The American University

Challenges for the 21st Century
Aligning American Higher Education with National Priorities

**Inputs**
- Students (17 M)
- "traditional" adult international
- Clients
- Patients
- Government
- Corporate society
- Financial ($330 B)
- Private ($180 B)
- State ($67 B)
- Feds
- Fin Aid ($60 B)
- R&D ($21 B)
- Health Care
- Auxiliary Services

**American Higher Education System**
- Community Colleges (1,086)
- Regional 4-y Universities (695)
- Independent Colleges (730)
- Doctoral Universities (184)
- For Profit Colleges (322)
- Online Universities (230)
- Trade Schools (530)
- Corporate Training Programs
- Open Universities (100)
- Global Universities (10)
- Research Universities (94)

**Outputs**
- Degrees:
  - AA, BA, PhD
  - Professional
  - Certified Skills
  - Private Benefits
  - Career/profession
  - Earning capacity
  - Quality of life
  - Socialization
  - "Liberal education"
  - Brand name
- Public Goods
  - Workforce quality
  - R&D, innovation
  - Cultural heritage
  - Citizenship, values
  - Leadership
  - Challenging norms
  - Economic prosperity
  - Public health
  - National security

**Tools for Achieving Objectives**

**Public Policy**
- Regulation
  - Fin Aid, Accredited
  - Investment
- States, Feds
- Incentives
- R&D, Matches

**Market Forces**
- Finances
  - Public, Gifts, Cap Mkt
- Students
  - Tuition, Quality, Brand
  - Reputation

**Concerns**
- "Flat World Themes"
- Quality
- Access
- Cost, Affordability
- Accountability
- Lack of innovation
- Private benefit or Public Good?

**Objectives**
- World-class quality at all levels
- Access independent of socioeconomic status
- World's leading research university
- Innovative, nimble, efficient, and responsive
- Accountable
- University access to lifelong learning

**Recommendations**
1. Use public-private partnerships and market forces to drive world-class quality in higher education.
2. Stimulate and support innovation.
3. Restructure public subsidies to enable access.
4. Achieve better coordination within and beyond higher ed.
5. Enhance federal support of R&D and graduate ed.
6. Commit nation to universal access to lifelong education.
7. Restore public trust and confidence necessary for American higher education to serve its public purpose.
## U.S. Colleges and Universities

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public 4-year institutions</td>
<td>634</td>
</tr>
<tr>
<td>Private 4-year institutions</td>
<td>1,546</td>
</tr>
<tr>
<td>Public 2-year institutions</td>
<td>1,086</td>
</tr>
<tr>
<td>Private 2-year institutions</td>
<td>118</td>
</tr>
<tr>
<td>For-profit institutions</td>
<td>852</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,236</strong></td>
</tr>
</tbody>
</table>
Types of Colleges & Universities

- Major research universities: 94
- Other doctoral universities: 184
- Regional universities: 695
- Baccalaureate colleges: 730
- Community colleges: 1,086
- Other (religious, specialized, etc.): 1,446
Enrollments

Total enrollments (2003) 17.3 million

Percentage of population with some college 53.9%

Percentage of population with BA/BS degree 26.6%
Finances

State support (20%) $67 billion
Federal support (25%)
  Student financial aid $60 billion
  Research grants $21 billion
Private support (tuition, gifts) (55%) $180 billion

Total support (2.6% GDP) $330 billion
Role of Government

Federal Government

No ministry, no national systems, no controls…no policy
$60 billion/y of financial aid to students
$21 billion/y of research grants to individual faculty
NOTE: The federal government provides grants to people (students, faculty, patients), NOT to universities

State Government

$60 billion/y to support operation of public universities
Great diversity in state governance, from rigidly controlled systems (New York, Ohio) to strategic master plans (California) to anarchy (Michigan)
Other Characteristics

- The great diversity among institutions and missions.
- The balance among funding sources (private vs. public, state vs. federal).
- The influence of market forces (for students, faculty, resources, reputation).
- Its global character (attracting students and faculty from around the world)
- The absence of a centralized system that leads to highly decentralized, market-sensitive, and agile institutions, students, and faculty.
- Supportive public policies (academic freedom, institutional autonomy, tax and research policies).
- The research partnership between universities, the federal government, and industry.
Other Characteristics

- The great **diversity** among institutions and missions.
- The **balance among funding** sources (private vs. public, state vs. federal).
- The influence of **market forces** (for students, faculty, resources, reputation).
- Its **global** character (attracting students and faculty from around the world)
- The **absence of a centralized system** that leads to highly decentralized, market-sensitive, and agile institutions, students, and faculty.
- **Supportive public policies** (academic freedom, institutional autonomy, tax and research policies).
- The **research partnership** between universities, the federal government, and industry.
“There is no shortage of things to marvel at in America’s higher-education system, from its robustness in the face of external shocks to its overall excellence. However what particularly stands out is the system’s flexibility and its sheer diversity...It is all too easy to mock American academia. But it is easy to lose sight of the real story: that America has the best system of higher education in the world!”

The Economist, September, 2005
One more characteristic

What is a "university"?

• From French universite and Latin universitatem, meaning “the whole, or entire”
• Also universitas magistrorium et scholarium, “community of masters and scholars”
• John Henry Newman: A “School of Universal Learning”, a school of knowledge of every kind, consisting of teachers and learners from every discipline.

A key feature of American universities: comprehensiveness
Aligning American Higher Education with National Priorities

**Inputs**
- Students (17 M)
- "traditional" adult
- international
- Clients
- patients
- government corporate society
- Financial ($330 B)
- Private ($180 B)
- States ($67 B)
- Feds
- Fin Aid ($60 B)
- R&D ($21 B)
- Health Care Auxiliary Services

**American Higher Education System**
- Community Colleges (1,086)
- Regional 4-y Universities (695)
- Independent Colleges (730)
- Doctoral Universities (184)
- For Profit Colleges (322)
- Online Universities (230)
- Trade Schools (530)
- Corporate Training Programs
- Open Universities (100)
- Global Universities (10)
- Research Universities (94)

**Outputs**
- Degrees:
  - AA, BA, PhD
  - Professional
  - Certified Skills
  - Private Benefits
  - Career/profession
  - Earning capacity
  - Quality of life
  - Socialization
  - "Liberal education"
  - Brand name
- Public Goods
  - Workforce quality
  - R&D, innovation
  - Cultural heritage
  - Citizenship, values
  - Leadership
  - Challenging norms
  - Economic prosperity
  - Public health
  - National security

**Tools for Achieving Objectives**
- Public Policy
  - Regulation
  - Fin Aid, Accreditation
  - Investment
  - States, Feds
  - Incentives
  - R&D, Matches
- Market Forces
  - Finances
  - Public, Gifts, Cap Mkt
  - Students
  - Tuition, Quality, Brand Reputation

**Concerns**
- "Flat World Themes"
- Quality
- Access
- Cost
- Affordability
- Accountability
- Lack of innovation
- Private benefit or Public Good?

**Objectives**
- World-class quality at all levels
- Access independent of socioeconomic status
- World's leading research U
- Innovative, nimble, efficient, responsive, accountable
- University access to lifelong learning

**Recommendations**
1. Use public-private partnerships and market forces to drive world-class quality in higher education.
2. Stimulate and support innovation.
3. Restructure public subsidies to enable access.
4. Achieve better coordination within and beyond higher ed.
5. Enhance federal support of R&D and graduate ed.
6. Commit nation to universal access to lifelong education.
7. Restore public trust and confidence necessary for American higher education to serve its public purpose.
So...what do university presidents worry about these days?

- Money
- Politics
- Students
- College sports (at least for an unfortunate few...
Let's try a somewhat different perspective than ground-level...
AMERICAN COMPETITIVENESS INITIATIVE
LEADING THE WORLD IN INNOVATION

DEPARTMENT OF THE TREASURY
DOMESTIC POLICY COUNCIL
OFFICE OF SCIENCE AND TECHNOLOGY POLICY

FEBRUARY 2006
100,000 feet

- Decline of government support
- Changing educational needs
- Social diversity
- Technology
- Markets
100,000 feet

- Decline of government support - states
- Changing educational needs
- Social diversity
- Technology
- Markets
100,000 feet

- Decline of government support
- Changing educational needs - workforce
- Social diversity
- Technology
- Markets
100,000 feet

- Decline of government support
- Changing educational needs
- Social diversity - race, ethnic, nationality, age
- Technology
- Markets
100,000 feet

- Decline of government support
- Changing educational needs
- Social diversity
- Technology - information-communication
- Markets
100,000 feet

- Decline of government support
- Changing educational needs
- Social diversity
- Technology
- Markets - more powerful than governments
Of the five Lagrange points, three are unstable and two are stable. The unstable Lagrange points - labelled L1, L2 and L3 - lie along the line connecting the two large masses. The stable Lagrange points - labelled L4 and L5 - form the apex of two equilateral triangles that have the large masses at their vertices.
L-1 Point

- Demographics
- Globalization
- The Knowledge Economy
L-1 Point

- Demographics - aging, diversifying
- Globalization
- The Knowledge Economy
L-1 Point

- Demographics
- Globalization - the "flat world" (Friedman)
- The Knowledge Economy
L-1 Point

- Demographics
- Globalization
- The Knowledge Economy - innovation
The Oort Cloud (comprising many billions of comets)

Artist's rendering of the Kuiper Belt and Oort Cloud.
The Oort Cloud

- Global Sustainability
- Exponentiating Technologies
- The Singularity
The Oort Cloud

- Global Sustainability - resources, climate
- Exponentiating Technologies
- The Singularity
The Oort Cloud

- Global Sustainability
- Exponentiating Technologies - info-bio-nano
- The Singularity
The Oort Cloud

- Global Sustainability
- Exponentiating Technologies
- The Singularity - Von Neumann
Conjecture

Over the next generation, the university will change so much that it will no longer be recognizable in today's terms:

- global universities
- "meta" universities
- universal access to knowledge and learning
Conjecture

Over the next generation, the university will change so much that it will no longer be recognizable in today's terms:

- global universities
- "meta" universities
- universal access to knowledge and learning

Think Open Knowledge Initiative, Open CourseWare, Sakai Project…
Conjecture

Over the next generation, the university will change so much that it will no longer be recognizable in today's terms:

global universities
"meta" universities
universal access to knowledge and learning

Think Open Knowledge Initiative, Open CourseWare, Sakai Project…and, of course, Google!!!
A historical example

The evolution of the University of Michigan:

1850
1900
1950
2000
2050???
Which brings us to our second topic…