

# Foreign Multinational Firms and China's National Innovation System

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## The OECD Innovation Report on China: Reflections

- Inward FDI = \$60-\$70 bill per year
- (Outward FDI: recent jump to over \$56 bill)
- Technological content of exports increased (but 55% from MNEs in China)
- China now the largest exporter of ICT goods
- China moving up the innovation learning curve
- Relative scale, scope and speed

## Accelerated structural transformation

(are the geese flying faster?)

### Comparative and competitive advantage

= INCREASED:

- technological capabilities
- value-added in manufacturing
- export competitiveness

### **China?**

Clothing, autos,  
electronics, software..?

### **Indian software industry**

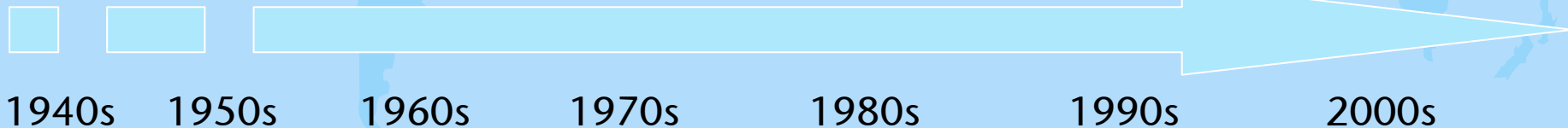
WIPRO, InfoSys, TCS etc..

### **S. Korea, Taiwan, Singapore, H-K**

Clothing → Steel → Autos + Electronics

### **Japan:**

Clothing → Steel → Autos + Electronics → ?



1940s

1950s

1960s

1970s

1980s

1990s

2000s

## The OECD Innovation Report on China: Reflections

- Need to connect firm / micro-level with macro-level (NIS)
  - Firms are the locus of innovation and the engines of growth
  - Report shows “large amount of ‘Experimental’ R&D – but not enough Basic or Applied R&D being conducted in China”  
...and shows a shortage of management and marketing capabilities
- firm-level study provides complementary insights

## The Research Programme

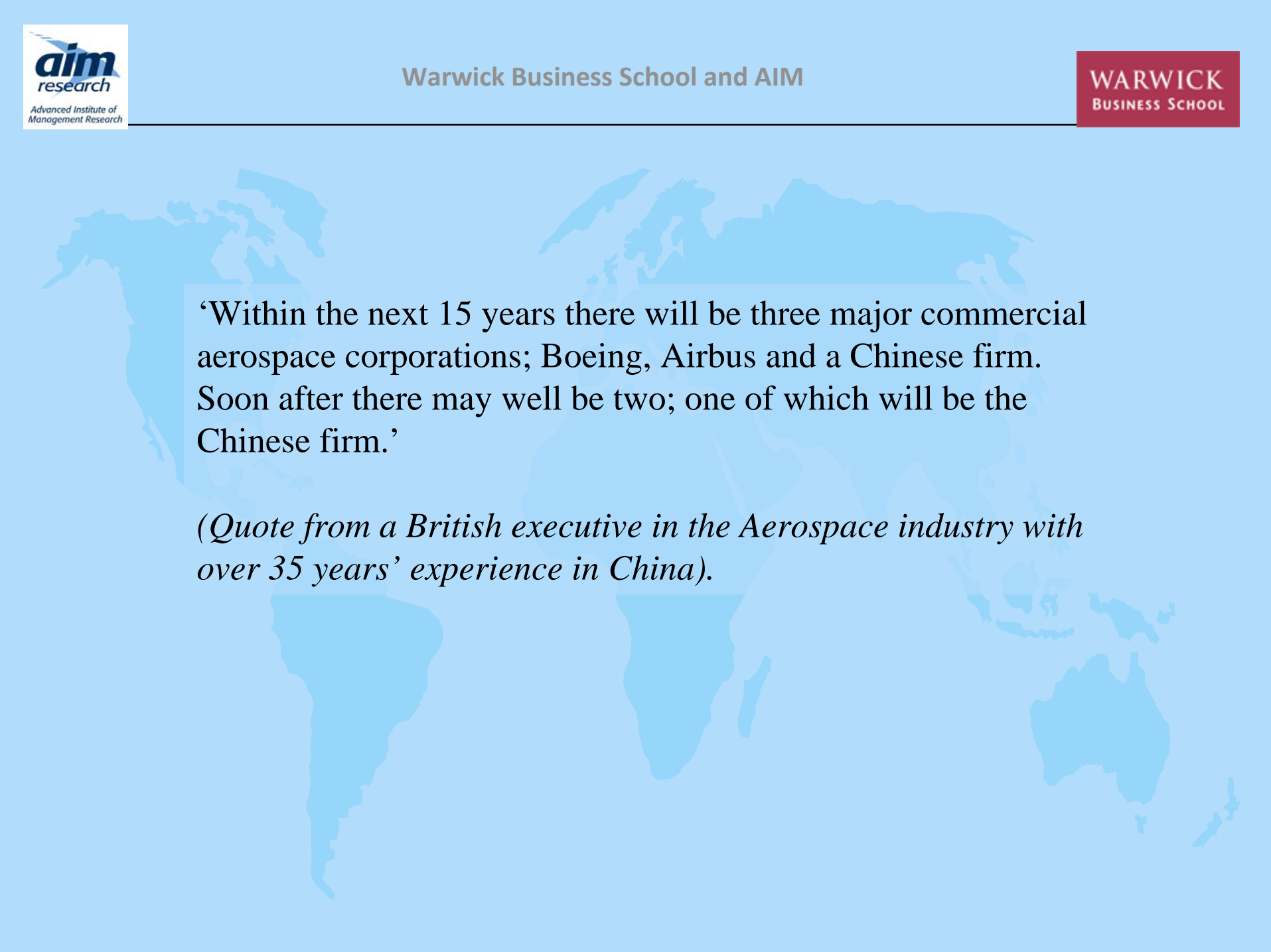
The largest survey of its kind on MNEs in China

- 20 companies (>30 projects); >100 in-company interviews
- UK MNEs, UK SMEs, EU and US MNEs
- Discussions with UKTI, CBI, British Chamber of Commerce, China-Britain Business Council
- Two questionnaire-based surveys, one of CBBC members, one by D&B Huaxia providing 320 responses

<b>Type of FDI / partnership / contract</b>	WFOE / Subsidiary	Joint-venture: (Majority or minority share)
<b>With who?</b> Alliance partner	Supplier, distributor, customer, contractor, collaborator (private or SOE)   University, Government organisation etc.	
<b>Doing what?</b> Function/ Innovation 'context'	<u>Product (or service) development</u>	<u>Process development (manufacturing)</u>
<b>With what result?</b> Output / impact	<ul style="list-style-type: none"> <li>• New products / services</li> <li>• Improved products / services</li> <li>• Entry into new markets (existing products / services)</li> <li>• New licenses</li> </ul>	<ul style="list-style-type: none"> <li>• Improved production (supply / value chain level)</li> <li>• Better productivity (plant level)</li> <li>• Higher quality, reliability of outputs</li> <li>• Lower costs</li> </ul>
<b>Measured by?</b> Indicators	<ul style="list-style-type: none"> <li>• Profitability; % of total product / service portfolio over time; market share over time; patents; revenues from royalties</li> </ul>	<ul style="list-style-type: none"> <li>• Total factor productivity; output per employee / per capital investment; costs per employee; GVA; scrap rate; yield; delivery times, improved reliability, quality (using in-house or industry benchmarks)</li> <li>• Reduced transactions costs (uncertainty, complexity);</li> </ul>
<b>Via which transfer / learning mechanisms?</b>	<ul style="list-style-type: none"> <li>• Copying, stealing, reverse-engineering, transfer of blue-prints, designs. Training, learning-by-doing</li> </ul>	<ul style="list-style-type: none"> <li>• Technology transfer, new equipment and related capabilities through training, learning-by-doing</li> </ul>

## Key mechanisms for capability development

- Supply chain effects (e.g. Airbus, Roll Royce)
  - Joint new product development / improvement
  - Joint process development
  - Joint R&D
- Evolving complementarities – with policy implications



‘Within the next 15 years there will be three major commercial aerospace corporations; Boeing, Airbus and a Chinese firm. Soon after there may well be two; one of which will be the Chinese firm.’

*(Quote from a British executive in the Aerospace industry with over 35 years’ experience in China).*