June, 2011

Key Elements for a National Manufacturing Strategy

Presentation at NIST VCAT Meeting

Dr. Robert D. Atkinson, President, ITIF

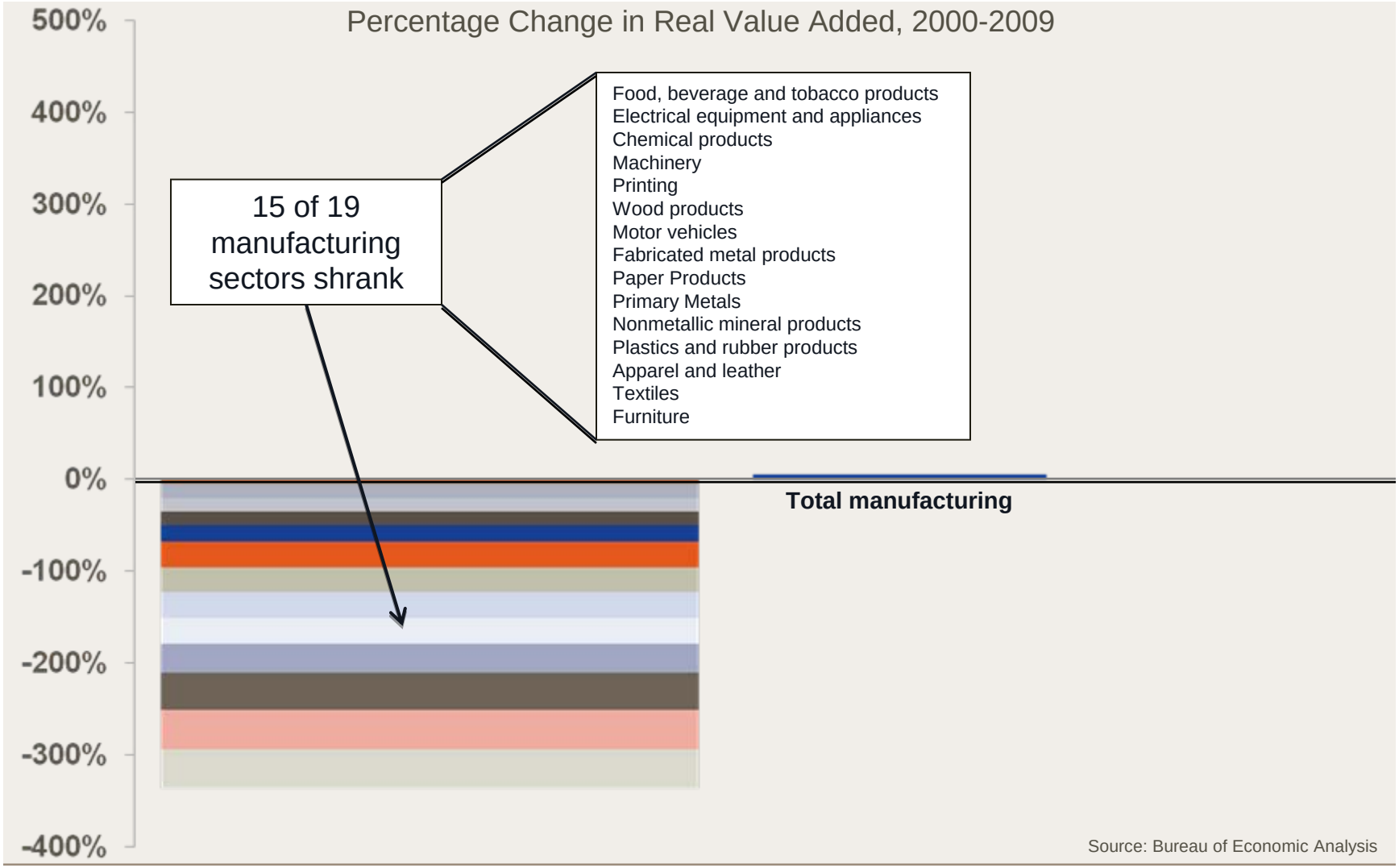
Today's Presentation

1. The State of U.S. Manufacturing
2. Why We Need a National Manufacturing Strategy
3. Outlines of a Strategy

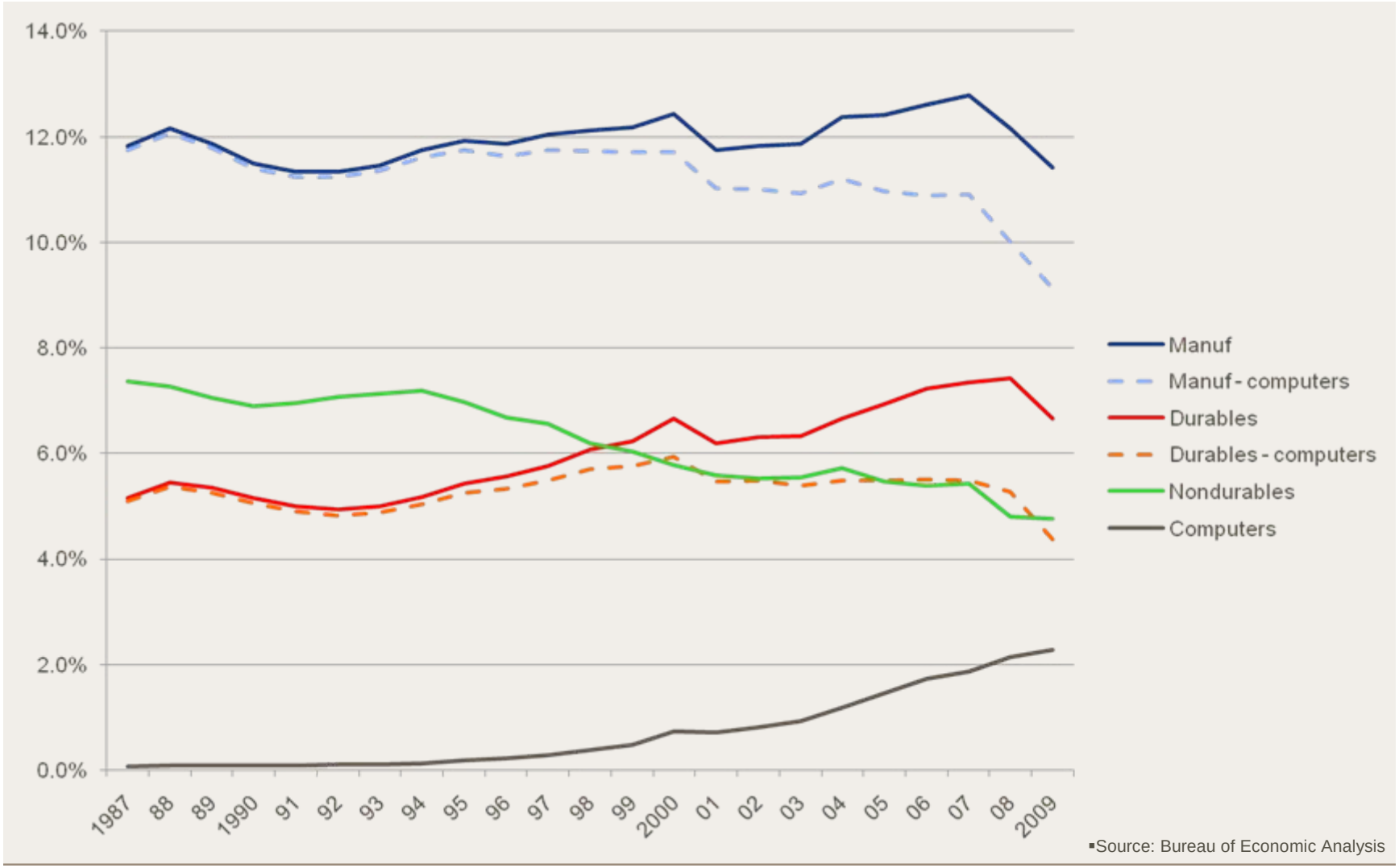
U.S. Manufacturing: The Agriculture Story?

U.S. Manufacturing: Or the Rust Belt Story?

Most Manufacturing Lost Output

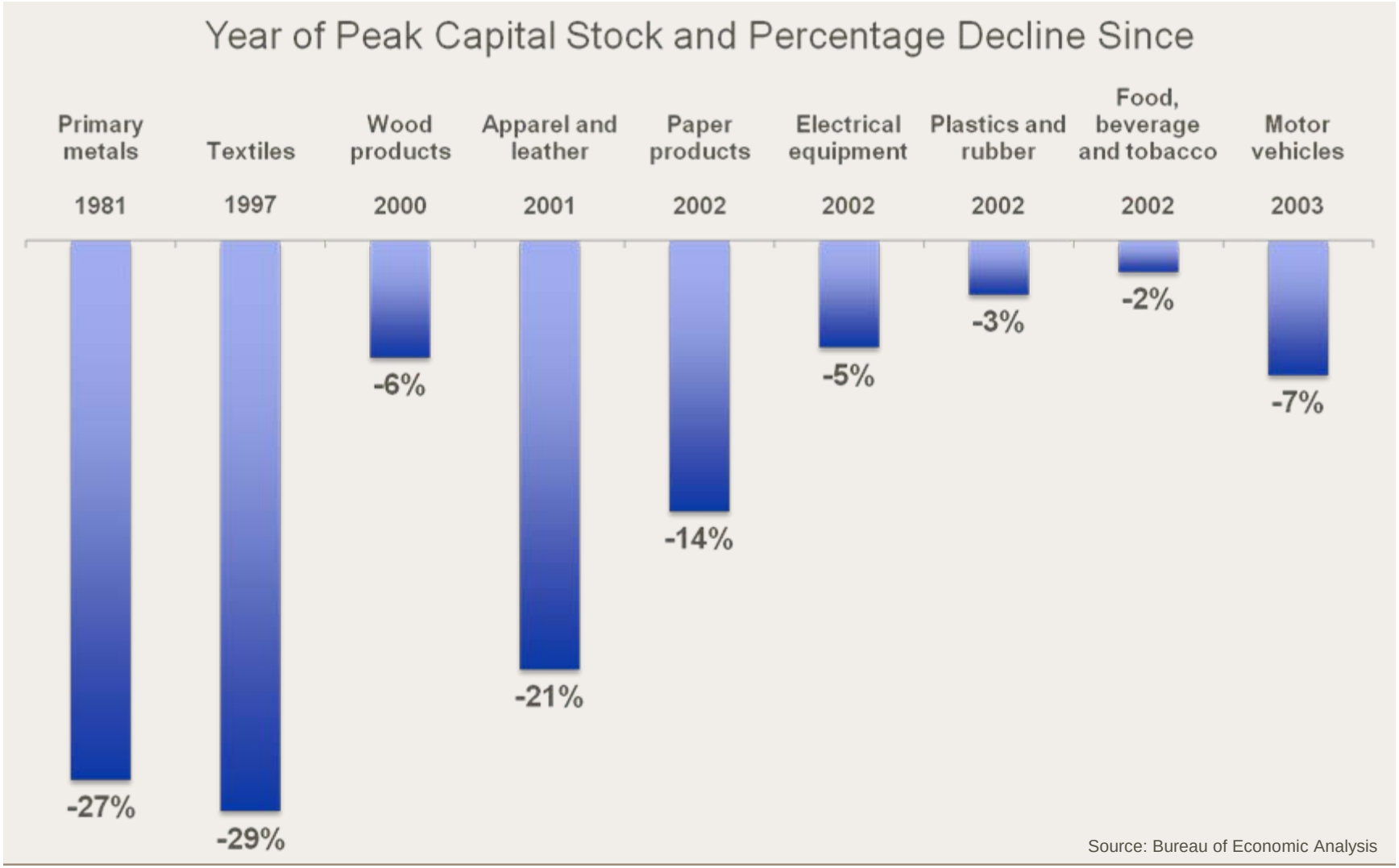


Real Manufacturing Value-Added As Share of GDP

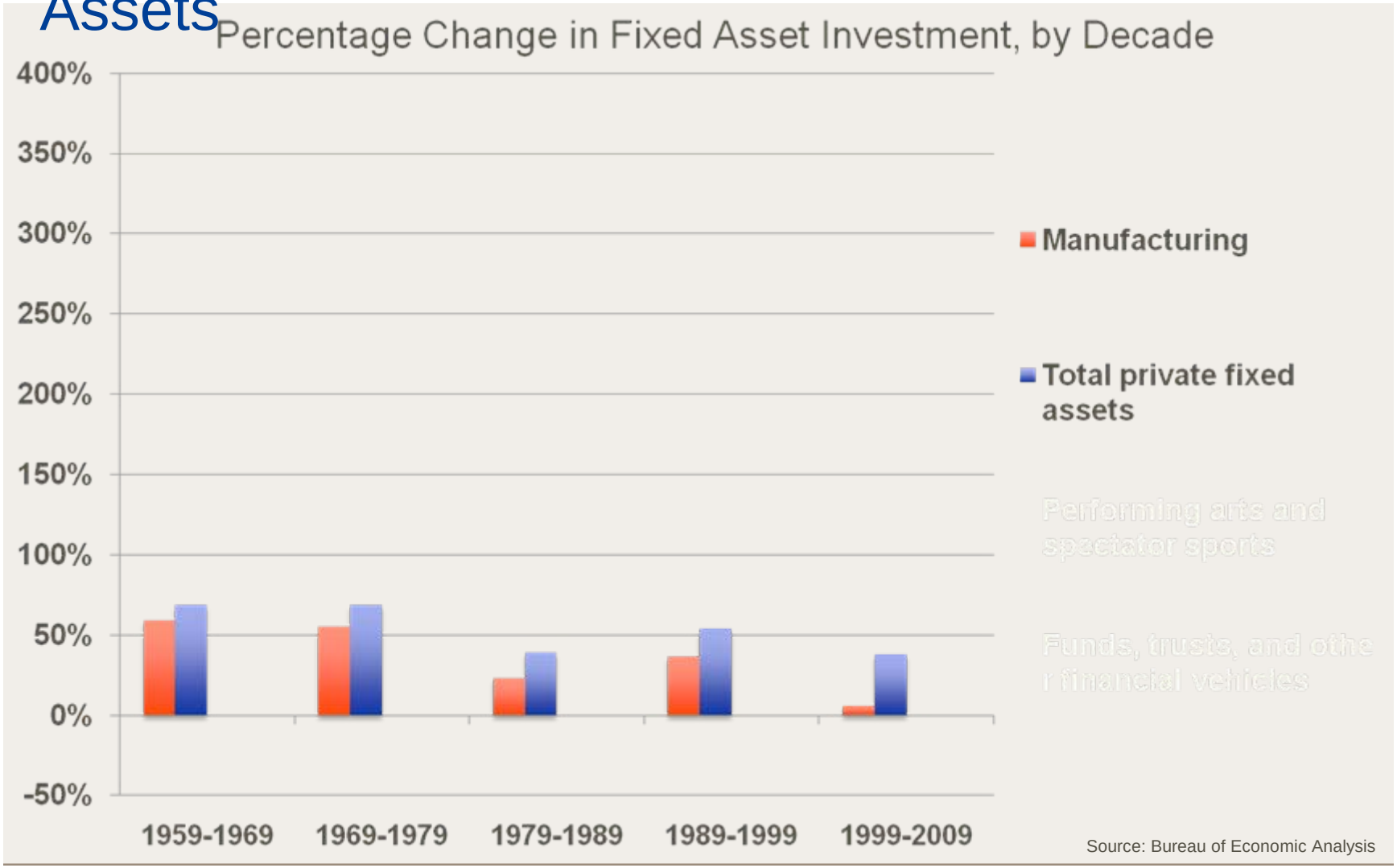


▪Source: Bureau of Economic Analysis

Capital Stock For Many Manufacturing Sectors Has Fallen



Falling Behind Growth in Total Private Fixed Assets



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Why We Need a Manufacturing Strategy

1. Other countries have manufacturing strategies.

SCIENCE AND TECHNOLOGY

BASIC PLAN

(Provisional translation)

MARCH 28, 2006

GOVERNMENT OF JAPAN

* Goal 4: Innovator Japan – realizing a strong economy and industries creating innovation constantly -

(6) Realize a ubiquitous Internet society attracting global interest

(7) Become the world's top manufacturing nation

(8) Enhance industrial competitiveness to win in global S&T competition

And Are Investing More in Innovation

- Per-GDP, Canada invests almost 10x as much in its Industrial Research Assistance Program (IRAP) than the U.S. does through MEP.
  - + IRAP received extra $100M in 2009-2010 as part of stimulus package.
- Per-GDP, Finland invests 10 times as much as the U.S. does in its principal innovation-support programs.
- 5.5% of the total Korean federal budget is allocated “to promote the competitiveness of SMEs”* (all sectors)
- Germany’s Fraunhofer Institutes invest €1.66B ($2.4B) annually in applied industrial R&D.
- Japan’s Kohetsushi centers invest 30 times more than MEP on a per-GDP basis.

**Source:* Professor Brian H. Lee, Kwangwoon University, Korea

German Fraunhofer Institutes

Fraunhofer

- 59 Institutes, 17 000 employees
- Non-profit organisation
  - ≈ 33 % basic funding by goverment
  - ≈ 33 % public funded projects
  - ≈ 33 % direct contracts by industry

- Information and Communication Technology
- Life Sciences
- Microelectronics
- Light & Surfaces
- Production
- Materials and Components - MATERIALS
- Defense and Security

- Undertakes applied research of direct utility to private industry.
- Clustered approach with pilot production centers to close the gap between research and products

Japan's Kohsetsushi Centers

- System of 180 Public Industrial Technology Research Institutes
  - Mission: "Technological upgrading of SMEs," providing:
    - Applied research and R&D projects to SMEs;
    - Technology transfer/technology guidance;
    - Training, coaching mentoring.

- Funding and management for centers provided by prefectural/local governments, but under METI guidance.
  - No $$ from federal government, all from prefectures
  - Services offered free or low-cost, little income from fee generation

- Staff of 7,000+, primarily engineers, researchers, and other staff

Why We Need a Manufacturing Strategy

2. Systemic market failures affect manufacturing activity.

What Should Washington Do?

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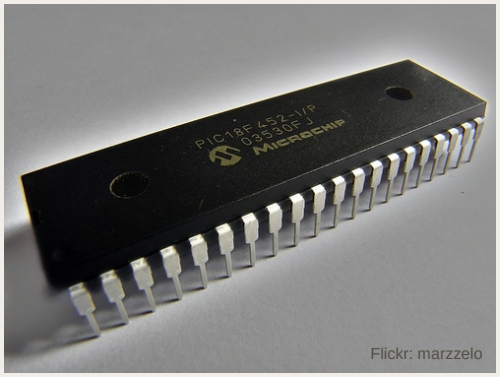
Getting the 4 T's Right

Tech



Talent

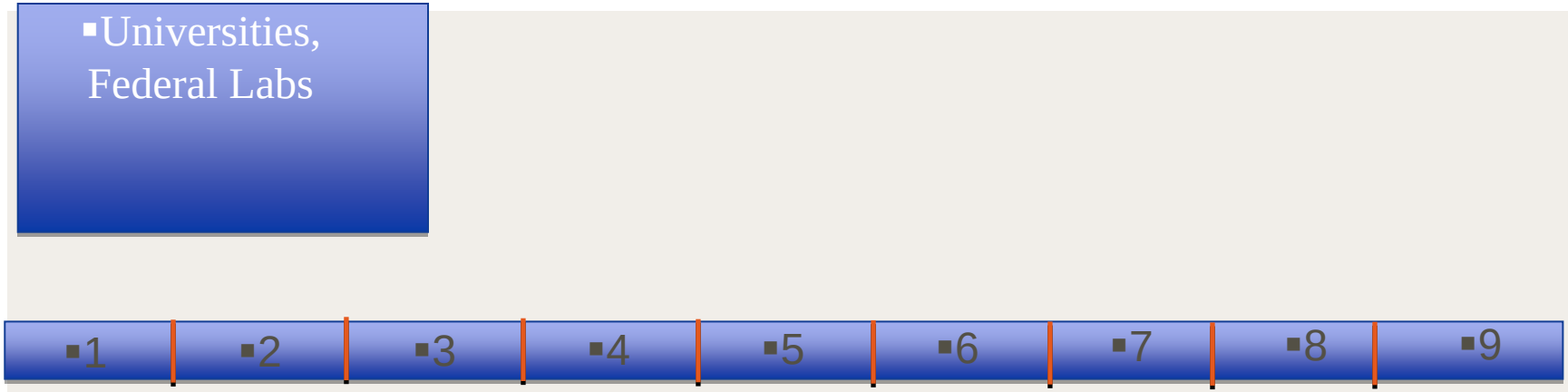
Trade

Tax

Reform U.S. Model for Technology Development

- Technology and Manufacturing Readiness Levels

Reform U.S. Model for Technology Development



- Expand Industry-University Partnership programs like NSF's ERC and IUCRC.

- Create a collaborative R&D tax credit for industry support of university and fed lab research

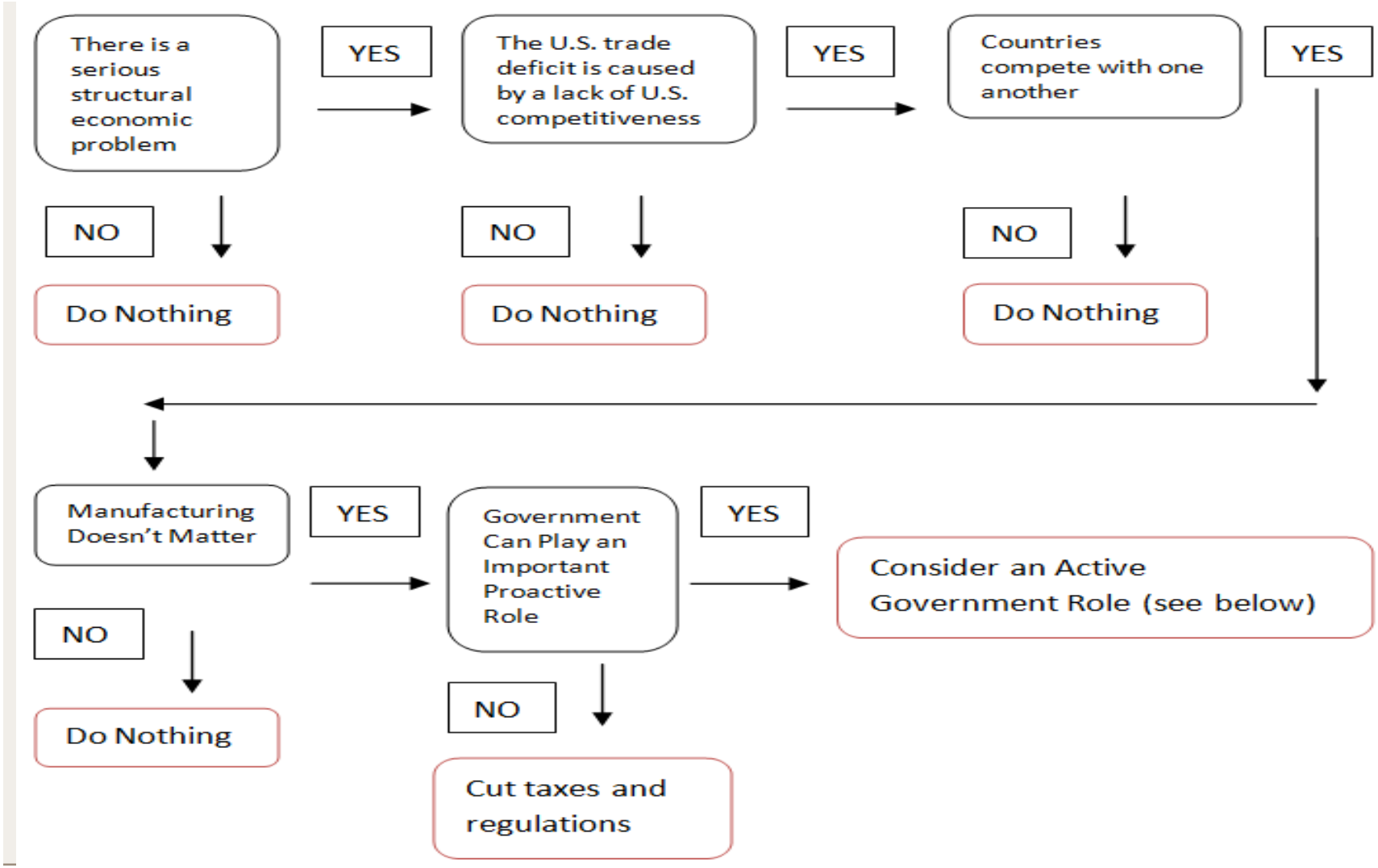
Reform U.S. Model for Technology Development

- Expand funding for Sector-based Industrial Research Consortia
  - DARPA's Focus Center Program
  - NIST's Advanced Manufacturing Technology Consortia
- Fund state industrial sector R&D and commercialization efforts.

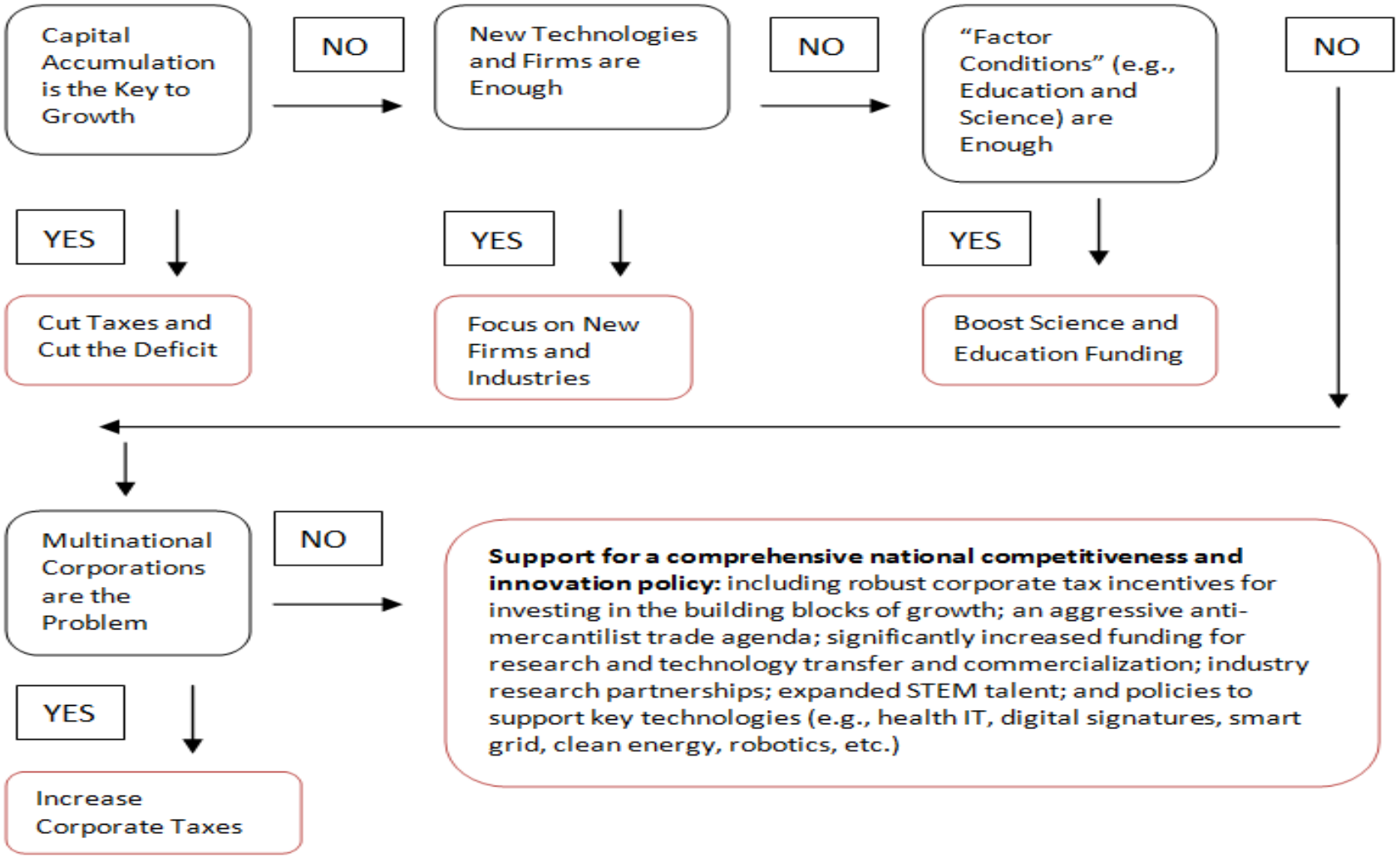
Reform U.S. Model for Technology Development

- Expand the R&D Tax Credit
  - Increase ASC to 20 percent
  - Make clear that process R&D qualifies
- Make permanent first year expensing of equipment

The Logic Chain of Action: From Current Conditions to the Need for Government Action



The Logic Chain of Action: From Acceptance of the Problem to a Comprehensive National Innovation and Competitiveness Policy



Thank You

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