



Clusters as Drivers of
Competitiveness,
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Technology Cluster Evolution: The Medical Devices Cluster in the West of Ireland

Dr Majella Giblin
Dr Paul Ryan



Introduction

- Industrial Clusters – in theory
 - Geographic proximity, local linkages, local knowledge transfer, intense local rivalry and cooperation, ‘endogenous and self-organised’ (renowned clusters)

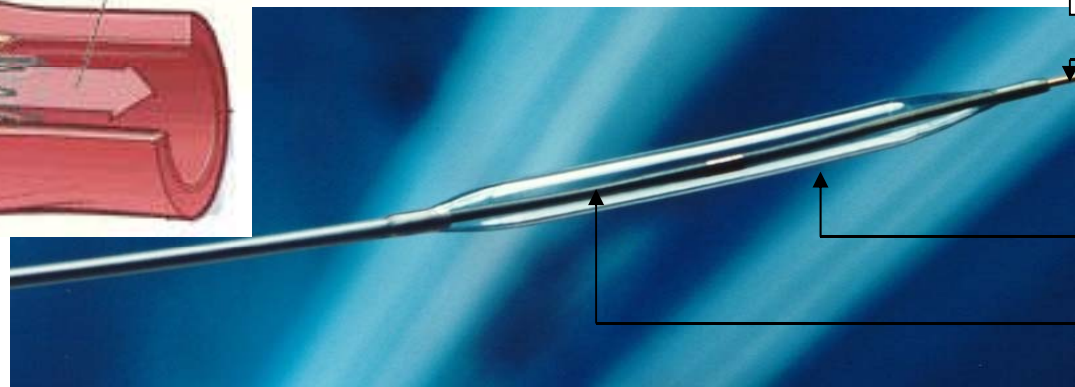
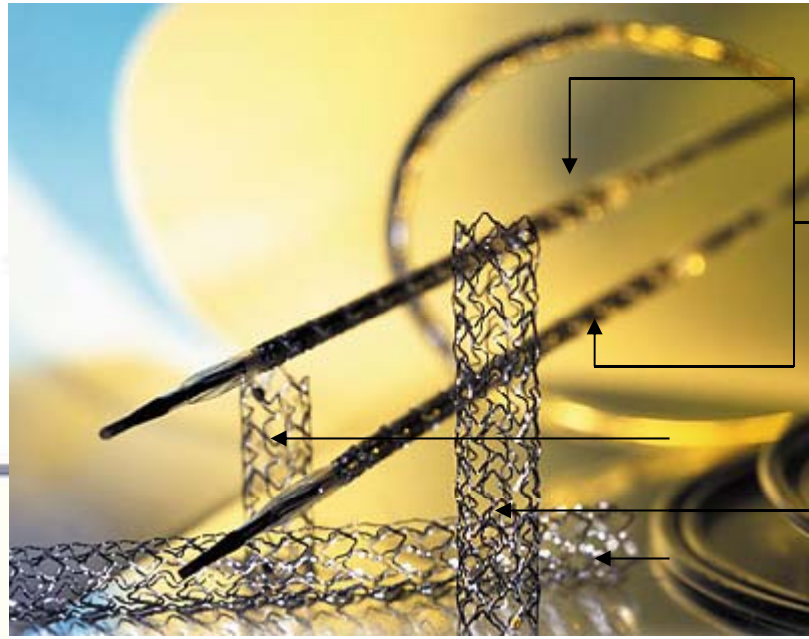
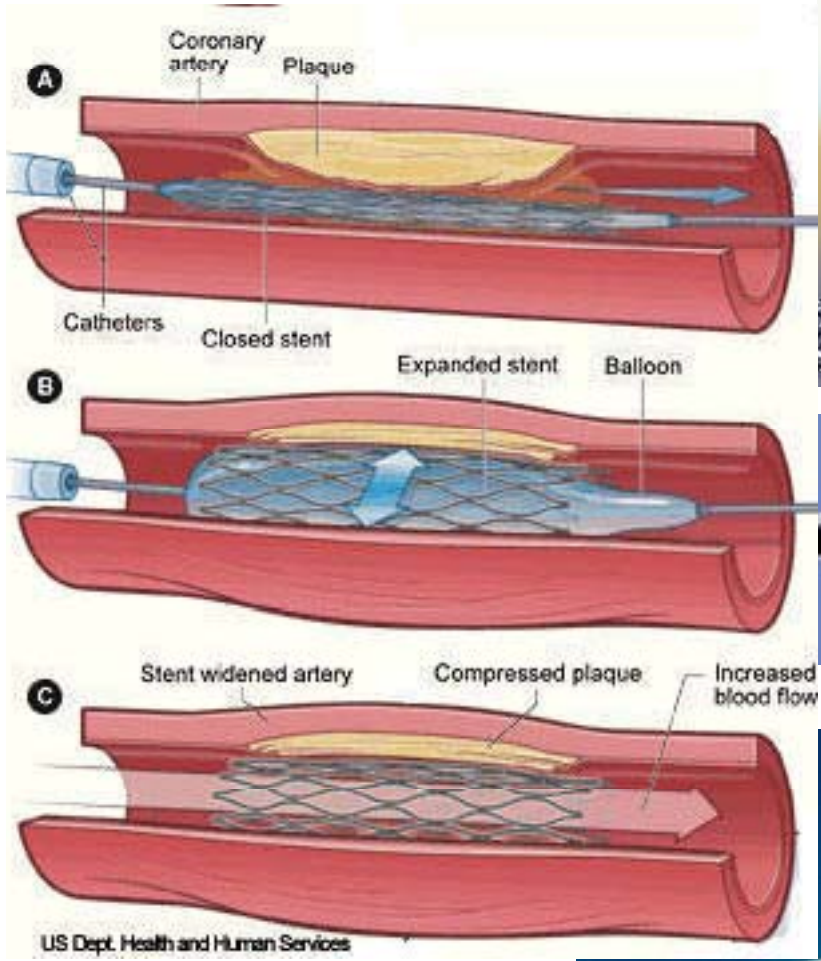
- Clusters of a small, open economy
 - Limited local market, FDI, policy – ‘creating’ sectors

- Case study: Galway Medical Technology cluster

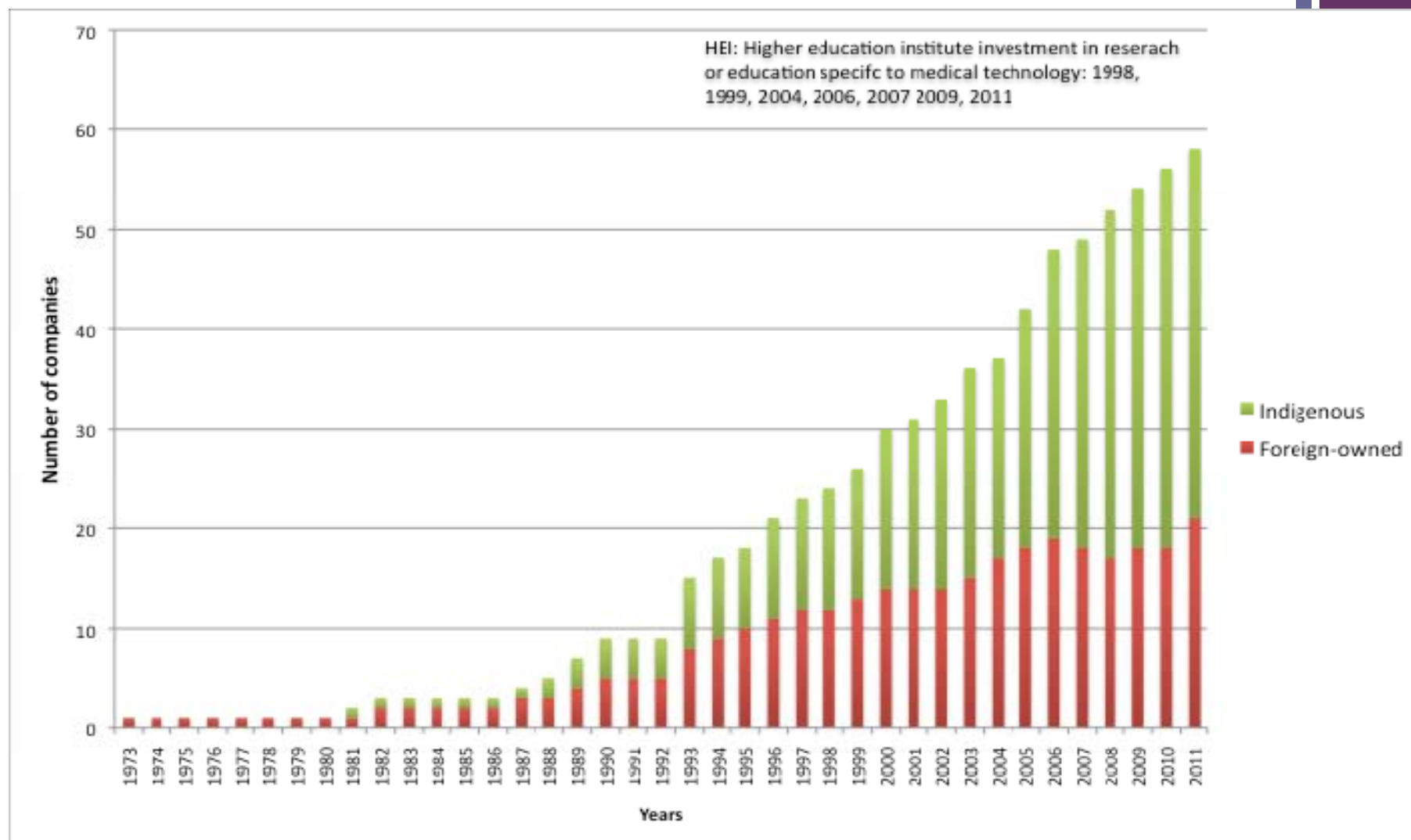
+ Galway Medical Technology Cluster

- Galway Medical Technology cluster, West of Ireland
 - Regional cluster in Ireland
 - Approx 60 companies in total, formation via foreign direct investments (1970s/1980s)
 - 2 pioneering MNEs: Boston Scientific and Medtronic, world-leaders, create most employment in the cluster,
 - Specialisation in cardiology (drug-eluting stents)

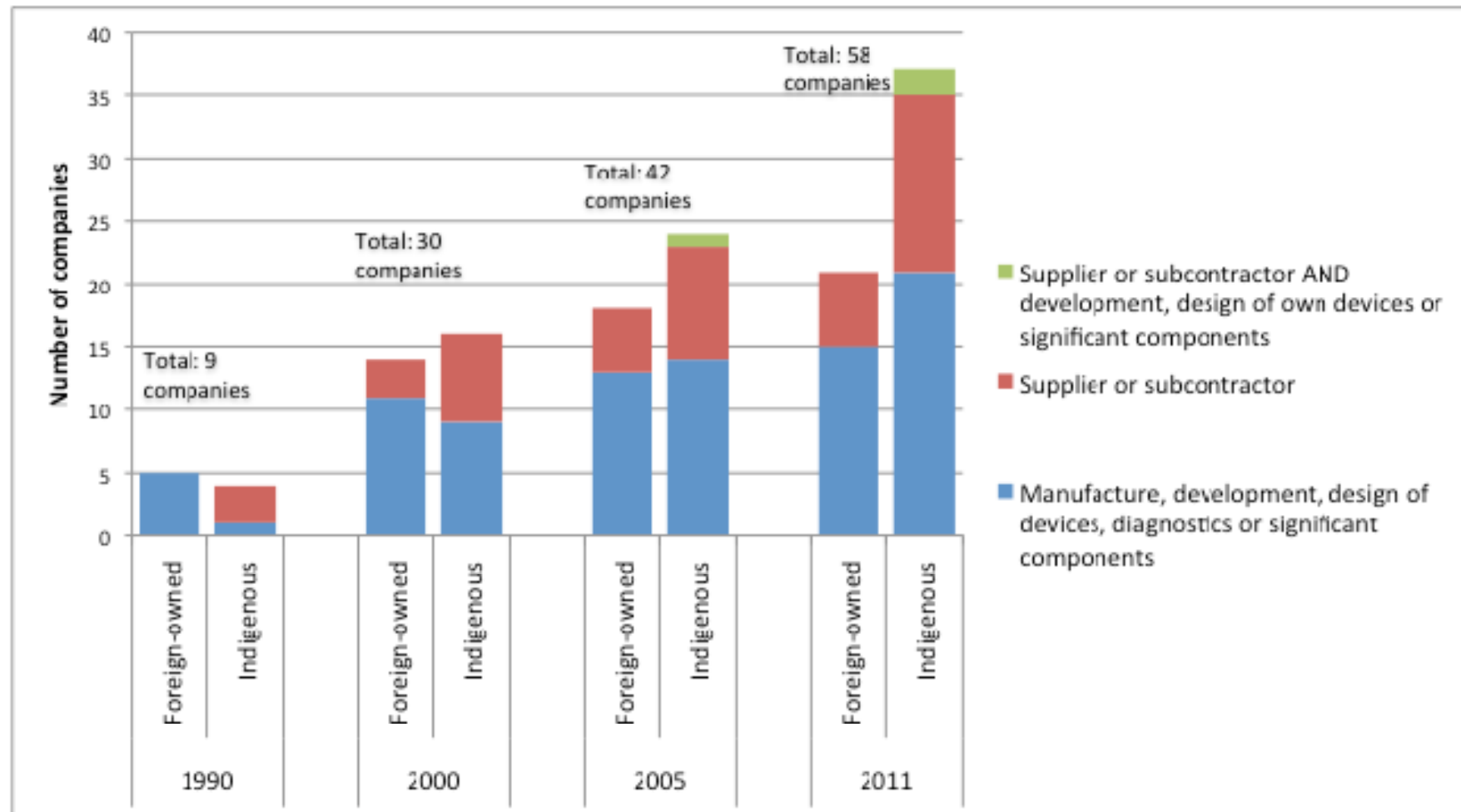
+ Medical Technology Cluster in Galway



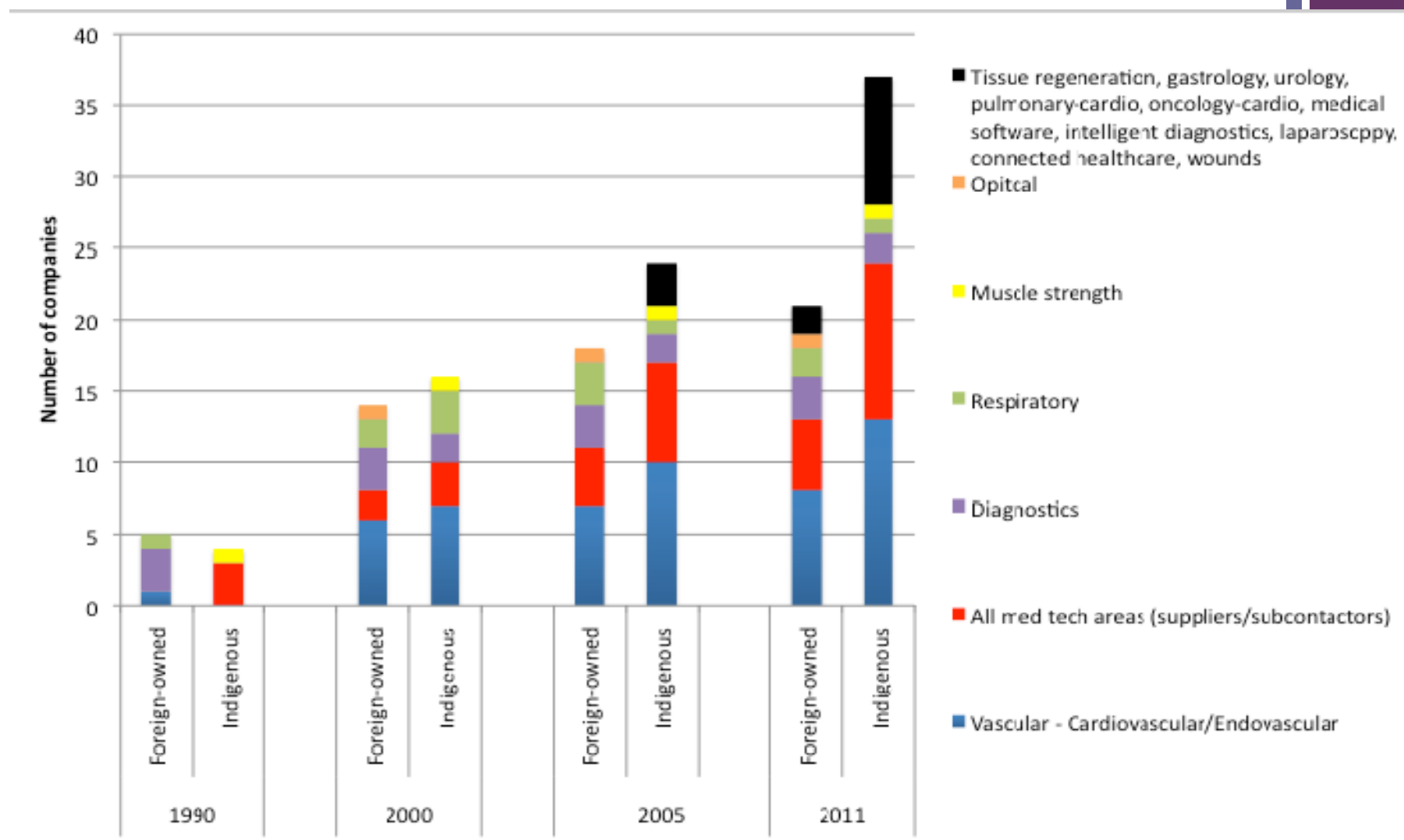
+ Number of companies by nature of investment for each year



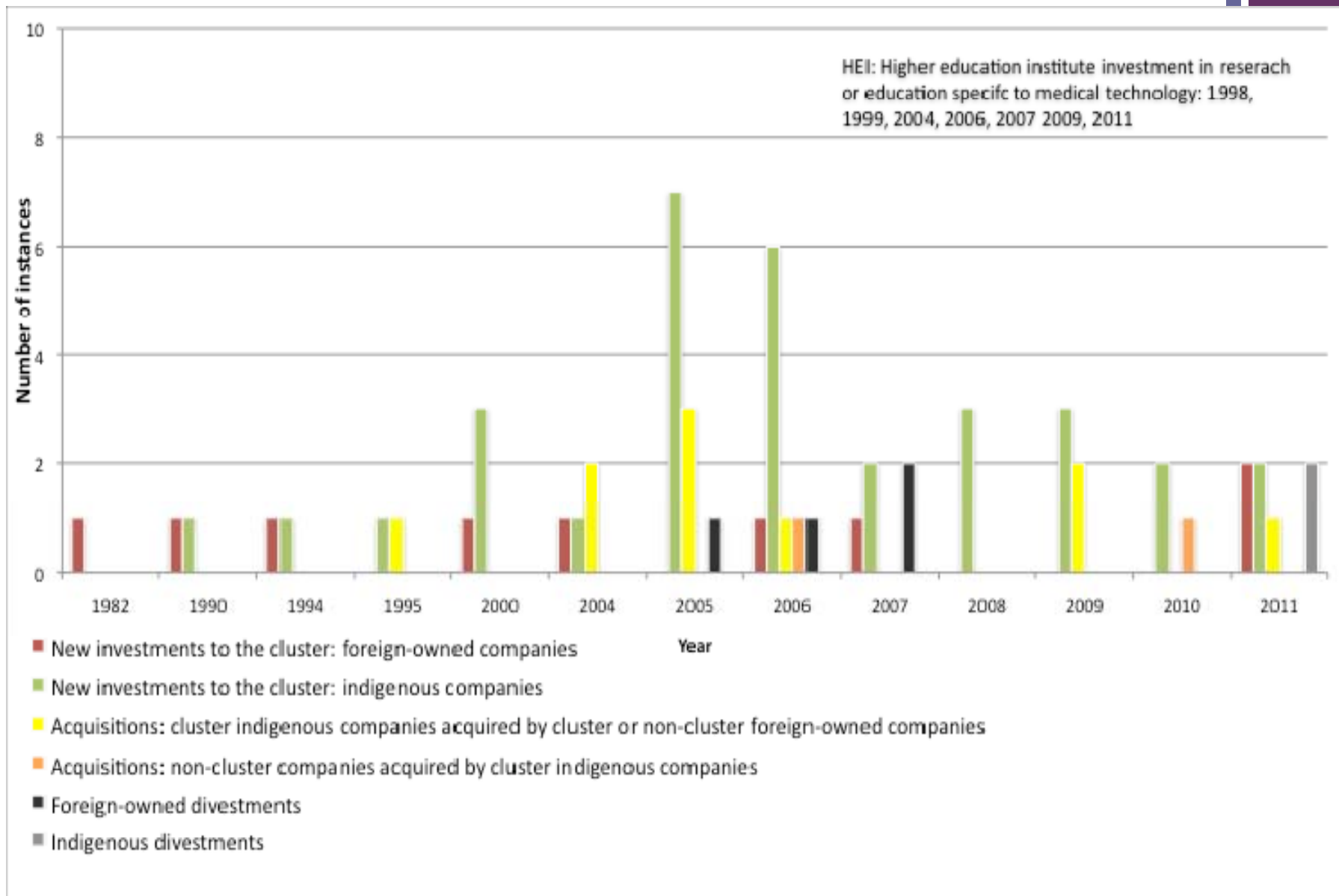
+ Broad activity classification by nature of investment, 1990-2011



+ Broad technology classification by nature of investment, 1990-2011



+ Cluster Dynamics, given years



+ Evolution of the cluster

■ Genesis:

- Pioneering MNEs: low-value added activity

■ Development and dynamics:

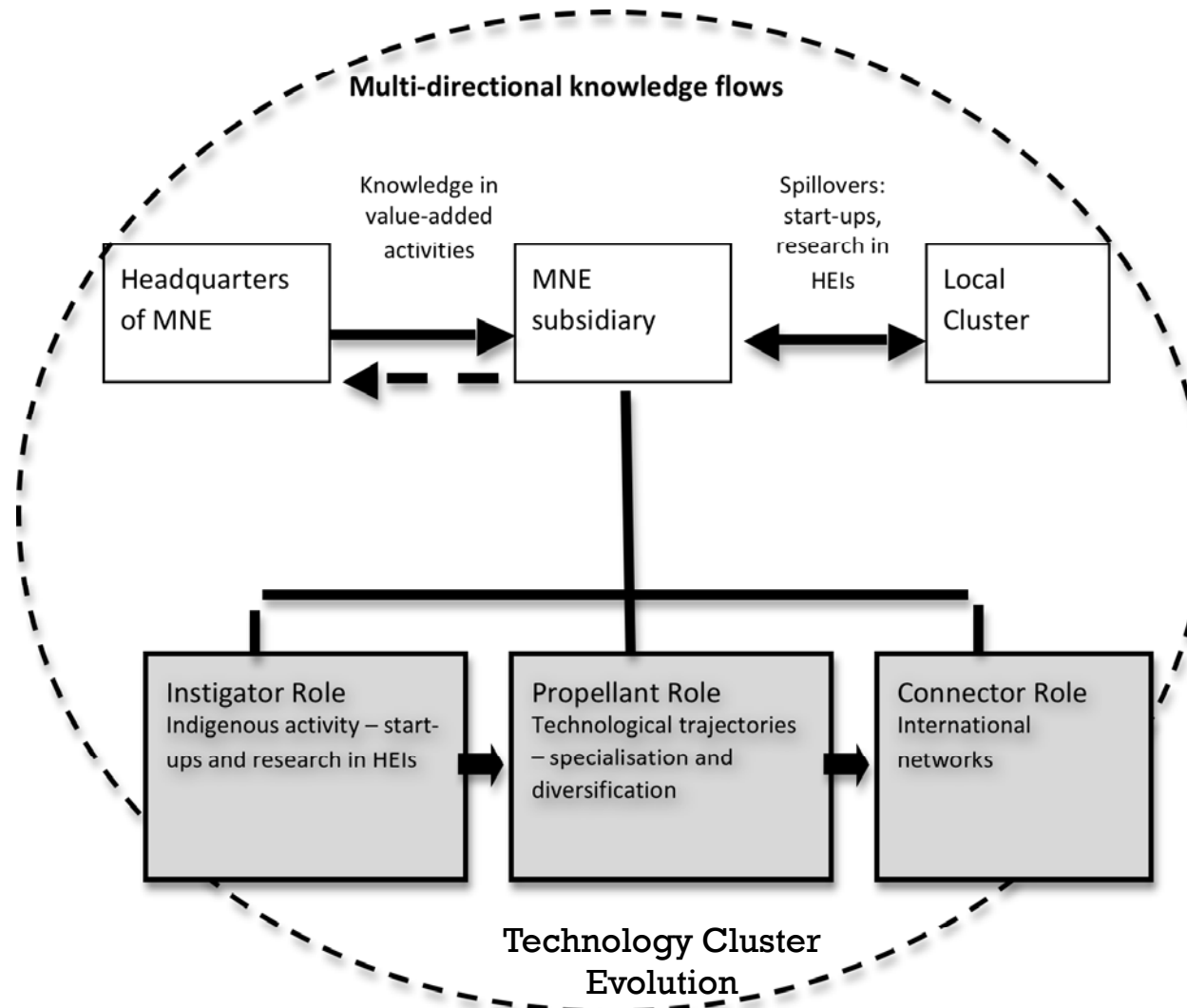
- Pioneering MNEs: specialisation in cardiology, increased project responsibility from HQs – product design and development

*“Originally we used to go to the States and learn stuff, whereas now they send a lot of people over here.....to learn [about] drug-eluding stents”
(MNE A, 2005)*

*“We take products all the way through from concept to commercialisation”
(MNE A, 2008)*

- Spillover to locality: new indigenous suppliers and global start-ups
- Med Tech Research Centres in HEIs – industry-third level partnerships
- Acquisitions of indigenous companies by foreign-owned companies
- Outward foreign investment
- Specialisation and diversification (MNEs, HEI-industry linkages, indigenous start-ups)

+ Evolution of a technology cluster: Roles of MNE subsidiary



+ Implications of Research

- Balancing specialisation and diversification
 - Focusing on narrowly defined sectors is restrictive
 - Understanding technological capabilities internationally and locally
 - Related and unrelated variety
- Role of pioneering MNEs (inward and outward FDI)
 - 'Dual-network' of local and global connectivity
 - Engaging with home clusters of pioneering MNEs
- Developing the local ecosystem: HEI research, co-inventions, future 'anchors'/pioneering organisations



- Paper accepted for publication in *Industry and Innovation* journal

Giblin, M. and Ryan, P. (forthcoming) 'Anchor, incumbent and late entry MNEs as propellents of technology cluster evolution', *Industry and Innovation*.

- Further information:

Dr Majella Giblin

giblinma@tcd.ie