International Students: Contributions to Economic Innovation and Development

Universities as Economic Drivers: Measuring and Building Success
Buffalo, NY
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Rahul Choudaha, Ph.D.
Director of Development & Innovation
World Education Services
New York, NY
rchoudah@wes.org
212-219-7313
Universities as sources of economic development and innovation

- “…to provide prime New York City real estate, plus up to $100 million in infrastructure upgrades, in exchange for a university’s commitment to build or expand a world-class science and engineering campus here in our city.”

   Michael R. Bloomberg
Mobility of Global Talent

Fall 2009

National Science Foundation 2010
Stagnant demand for STEM degrees...

Figure 3.10: STEM Degrees Awarded to U.S. Citizens, 1995–2007

The Information Technology and Innovation Foundation (2010)
Total Graduate Enrollment by Field & Citizenship, Fall 2010

Figure 2.8 First-Time Graduate Enrollment by Broad Field and Citizenship, Fall 2010

- Other Fields: 88% U.S. Citizens & Perm. Res.; 12% Temporary Residents
- Public Admin. & Svcs.: 96% U.S. Citizens & Perm. Res.; 4% Temporary Residents
- Physical & Earth Sci.: 71% U.S. Citizens & Perm. Res.; 29% Temporary Residents
- Health Sciences: 94% U.S. Citizens & Perm. Res.; 6% Temporary Residents
- Education: 97% U.S. Citizens & Perm. Res.; 3% Temporary Residents
- Arts and Humanities: 89% U.S. Citizens & Perm. Res.; 11% Temporary Residents
- Total: 84% U.S. Citizens & Perm. Res.; 16% Temporary Residents

Source: CGS/GRE Survey of Graduate Enrollment and Degrees

Council of Graduate School (2011)
Entrepreneurship

Percentage of Immigrant-Founded Companies by Industry

- Defense/Aerospace: 7.9%
- Environmental: 9.2%
- Bioscience: 20.1%
- All Industry Fields: 25.3%
- Innovation/Manufacturing-Related Services: 25.9%
- Software: 27.9%
- Computers/Communications: 31.7%
- Semiconductors: 35.2%

Wadhwa. 2009
Foreign-National Contribution to US Global Patents, 1997-2009

% of Patents Granted


US Patent and Trademark Office 2010
“Our central estimates suggest that a 10% increase in the number of foreign graduate students would raise patent applications by 4.7 %, university patent grants by 5.3 % and non-university patent grants by 6.7 %”

Chellaraj, Maskuk, & Mattoo. 2005
Remittances

Global Remittances: Formal Remittances Inflow in 2010 by Migrants' Origin Countries

Notes: Not all countries in Oceania are displayed. Source: Estimates by the World Bank's Development Prospects Group. Map ©2011 by the Migration Policy Institute.

Amount of Formal Remittances (US$ billions)
- $15 or more
- $1 to $4.9
- $5 to $14.9
- Less than $1
- Data unavailable

Migration Policy Institute 2010
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Formal Remittances as % of GDP in 2009
(Migration Policy Institute 2010)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>Students</th>
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<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>127,628</td>
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<tr>
<td>2</td>
<td>India</td>
<td>104,897</td>
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<tr>
<td>3</td>
<td>South Korea</td>
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<td>4</td>
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<td>6</td>
<td>Japan</td>
<td>24,842</td>
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<td>7</td>
<td>Saudi Arabia</td>
<td>15,810</td>
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<td>11</td>
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<td>Thailand</td>
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Nepal
23.8 %

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More Chinese overseas students return home in 2010

BEIJING, March 11 (Xinhua) -- Nearly 135,000 Chinese students returned home after finishing their education abroad in 2010, up 24.7 percent from 2009, said a senior human resources official here Friday.

More than 632,000 Chinese, or 33 percent of those who studied abroad, returned home since 1978, said Yin Weimin, minister of human resources and social security at a meeting held here.

Yin attributed the increase to better policies and working environment in China.

The Chinese government launched a recruitment program of global experts in 2008, offering favorable policies in terms of taxation, insurance, housing, children and spouse settlement, career development, research projects, and government awards.

As of last year, 1,143 top-level scientists and professionals have worked in China under the program, Yin said.

Moreover, more than 150 industrial parks nationwide, hosting 8,000 companies, attracted 20,000 returnees who have "greatly contributed to the scientific innovation and industrial restructuring," he added.
Capacity Enhancement and Brain Circulation

“a two-way “brain circulation” with potential benefit to both the United States and these emerging economies….”

Wadhwa et.al. (2011.)
Trends in next 5 years...

**Trends**

- Global student mobility will continue to be strong, especially for the US
- Future growth in innovation and development will continue to be driven by global talent

**Challenges**

- Good quality institutions, employment prospects and career advancement in home countries will pose competition for student mobility

**Future Directions**

- Mobility of students and high-skilled professionals is not a zero-sum game
- Every effort should be made to enhance talent mobility
Feedback / Comments

Rahul Choudaha
rchoudah@wes.org
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