the lifeblood of manufacturing –

- 72 of 100 Idaho workers are engaged in high-tech employment, ranking the state 6th (Calif. is 7th!) but its wage ranking for this industry is 27th
- A state technology and science index shows Idaho is 30th overall but 39th on human capital investments
- Idaho ranks 17th on R&D expenditures per capita

Long Term Outlook: Undermining the Pillars

Rising Structural Costs and
Workforce Challenges

threaten to undermine the five pillars of U.S.
economic strength

Skyrocketing Costs

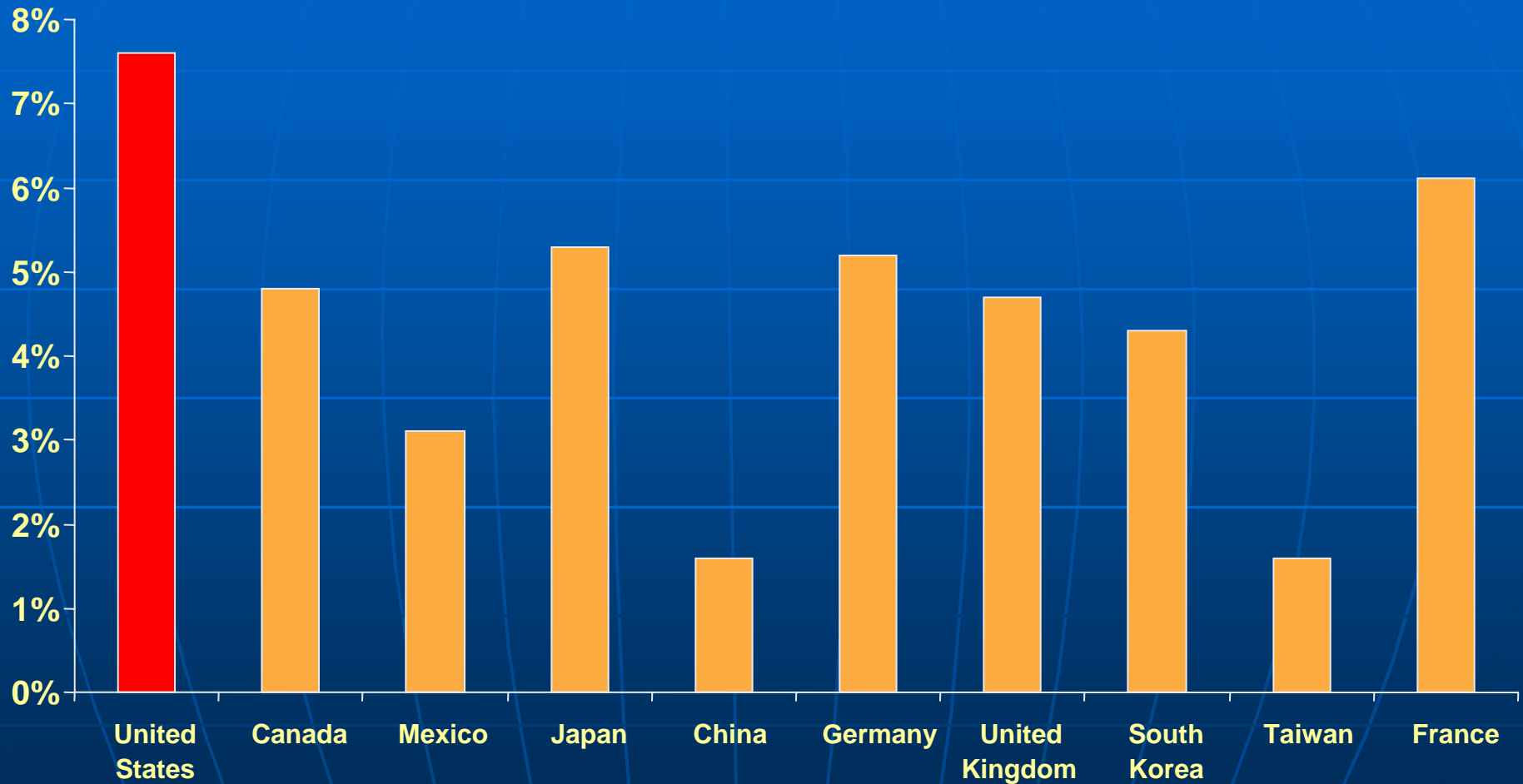
- Health care rising 10 percent a year
- Natural gas prices have risen 146 percent since 1999, more than 7 times faster than overall inflation
- Cost of regulation: \$8,000 per manufacturing employee
- Tort costs: \$850 billion a year
- 30 percent higher corporate tax rate in the U.S. than average OECD (40 percent here vs. 31 percent abroad)

NAM Study: Costs Out of Control

- *The Escalating Cost Crisis*
- Shows how costs imposed by U.S. and state governments increase the cost of doing business in the United States by 31.7 percent

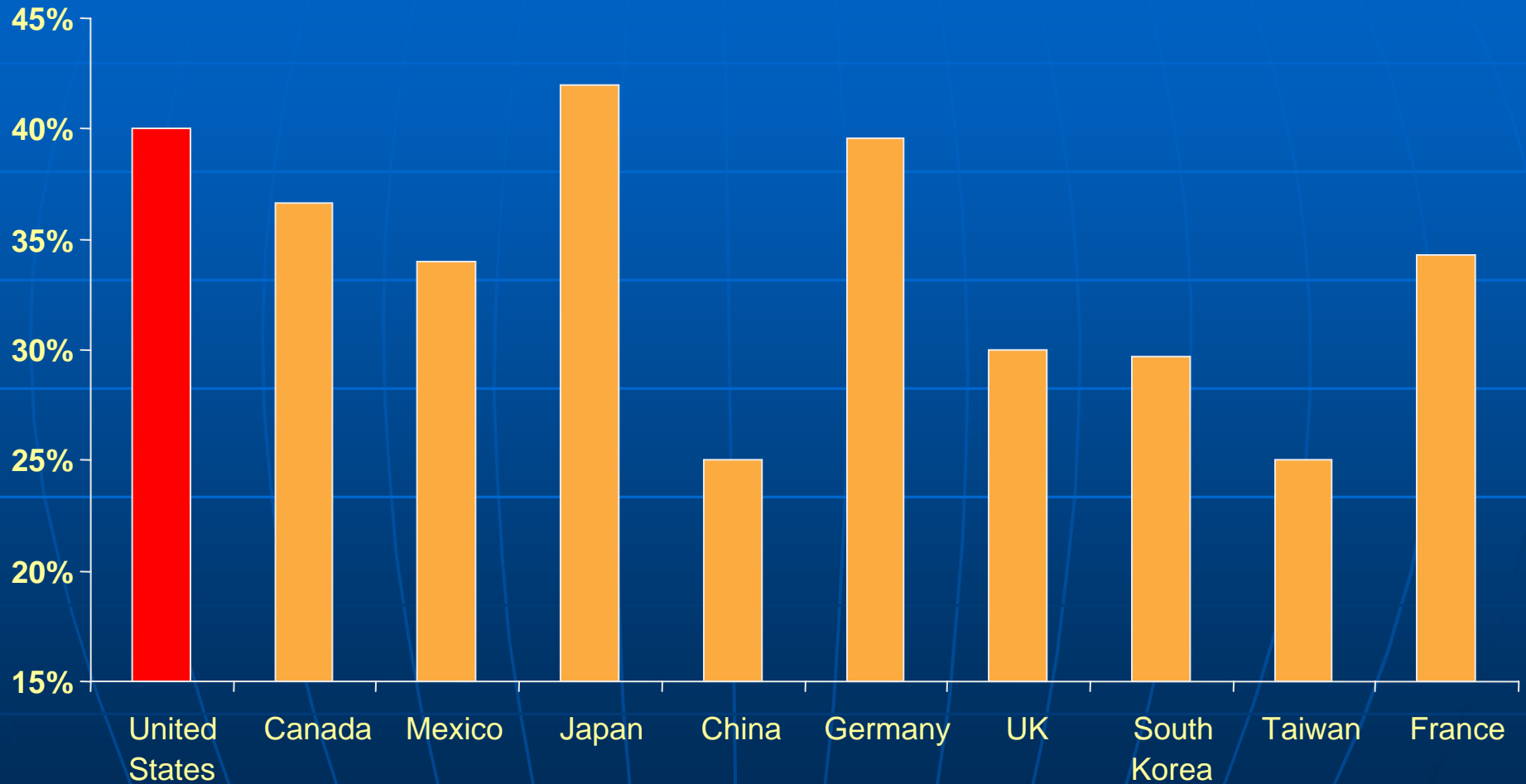
NAM Study: Regulations Rule

Pollution Abatement
(% of Mfg Output)



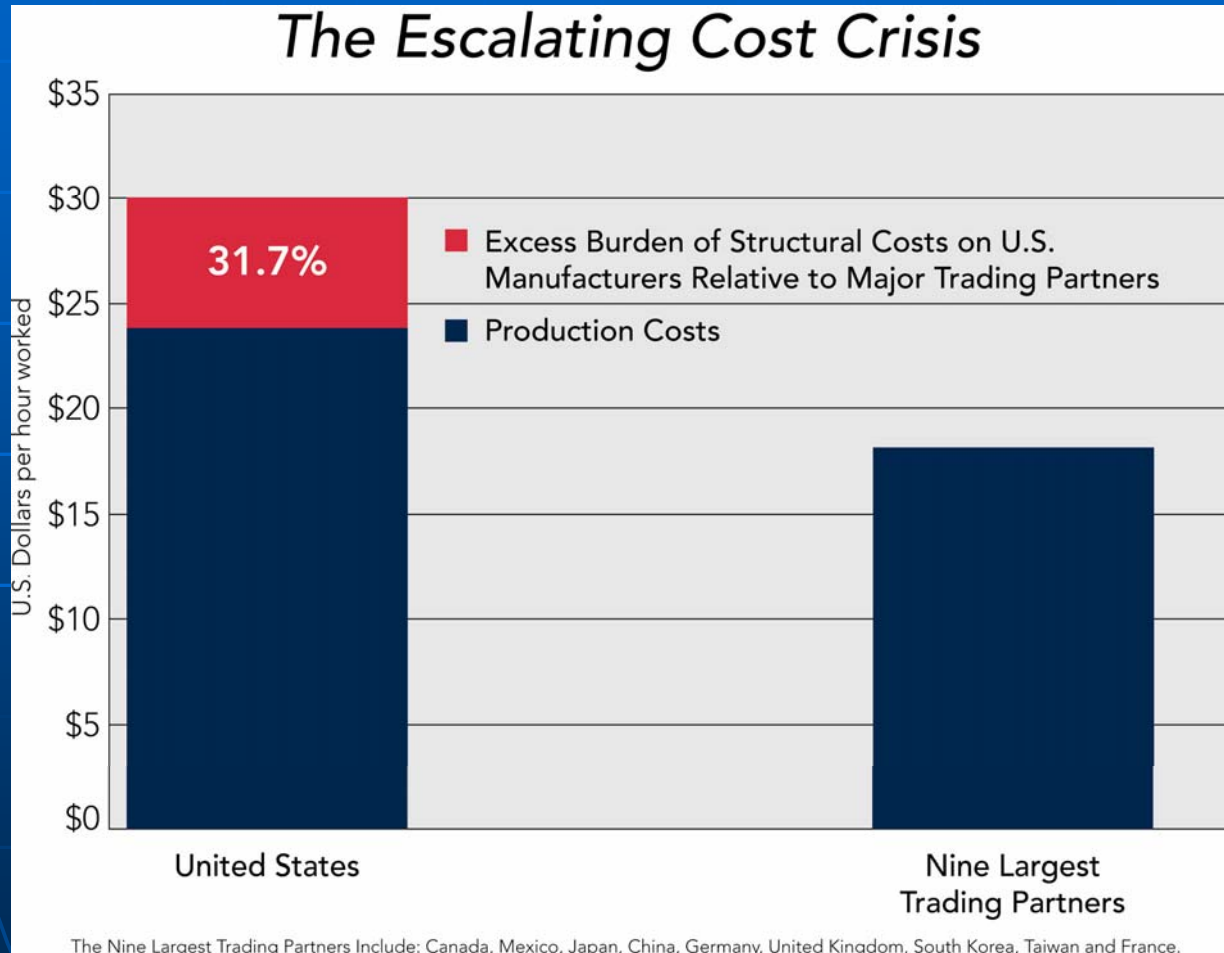
NAM Study: U.S. Corporate Taxes Are Too High

Corporate Tax Rate



Source: NAM Cost Study

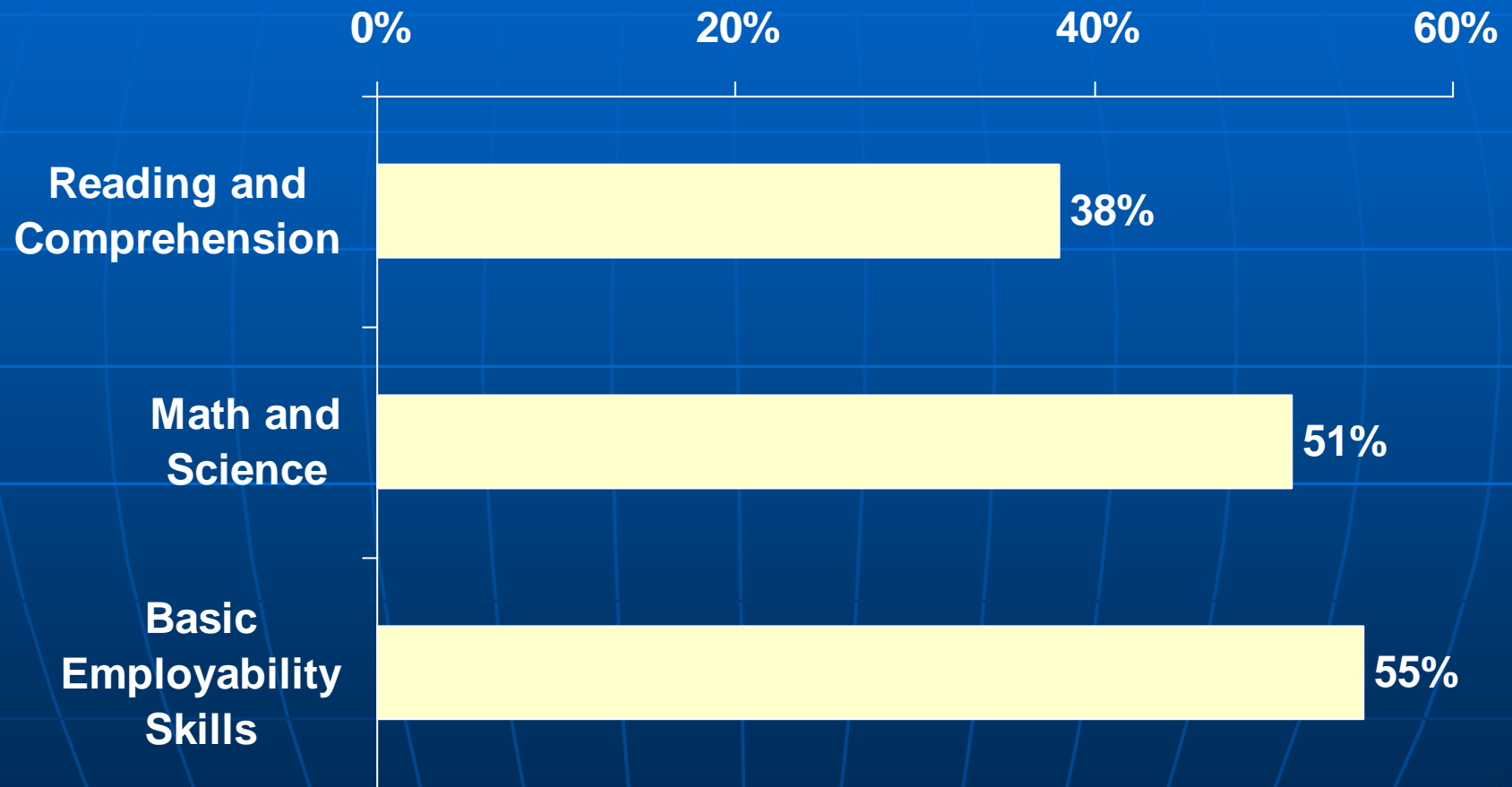
Rising Structural Costs Undermine U.S. Competitiveness



Five major challenges to the future manufacturing workforce

1. accelerating technology
2. retirements
3. poor K-12 education
4. college or bust
5. industry image

Where K-12 Schools Fail to Prepare Students



Source: 2005 Skills Gap Report

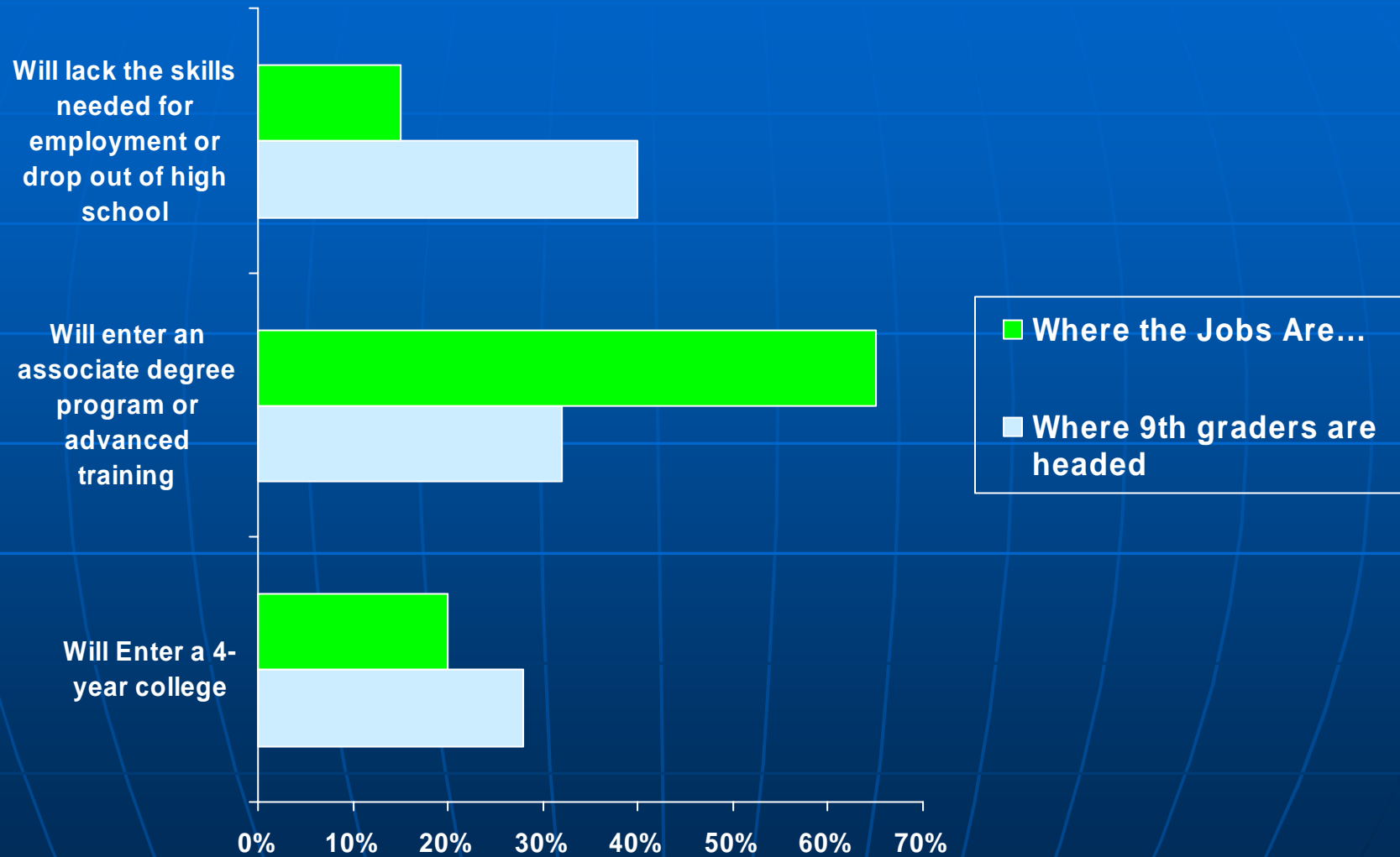
US Falling Behind in Math and Science

U.S. International Rankings

	4th Grade	8th Grade	12th Grade
Math	12th	19th	19th
Science	6th	18th	16th

SOURCE: International Association for the Evaluation of Educational Achievement

College or Bust



Poor Industry Image

Manufacturing Institute Benchmarking Results in Kansas City, MO

Young people said that job opportunities in manufacturing are:

- Not Challenging 50%
- Not Well-paying 61%
- Not Rewarding 67%
- Not Creative 67%
- Not Interesting 68%

What Manufacturers Say

About Their Current Workforce

(from 2005 Skills Gap Report)

90% -- a moderate to severe shortage of *qualified skilled production workers*;

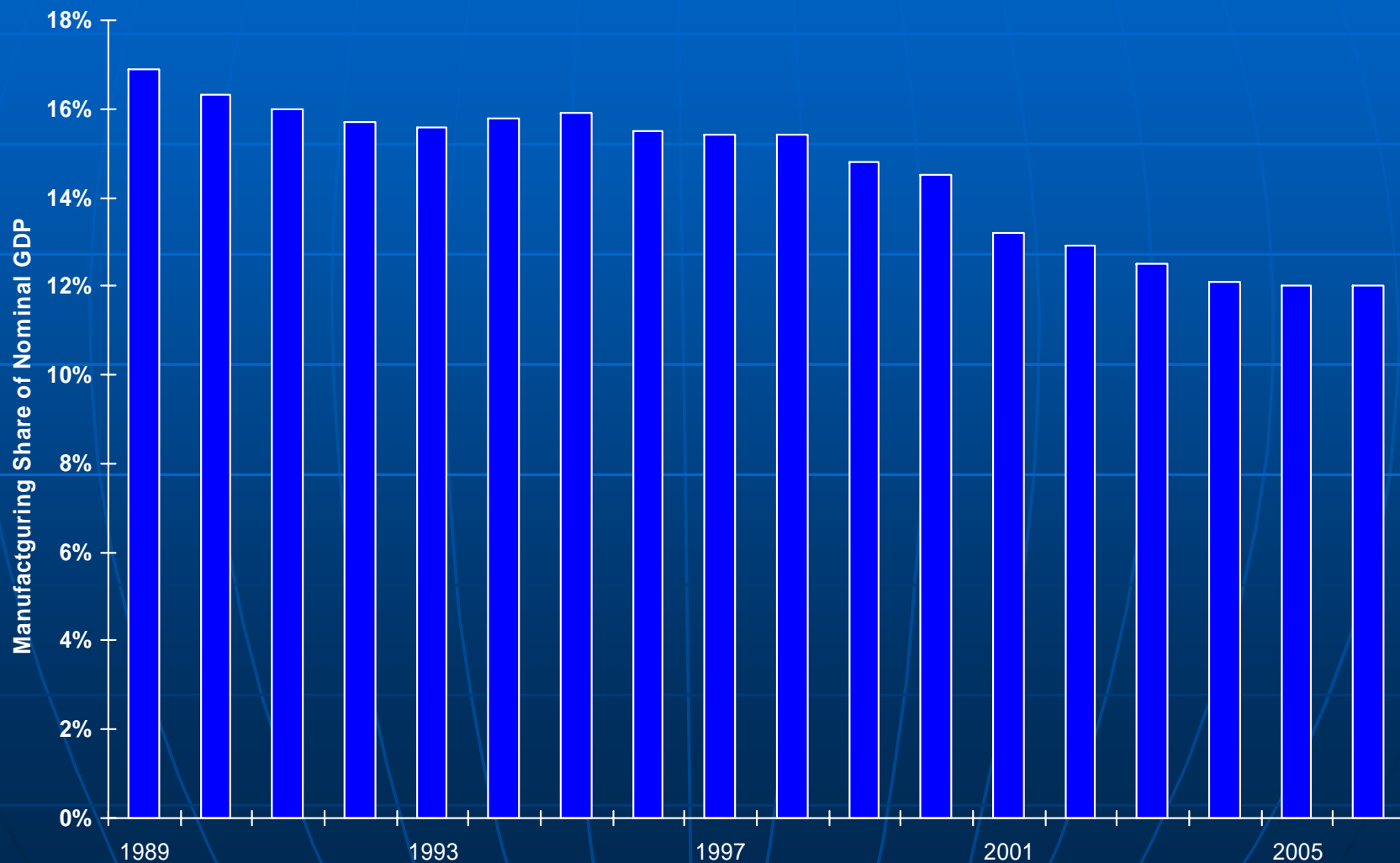
83% -- impacting their ability to *serve customers*;

65% -- a moderate to severe shortage of *scientists and engineers*;

39% -- a moderate to severe shortage of *qualified unskilled production workers*.

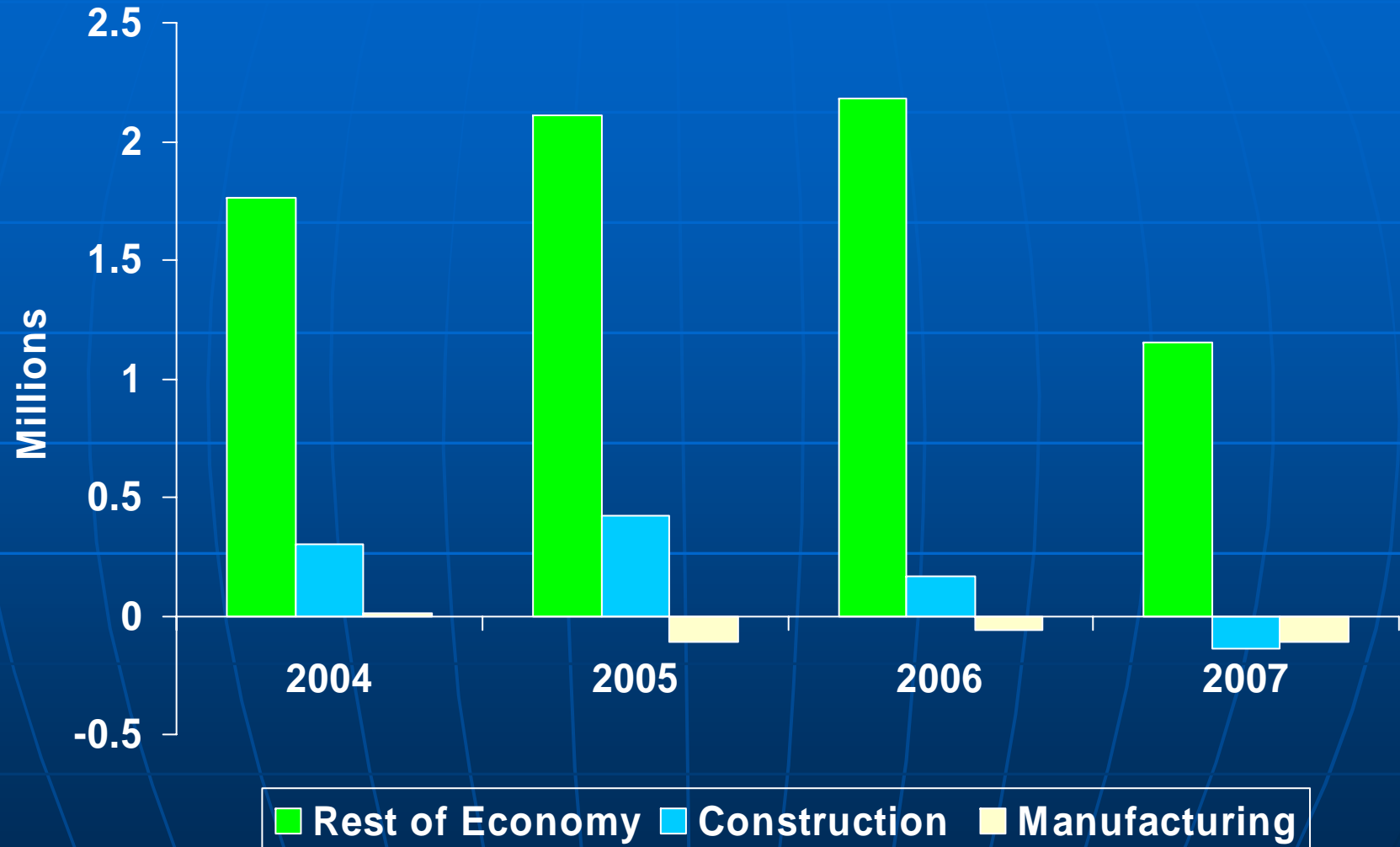
The **image**
of manufacturing is not positive for young
people

Manufacturing Share of the Economy 1989-2005



Source: U.S. Department of Commerce.

Employment Growth



Skilled Employee Retirements Climbing

The Growing Workforce Gap



Source: Social Security Administration

Addressing Workforce Challenges

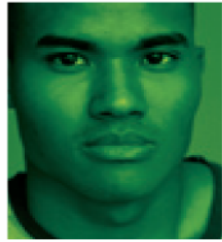
Building a skilled workforce:

- **Business Champions**
- **Dream It. Do It.**

Business-Led Agenda to Update the Workforce Development Capacity of Community Colleges

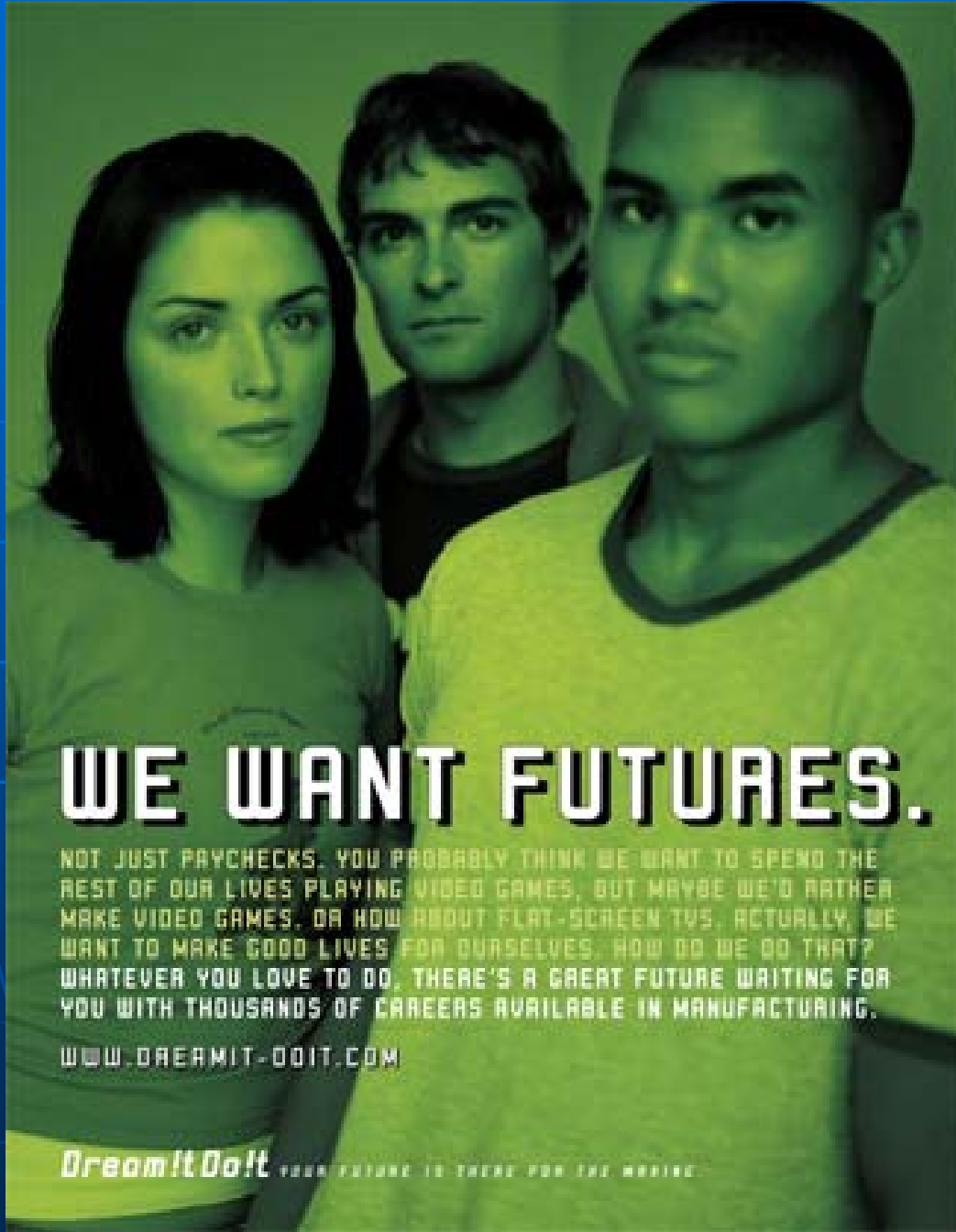


- educate & inform
- connect Champions to state policy leaders
- highlight the Best Practices



Dream!t Do!t™

**A Pro-Manufacturing Economic
Development and Awareness Campaign**



WE WANT FUTURES.

NOT JUST PAYCHECKS. YOU PROBABLY THINK WE WANT TO SPEND THE REST OF OUR LIVES PLAYING VIDEO GAMES. BUT MAYBE WE'D RATHER MAKE VIDEO GAMES. OR HOW ABOUT FLAT-SCREEN TV'S. ACTUALLY, WE WANT TO MAKE GOOD LIVES FOR OURSELVES. HOW DO WE DO THAT? WHATEVER YOU LOVE TO DO, THERE'S A GREAT FUTURE WAITING FOR YOU WITH THOUSANDS OF CAREERS AVAILABLE IN MANUFACTURING.

WWW.DREAMIT-DOIT.COM

DreamItDoIt YOUR FUTURE IS THERE FOR THE MAKING.

Why a campaign?

- Promote accurate vision of today's advanced manufacturing
- Align goals of economic developers, workforce development and education with industry
- Develop local education and training strategies for manufacturing that fill skills gaps
- Provide career information, guidance, and links to training, internships and jobs



Locations of CWS Workforce Initiatives

◆ Workforce Projects

- American Society of Employers, Detroit, MI
- Association of Washington Business, Olympia, WA
- California Assn. of Employers, Sacramento, CA
- Connecticut Business and Industry Assn., Hartford, CT
- Employers Assn., Peoria, IL
- Manufacturers Assn. of South Central Pennsylvania, York, PA
- Mid-Atlantic Employers Assn., Philadelphia, PA
- Power Transmission Distributors Assn., Cleveland, OH
- Precision Metalforming Assn., Twin Cities, MN
- San Diego Employers Assn., San Diego, CA
- SMC Business Councils, Pittsburgh, PA
- South Carolina Chamber of Commerce, Columbia, SC
- South Florida Manufacturers Assn., Pompano Beach, FL
- Wisconsin Manufacturers and Commerce, Madison, WI

★ Dream It. Do It. Campaigns

- Dream It. Do It., Kansas City
- Dream It. Do It., Nebraska
- Dream It. Do It., Northeast Ohio
- Dream It. Do It., Southwest Virginia
- Dream It. Do It., Seattle/Puget Sound
- Dream It. Do It., North Central Texas
- Dream It. Do It., Southeast Indiana
- Dream It. Do It., Will County, Illinois
- Dream It. Do It., Greater Phoenix

★ Dream It. Do It. Prospects

- Dream It. Do It., Iowa
- Dream It. Do It., Mississippi
- Dream It. Do It., Virginia
- Dream It. Do It., So Central Pennsylvania
- Dream It. Do It., Minnesota
- Dream It. Do It., Jamestown, New York

Thank You.



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www.nam.org/institute