Changing Patterns in U.S. Higher Education Financing

and How the American University Affects Economic Development

Distinctions among U.S. Higher Education Institutions

1) PUBLIC vs. PRIVATE
2) Carnegie Classification of Institutions of Higher Education
   - Among doctorate-granting universities there are 3 categories:
     1. Very High Research (e.g. University of Utah)
     2. High Research
     3. Doctoral/Research

Historic Financing Trends

PUBLIC REVENUE ($)

1. Tuition……..LOW
2. Private donations……...LOW
3. State support……HIGH
4. Federal…..MEDIUM to HIGH

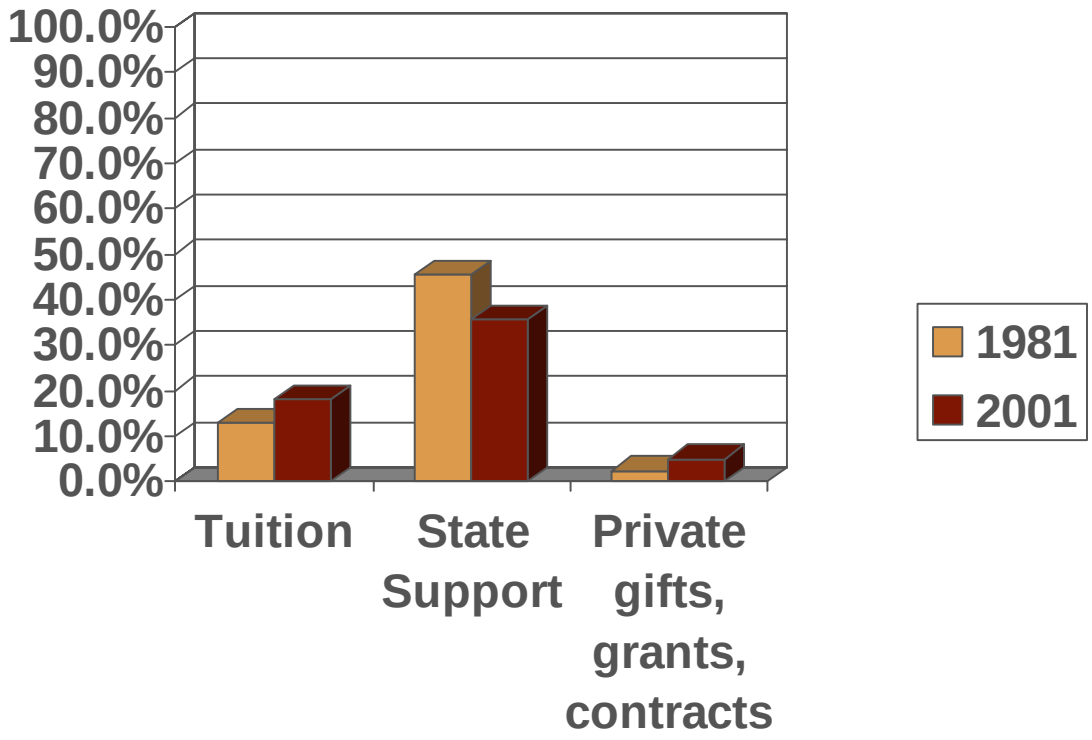
PRIVATE REVENUE ($)

1. Tuition……...MEDIUM to HIGH
2. Private donations……..HIGH
3. State support….LOW to ZERO
4. Federal……..MEDIUM to HIGH

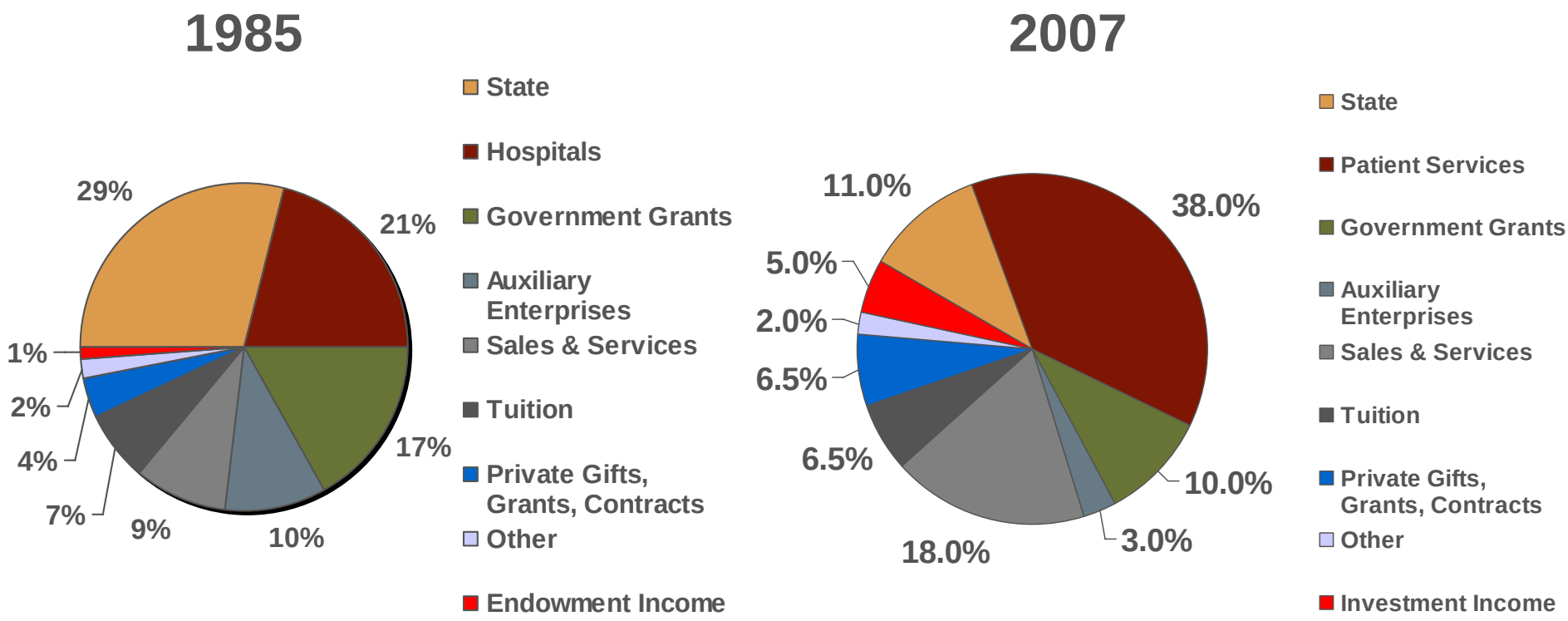
New Trends in Financing as % of Total Budget

PUBLIC	PRIVATE
1. State support ↓	1. Tuition ↑
2. Federal research funds ↑	2. Federal research funds ↑
3. Tuition revenue ↑	3. Private donations ↑
4. Pursuit of private donations ↑	

Budget Shifts in Public Sector over 20 years



Then and Now… The University of Utah Budget by Source



Tuition & its Challenges

1. Closely observed by state legislature.
2. Negotiate with students.
3. Specifically designed uses.
4. Prices out disadvantaged students.

State Support & its Challenges

1. Designated for certain purposes.

2. Small increases do NOT keep pace with inflation.

3. Occasionally secure funds for large projects. (e.g. USTAR)

Federal Support & its Challenges

1. Limited resource.

2. Does NOT keep pace with inflation.

3. Peer reviewed, but innovative projects often not initially funded. (e.g. Nobel Laureate & Utah Professor, Mario Capecchi)

Corporate Support & its Challenges

1. Sponsor may influence results.

2. Little funds available for basic research.

3. Skew professor's intellectual agenda.

Clinical Revenue & its Challenges

1. Public sources (Medicare/Medicaid) subject to budget constraints by federal government.

2. Private sources subject to competition and changes in the market.

Fund Raising & its Challenges

1. Donors direct priorities.

2. Resources NOT distributed ideally throughout system.

Commercialization

BENEFITS

1. Resource for University.
2. Provides jobs, tax revenue.
3. Brings work into real world.

CHALLENGES

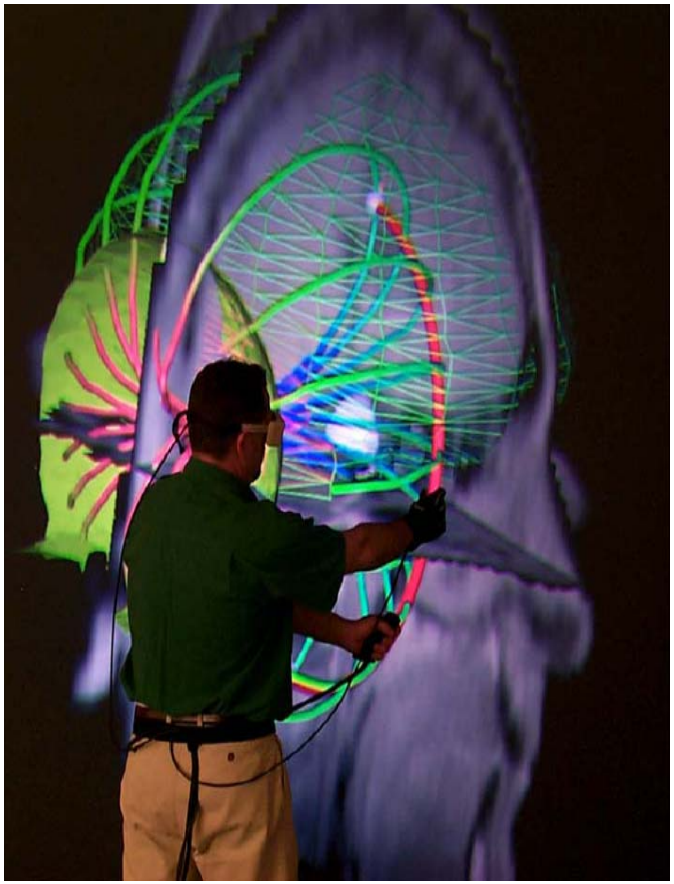
1. Too much emphasis on applied research.
2. Creates great technicians, but not necessarily great citizens.

The National Science Foundation has estimated that more than half of the U.S. economic growth since WWII is directly attributable to advances in technology – advances made possible by research universities.

Richard Rosan, President, Urban Land Institute

According to a study by the Association of University Technology Managers, $33.5 billion of U.S. economic activity can be traced to universities' licensing technology . . . .

ASEE Priism online, January 2001, The New Boomtowns.



Businesses used to locate near sources of raw materials: water, cheap power, timber. Today, the raw materials of the new economy are knowledge, ideas, creativity.

Jon Eliassen, President & CEO, Spokane Economic Development Council

STANFORD	MIT	UC-BERKELEY	UTAH
Hewlett Packard	Raytheon	Medarex	Adobe Systems
Charles Schwab	Gillette	Oncobionic	WordPerfect
Cisco Systems	Thermo Electron	Tularik	Atari
EBay	Lotus Development	CommandCAD	Pixar Animation
Netscape	Bose	Lumiphore	Novell
Yahoo!	PictureTel	Molecular Dynamics	Terratek
Dynavex	Teradyne	Exelixis	Silicon Graphics
Sun Microsystems	Genentech	Calimetrics	Myriad Genetics
	Intel		ARUP Laboratories
	3Com		Netscape
			SCI

Technology Venture Development

Established in 2005

1. Technology Commercialization Office
2. Lassonde Entrepreneur Center
    1. *Lassonde New Venture Development Center*
    2. *Utah Entrepreneur Challenge*
3. Bureau of Economic & Business Research
4. Utah Engineering Experiment Station

U.S. National Rankings: Utah Commercialization

- **Ranked 2nd in starting companies**
  - Utah: 20 companies in 2006
  - MIT: 23 companies in 2006
- **Ranked 9th in commercialization activity**
- **Ranked 19th in commercialization revenue**


TerraTek
BAICOR, L.C.
PHYTO-PLUS® BRAND
ZARS
WESCOR®
attensity
E·G·S
ENGINEERING GEOMETRY SYSTEMS
echelon
biosciences incorporated
E·GEN™
Autonomous Solutions Inc.
TheraDoc®
MM
Cyberkinetics INC.
Turning Thought into Action
Cephalon®
iOMED
HyClone
Perbio Science
Idaho Technology Inc.
MYRIAD
bunnell
INSPIRED INFANT CARE
parvus®
CORPORATION
sorenson communications™
Connecting You
NPS
PHARMACEUTICALS
ACIONT™
DIACOR
SARCOS
Signature
IMMUNOLOGICS
allvivo
PHARMANEX®
Sensicore
PartNET
ergoweb®
CAMPBELL
SCIENTIFIC, INC.
Versa Power
Systems
TechniScan
MEDICAL SYSTEMS
postnova
analytics
COGNETIX®
Genta
BioCentrex
Juniper
Systems™

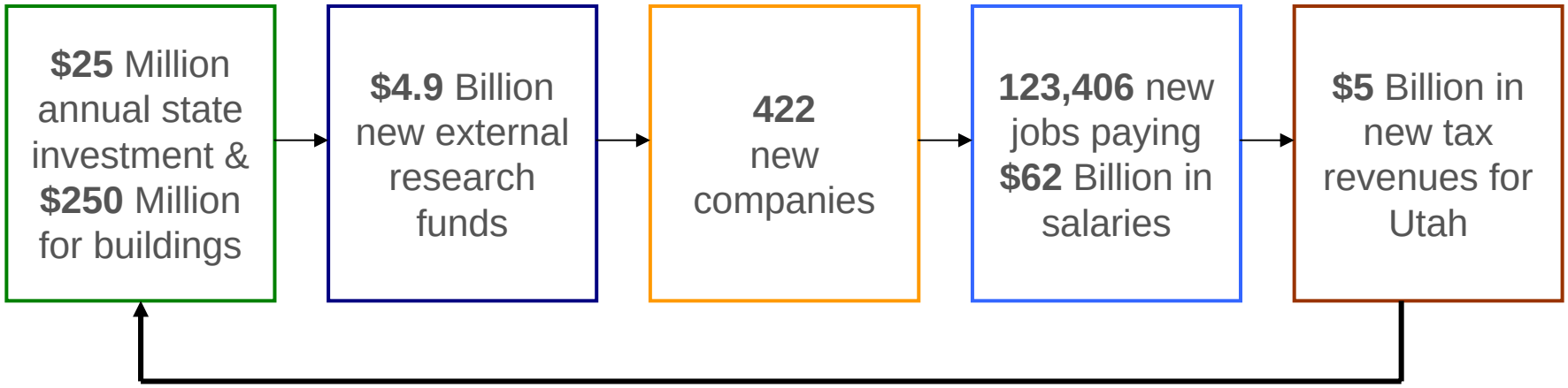
Utah Model of Entrepreneurship

1. Faculty Culture of Entrepreneurship.
2. Faculty Outreach Program.
3. Education Program Contributions.
4. Technology Commercialization supports funding and advising.
5. Funded through commercialization returns. ($28 million in 2008)

Utah Science, Technology and Research (USTAR): A Success Story

- 2006: $400 million investment by the state to commercialize technology at the University of Utah, a major research university.
- Funds for: relocating exceptional faculty, building laboratory facilities.
- Goal: bolster Utah's research strength and increase technology commercialization to create more jobs.

USTAR Return on Investment



Past as Prologue

By adjusting to these challenges, the American research university will remain at the forefront of the economy for the foreseeable future.