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# State Support for R&D and Innovation

Presentation by:

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# State Science and Technology Institute

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- Mission
  - Leads, supports, and strengthens efforts to improve state and regional economies through science, technology, and innovation
- Funders
  - Carnegie Corporation
  - Kauffman Foundation
  - MEP
  - More than 180 state, local, and university TBED organizations



# What is TBED?

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Approach used to help create a climate where firms that constantly innovate and maximize the use of technology can thrive

Emphasis: “grow your own”



# Presentation Overview

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- Who is funding R&D and innovation?
- What kinds of things are being funded?
- What funding sources are they using?
- Why are they doing this?
- What is the state role in funding R&D and innovation?
- New commitments being made



# Who and What?

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- Two broad groups
  - R&D: More than 1,000 state agencies and universities
  - R&D and innovation: Tech-based economic development organizations
- Funding falls into three categories
  - Mission-driven
  - Improving research capacity
  - Economic development purposes



# Funding Sources

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- General revenue funds
- Bonds
  - Voter approved
  - Legislature approved
- Tobacco settlement funds
- Earmarked sales taxes
- Lottery or other gaming sources



# Why do This?

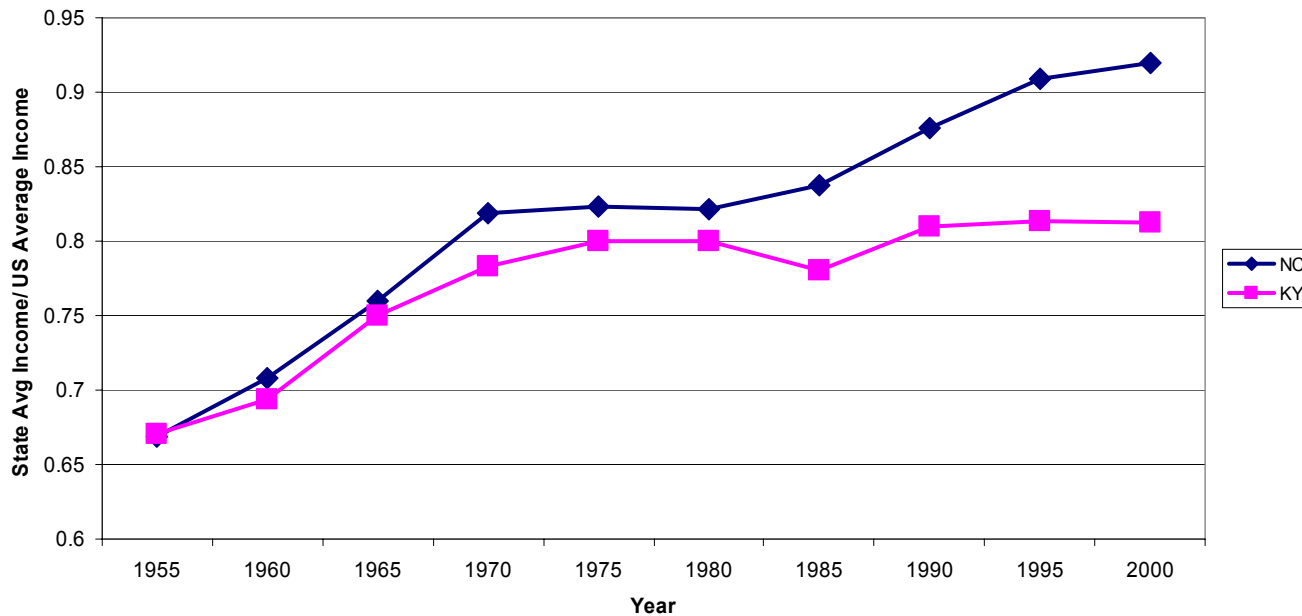
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- Global competition
  - Lesser-skilled, lower wage jobs outsourced, or done more competitively, overseas
- Quality jobs
  - Technology industries' wages average 84 percent more than U.S. average
  - \$69,000 vs. \$37,500 (2003)
- Changing demands of industry
  - Because of the growing technology-intensity of *all* industry, citizens' success is increasingly dependent on their ability to learn, adapt, and contribute to innovation



# Kentucky vs. North Carolina

State Average Personal Per Capita Income  
as a  
Percentage of US Average Personal Per Capita Income





# The Role of the States

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- Major funder of higher ed and research infrastructure
- Funding for good reasons
  - Specific research needs
  - Improving research capacity
  - Economic development
- Filling void in absence of federal action or leadership
- Closer connection to companies and markets



# Major New Initiatives in 2007

- Legislatures approved
  - AZ-- \$25M/year for four years for 21<sup>st</sup> Century Fund
  - CA-- \$70M for two energy research centers
  - FL-- \$80M for genomics research inst; \$100M for ctrs of excellence
  - IN-- \$20M Life Sciences Fund
  - WA-- \$70M over biennium for Life Sciences Discovery Fund; 10 year commitment of \$35M/year



# Energy Research in 2007

- Heavy emphasis on research
  - Specific centers or demonstration plants
    - CA (\$70M), FL (\$20M), NC (\$5M), OK (\$40M), OR (\$6.7M), TN (\$51.6M)
  - Pool of funds to compete for
    - IA-- \$25M w' \$75M to come
    - MN-- \$5.65M
    - NM-- \$2M
    - ND-- \$14.9M
    - SC-- authorization for \$15M
    - TN-- \$13M



# Intellectual infrastructure activities

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- Strengthen state's higher education system R&D capacity
  - Example: Kentucky's Bucks for Brains
- Invest in basic research in hopes of seeding economic development and new industries
  - Example: California's Embryonic Stem Cell Institute
- Invest in higher ed in areas of industrial relevance
  - Example: Georgia Research Alliance
- Invest in areas to diversify economy
  - Example: Michigan's 21<sup>st</sup> Century Job Fund
- Encourage greater university-industry interaction
  - Example: Maryland Industrial Partnerships Program



## Improving Higher Ed Infrastructure Embraced

- Legislature appropriated funding in 2007
  - MO-- \$13.4M for animal health & nutrition, renewable energy & plant sciences
  - NC-- \$25M to UNC-Chapel Hill for cancer research
  - ND-- \$20M for Centers of Excellence
  - OH-- \$100M for Ohio Research Scholars
  - OK-- \$75M for endowed chairs
  - OR-- \$11.5M for signature research centers



# Lessons Learned

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- Realistic goals and metrics must be established from the outset
  - World class research
  - Compete against Silicon Valley and Research Triangle Park
  - Collaboration between university and business community
  - Improved curriculum
  - Recruitment of world class faculty
  - Establishment of leading edge research facilities
  - Acquisition of public and private funding for collaborative research
  - Move technology to commercial sector
  - Self-sustaining after 2 years



# Lessons Learned

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- Rigorous merit review process required
- Understanding by leadership that funding R&D requires a sustained commitment and R&D is not always successful
- Different goals and expectations for different audiences
- Need for:
  - Better understanding of what's being funded
  - Greater interstate coordination of funded projects



# Contact Information

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