Content

- Higher education reform in China
- Trends in higher education
- Skill formation –
  - major achievements
  - challenges
- Policy implications
Higher education reform in China

- Universities largely focused on human capital training and university-based research was limited
- University was highly specialized (Soviet model)
- Limited accessibility to higher education
- Lack of autonomy in university governance
- Disconnection with market demand
- Limited quality assessment
## Key elements of HE reform

<table>
<thead>
<tr>
<th>Period</th>
<th>Key policy and legal change</th>
<th>Content</th>
<th>Effects on higher education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978-1984</td>
<td>Reinstatement of education system</td>
<td>Reinstatement of education system</td>
<td>RHEIs from 598 in 1978 to 902 in 1984; students from 856,000 to 1.4 million</td>
</tr>
<tr>
<td>1985-1992</td>
<td>1985: Resolution on Education Reform 1987: Second adjustment of HE majors</td>
<td>Decentralization  Depoliticization  Diversification  Commercialization  Competition  Cooperation</td>
<td>RHEIs increase by 59 and students by 34,000; number of majors from more than 1,400 to more than 800  Private HEIs emerge</td>
</tr>
<tr>
<td>1998-present</td>
<td>1998: Education Revitalization Action Plan 1999: Strategy of revitalizing China through science and education</td>
<td>Sharp increase in enrollment. “Mergers and acquisitions” among universities</td>
<td>Fivefold increase in annual admission and annual growth of 23 percent; total RHEIs student enrollment 15.6 million in 2005</td>
</tr>
</tbody>
</table>
Trends in higher education

- Two major divisions
  - regular higher education institutions (RHEIs)
  - adult education institutions

- Shift from Soviet model to international norms
  - RHEIs stabilized at 1,908 after a series of consolidation
  - Marked reduction in number of majors (from over 1,400 to less than 300)
  - Broader-based curriculum, with less specialization
  - Expansion of comprehensive universities (numbered at 443 or about 23%, with science and engineering institutions at 672 or 35%)

## Distribution of higher education 2007

<table>
<thead>
<tr>
<th></th>
<th>Regular HE</th>
<th>Adult education</th>
<th>Graduate institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-year</td>
<td>2-year</td>
<td>Total</td>
</tr>
<tr>
<td><strong>Under central ministries</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under MOE</td>
<td>73</td>
<td>0</td>
<td>73</td>
</tr>
<tr>
<td>Under other ministries and agencies</td>
<td>33</td>
<td>5</td>
<td>38</td>
</tr>
<tr>
<td>Sub-total</td>
<td>106</td>
<td>5</td>
<td>111</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>14.32</td>
<td>0.43</td>
<td>5.82</td>
</tr>
<tr>
<td><strong>Under local authorities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under education bureaus</td>
<td>532</td>
<td>320</td>
<td>852</td>
</tr>
<tr>
<td>Under other local departments</td>
<td>72</td>
<td>578</td>
<td>650</td>
</tr>
<tr>
<td>Sub-total</td>
<td>604</td>
<td>898</td>
<td>1,502</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>81.62</td>
<td>76.88</td>
<td>78.72</td>
</tr>
<tr>
<td><strong>Private</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>30</td>
<td>265</td>
<td>295</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>4.05</td>
<td>22.69</td>
<td>15.46</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>740</td>
<td>1168</td>
<td>1,908</td>
</tr>
</tbody>
</table>
Trends in higher education

- From elite to mass education
  - Gross enrollment rate grow from 5 to 15%
  - 12 years (1990-2002) to achieve so (US 30, Japan 23, South Korea 14, and Brazil 26)
  - 19 million undergrad students by 2007
  - World’s largest HE sector

- Steady growth of graduate education
  - Between 1949 and 1965, graduate students made up mere 2% of all university students
  - 6% in 2007
## General indicators of RHEIs and senior high school education

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</thead>
<tbody>
<tr>
<td><strong>Regular higher education institutions (RHEIs)</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of RHEIs</td>
<td>598</td>
<td>675</td>
<td>1,016</td>
<td>1,075</td>
<td>1,054</td>
<td>1,041</td>
<td>1,792</td>
<td>1,867</td>
<td>1,908</td>
</tr>
<tr>
<td>Number of RHEIs directly under MOE</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>36</td>
<td>35</td>
<td>72</td>
<td>73</td>
<td>73</td>
<td>73</td>
</tr>
<tr>
<td>Total undergraduate student enrollment (millions)</td>
<td>0.856</td>
<td>1.144</td>
<td>1.703</td>
<td>2.063</td>
<td>2.906</td>
<td>5.561</td>
<td>15.618</td>
<td>17.388</td>
<td>18.850</td>
</tr>
<tr>
<td>Total graduate student enrollment (millions)</td>
<td>0.011</td>
<td>0.022</td>
<td>0.087</td>
<td>0.093</td>
<td>0.145</td>
<td>0.301</td>
<td>0.979</td>
<td>1.105</td>
<td>1.195</td>
</tr>
<tr>
<td>Average size of RHEI (undergraduate + graduate)</td>
<td>1,450</td>
<td>1,726</td>
<td>1,762</td>
<td>2,005</td>
<td>2,896</td>
<td>5,631</td>
<td>9,261</td>
<td>9,905</td>
<td>10,506</td>
</tr>
<tr>
<td>Total full-time faculty (millions)</td>
<td>0.206</td>
<td>0.247</td>
<td>0.344</td>
<td>-</td>
<td>0.404</td>
<td>0.463</td>
<td>0.966</td>
<td>1.076</td>
<td>1.269</td>
</tr>
<tr>
<td>Faculty to undergraduate-student ratio</td>
<td>4.15</td>
<td>4.63</td>
<td>4.95</td>
<td>-</td>
<td>9.83</td>
<td>16.30</td>
<td>16.85</td>
<td>17.93</td>
<td>17.28</td>
</tr>
<tr>
<td>Gross enrollment rate for 18-22 age (%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.4</td>
<td>7.2</td>
<td>12.5</td>
<td>21.0</td>
<td>22.0</td>
<td>23.0</td>
</tr>
<tr>
<td><strong>Regular senior secondary schools</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As % of all senior secondary school enrollment</td>
<td>-</td>
<td>56.4</td>
<td>57.2</td>
<td>46.9</td>
<td>43.2</td>
<td>48.8</td>
<td>59.8</td>
<td>57.9</td>
<td>55.7</td>
</tr>
<tr>
<td>Teacher to student ratio</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>12.95</td>
<td>15.87</td>
<td>18.54</td>
<td>18.13</td>
<td>17.48</td>
</tr>
<tr>
<td>Gross enrollment rate (%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>33.6</td>
<td>42.8</td>
<td>52.7</td>
<td>59.8</td>
<td>66.0</td>
</tr>
<tr>
<td>Admission rate to RHEIs (%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>27.3</td>
<td>49.9</td>
<td>73.2</td>
<td>76.3</td>
<td>75.1</td>
<td>70.3</td>
</tr>
<tr>
<td>Admission rate from regular junior to senior high schools (%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>40.6</td>
<td>50.3</td>
<td>51.2</td>
<td>69.7</td>
<td>75.7</td>
<td>80.5</td>
</tr>
</tbody>
</table>
Trends in higher education

- Increasing autonomy in HE governance
  - Decentralization – number of RHEIs directly under central ministries from 353 in 1989 to 111 in 2007
  - Proliferation of private institutions – from few to more than 1,200 in 2007
  - More autonomy in enrollment expansion, curriculum development, faculty recruitment, and international exchanges
  - But universities are far from autonomous
  - Local governments and outside firms have become increasingly important sources of funding
  - Market-based placement: about three-quarters were able to find placement upon graduation in 2005
Sources of HE funding
Skill formation – achievements

- Focus on science and engineering education
  - Upon entrance, students are funneled into two tracks – science/engineering (including medicine) and humanities
  - Teaching and learning going very deep even in secondary education
  - Successful in maintaining higher enrollment and graduation rates in science and engineering in HE
  - About 37% of both incoming and graduating undergrad students each year between 1995 and 2007
  - But representatives of multinational and domestic technology companies would feel comfortable hiring engineering graduates from only 10 to 15 universities
Skill formation – achievements

- Broadening basis for undergraduate education
  - Students are encouraged to take courses, even majors, in fields outside of universities’ strong areas
  - Establishing core general education curriculum in select universities
  - Widening range of exchange programs with overseas institutions with instructional and/or research content
  - Encourage student engagement in research and experiential learning (e.g. Student Scientific Research Fund, Student Summer Fieldtrip Fund)
Skill formation – achievements

- Seeking a shift from “knowledge-oriented” to “capability-oriented” model of teaching
  - Address learning outcomes and effectiveness
  - MOE “Quality Enhancement Project”
  - Set up demonstration centers for experiential and research-centered learning
  - Set up professional certification systems to meet labor market demands and competence requirement
  - Hiring R&D staff from firms as practitioners-in-residence for engineering programs in select universities
Skill formation – challenges

Resource constraints

- Faculty-student ratio steady rise (4.15 in 1978 to 17.28 in 2007)
- Insufficient supply of qualified faculty, although proportion of faculty with graduate degrees grew steadily (about 42% now)
- Shortfalls in public funding and government control of salary levels limit ability to attract best research and teaching talent
- Per student expenditure also suffers, particularly in terms of library holdings and classroom space

Varying teaching quality and standards

- Vary considerably across regions and types of institution
- Institutions in underdeveloped regions is considered to be of significantly lower quality than elsewhere
Skill formation – challenges

- Focus on narrow spectrum of knowledge
  - Standardized exams emphasize codified knowledge and overlook creativity
  - Students have limited choice and autonomy in selecting courses and directions of research
  - Still teacher-centered and drill approach to teaching

- Lack of university network to share instructional resources
  - Most universities have not adopted the credit system
  - Difficult to assess what is transferable among universities
  - Unwillingness to share tuition income
Skill formation – challenges

- Mismatch between quality of graduates and job market demand
  - Not evident system as a whole is producing graduates capable of working up to international standards
  - Lack of multidisciplinary approaches to problem solving in student preparation
  - Focus more on theory and get little practical experience in projects of teamwork
  - Institutional inflexibility in changing course content and design
More prestigious universities can compete with similar universities in industrialized countries

After very rapid expansion, China’s HE has entered a period of stabilization to address concerns about quality, equity and apparent imbalances between graduate supply and labor market demand

Facing dilemma common in many developing countries – expanding access while seeking to improve quality under fiscal restraints

Further decentralization in decision-making and encouraging more competition for universities
Policy implications

- Balance building of research-based universities that are globally competitive while increasing capacity of other institutions to contribute particularly to national and local needs in human resources.
- Most universities would need to concentrate in providing teaching excellence.
- For research-oriented institutions, develop a system of research-centered graduate (and even undergraduate) education and supervision.