Role and future issues for national universities: a discussion

Sachi Hatakenaka
sachi@alum.mit.edu
RIETI Policy Symposium, Tokyo
30 May, 2008
What have we learned about the role of national universities?

- High share in research and research-related service
  - But highly concentrated in a small group of institutions
- Education role less visible in quantitative terms
  - but as noted likely to be different qualitatively
  - More pronounced in ‘regional’ national universities
- National universities as a highly diverse group
  - Geographical distribution, research/teaching orientation and subject coverage
- Different national universities may have different regional roles to play?
  - Important research role in almost all regions – played sometimes by former imperial universities?
  - ‘Regional universities’ have different kinds of local ties
How do we think about the future issues?

• These characteristics are largely the legacies of the past
  – Their roles could be strengthened/weakened by future funding systems
  – Key is to build on strengths – but not just to perpetuate the past

• To think about the future issues, we need to explore further:
  – What kind of universities do we need?
  – What are the issues for national and institutional governance in shaping the future roles of national universities?
What kind of universities do we need?

• Intense debate internationally – and an emerging consensus about:
  – The need for universities to contribute to innovation and economic development
  – The need for ‘diversity’ in higher education

• In particular two types of universities under discussion
  – Research oriented universities actively engaged in scientific discoveries but also contributing directly to innovations in the real world
  – Universities that can respond to professional needs through education and application oriented research
<table>
<thead>
<tr>
<th>Basic science orientation</th>
<th>Basic research oriented universities</th>
<th>Teaching focussed universities</th>
<th>Responding to economic needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>no</td>
<td>Universities with both basic and applied research</td>
<td>e.g. liberal arts colleges In the US</td>
<td>yes</td>
</tr>
<tr>
<td>yes</td>
<td>Some American Unis</td>
<td></td>
<td>no</td>
</tr>
<tr>
<td>yes</td>
<td>Professionally oriented Universities with both teaching and applied research</td>
<td>e.g. polytechnics</td>
<td></td>
</tr>
</tbody>
</table>
Role of national universities revisited

• Japanese national universities have potential to form the core groups in two types of economically responsive institutions
  – Already strong in research and research-related functions
  – Include diverse institutions with professional education focus – but with research and graduate education

• Role of private universities
  – Many with educational emphasis
  – Some in each of other 3 types – likely to exert healthy competitive pressures for National Universities in forming the core group in each

• However, still significant development potential for both economic responsiveness and basic science orientation
Some comparative stats (2005-6)

<table>
<thead>
<tr>
<th></th>
<th>Japan</th>
<th>US</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract income from industry</td>
<td>53,803</td>
<td>280,754</td>
<td>114,775</td>
</tr>
<tr>
<td>(million yen)</td>
<td>(119,833)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per capita</td>
<td>421</td>
<td>938</td>
<td>1894</td>
</tr>
<tr>
<td>Licensing income</td>
<td>801</td>
<td>180,154</td>
<td>12,420</td>
</tr>
<tr>
<td>(million yen)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of spinoff companies</td>
<td>171</td>
<td>418</td>
<td>187</td>
</tr>
</tbody>
</table>
More indications of university-industry

- Weak collaboration with foreign firms (MEXT 2006)
  - Joint research: 83 cases out of the total 15000 cases, less than 1% of monetary value
  - Contracted research: 73 out of 18000 cases, 0.2% of monetary value

- But significant and increasing evidence of university-industry co-authorship
  - Proactive industry (receiver-active?) rather than proactive universities? (Kodama and Suzuki 2007)
  - Japanese style collaboration?
Relative citation rate

Source: MEXT estimates based on Thomson Scientific data
Issues for national governance

• Enabling environment for institutional diversity
  – Fostering both economic responsiveness and basic science orientation

• Diverse and user-oriented funding as a possible remedy
  – UK funding model an interesting example of separating teaching and research - though it could not stop all to aspire to become research universities until recently
  – Government funding for research through multiple ‘mission-oriented’ bodies (US)
  – Innovation oriented R&D funding linking universities with public research institutes and industry (Finland)
  – Increased funding role of local governments (UK)
  – Private foundations (US)
National level governance (2)

• How to fund as important as how much to fund
  – DARPA as a good practice example of ‘relevant research’ (US)

• Government as champions of universities
  – universities can/should help society?
  – Basic science can really lead to innovations?

• Quality assurance
  – Simple performance metrics can lead to uniformity rather than diversity
  – Experience of Research Assessment Exercise (UK)
Issues for institutional level governance

• Organizational infrastructure for ‘responding’ : case of MIT
  – Interdisciplinary research centres as organizational infrastructure for new research and new education
  – Importance of bottom up and role of top-down decisions
  – Externally sensitive organization – at all levels
    • Role of the President – not only internal management but external relationships
    • Governing/management board – with external members
    • Outsiders in departmental advisory boards - visiting committee at MIT
    • Individual professors with own networks as key for effective bottom up

• National universities have much to work on!