Panel Session: Driving Future Growth through Innovation

Introduction

Bruce McKern, Centre on China Innovation, China Europe International Business School;
University of Sydney;
Hoover Institution, Stanford University
Australia’s Innovation Challenge

Declining raw materials prices
High cost of labour
Competition from Asia in many sectors, incl. high technology

Globally competitive businesses need to be:

• Price inelastic
• Insulated from high cost unskilled labour
• Insulated from commodity markets
• Have potential for global volume

New businesses for Australia will depend on innovation
China’s Innovation Imperative

Slowing growth
Competition from other developing economies
China’s labor force is shrinking; cost is rising
Population is ageing
Economy is shifting towards higher internal consumption—including services
Urgent problems need solutions

China needs higher productivity—i.e. innovation
An Innovation Ecosystem is the new basis of global economic advantage

The Old Economic Basis

Endowed assets:
- natural resources
- location
- low cost labour

The New Economic Basis

Created assets:
- educated workforce
- research
- intellectual property
- business infrastructure
- physical infrastructure

Combined in an ecosystem
Features of an Innovation Ecosystem

• Favorable Rules of the Game that encourage new ideas and risk-taking

• Based on:
  o Flow of ideas that enhance collective learning
  o Flow of capital to most effective uses
  o Flow of people to best applications of talent
  o Entrepreneurial & risk-taking culture
  o Market size, demanding customers & purchasing power
  o Supportive infrastructure
  o Linkages to global industrial clusters
Features of an Innovation Ecosystem - 2

- High quality work force
- Flexible and mobile work force
- Accessible business services
- Business climate that rewards risk-taking, doesn’t punish failure
- Open business environment
- Government support to the ecosystem: Vision, legal context (including IP), infrastructure, incentives
Business & Government investment creates the technology base. Leaders are Korea, Israel, Japan, Nordics, Germany, US (GERD as % GDP)

<table>
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<tr>
<th>Country</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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<tr>
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<tr>
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Business contributes 60-70% of national R&D spending but invests little in *basic* research (with notable exceptions)

<table>
<thead>
<tr>
<th>Type of expenditure as % of total business spending on R&amp;D</th>
<th>US</th>
<th>Australia</th>
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<tr>
<td><em>Basic</em> research</td>
<td>6%</td>
<td>5%</td>
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<tr>
<td><em>Applied</em> research</td>
<td>20%</td>
<td>35%</td>
</tr>
<tr>
<td><em>Development</em></td>
<td>74%</td>
<td>60%</td>
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Bruce McKern 2016
Business-government-university partnerships are critical, for research and infrastructure development

What can we learn from the creation of China’s innovation ecosystem?
China’s innovation ecosystem has been driven by Four Forces, through Three Phases*

**The first two forces**

1. **Customer** – market size, fast growth, micro-niches, rapid income growth, diverse tastes
2. **Culture & ambition** – entrepreneurialism, government ambition & funding of China’s innovation ecosystem

**The first two phases of development**

1. From Copying to “Fit For Purpose”
2. From Followers to World Standard

Culture and Ambition: China has built an innovation ecosystem and the outputs are growing fast

Resources devoted to innovation:
- 2% of GDP; 40% of US annual investment
- Number of S&T parks
- Number of foreign R&D centers (over 1,600)
- Top scientific journal publications (1st in CS, Chem)
- Technological intensity
- Patent applications (leading the US)
China is now in the Third Phase of Innovation

The earlier phases created two more factors:

3. **Capabilities** of firms, honed in tough competition & responsiveness to customers in China

4. **Cash (Capital resources)** due to local success, market size & growth, govt. support

These factors underlie the 3rd phase:

3. **From New Resources to New Knowledge:**
   Chinese firms’ entry into Western markets
What we can learn from China

Culture
- Government’s role in building the ecosystem
- Vision: Innovation central to Five Year plans; Made in China 2025
- Business-government-university collaboration in the emerging lead market
- Competing with and learning from China’s best companies

Customers
- World’s biggest market
- China’s Customers—young and extreme
- High diversity and differences
- Increasingly sophisticated demand
- Pressing needs for solutions
- Opportunities for “reverse innovation”

Creating new Capabilities
Capabilities companies can learn from China

- Bold experimentation and rapid iteration
- Development of mixed teams and global leaders
- ‘Lean value’ focus
- Innovation through creative adaptation
- CHINA’S UNIQUE Customers and Users Markets Competition
- New category creation

Issues for the panel

a) How can we boost the economy through partnerships for innovation between industry, academics, government, and research?

b) What industrial policies would further promote industry cooperation on innovation?

c) What are the challenges and barriers to cooperation on innovation? How should we overcome them?
Panel members

• Dr Lily CHAN, CEO of National University of Singapore Enterprise
• Dr Tim Williams, CEO of the Committee for Sydney
• Admiral (ret) John Lord AM FAICD, Chairman of Huawei Technologies (Australia) Pty Ltd