

# Science and Innovation in Small Countries: Speculation and Research Agenda

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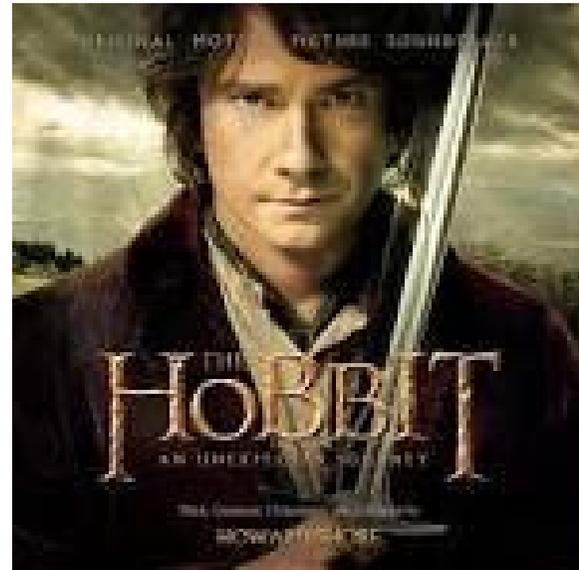
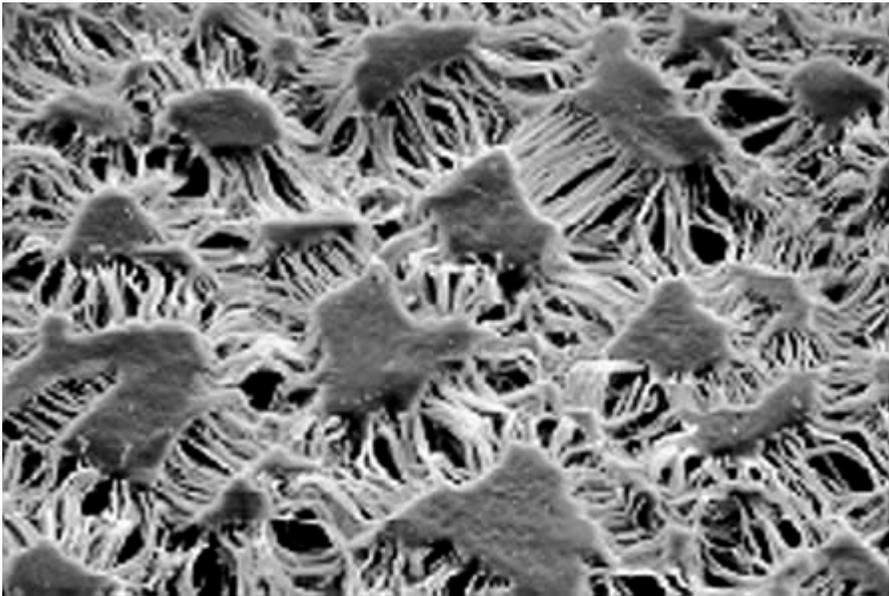
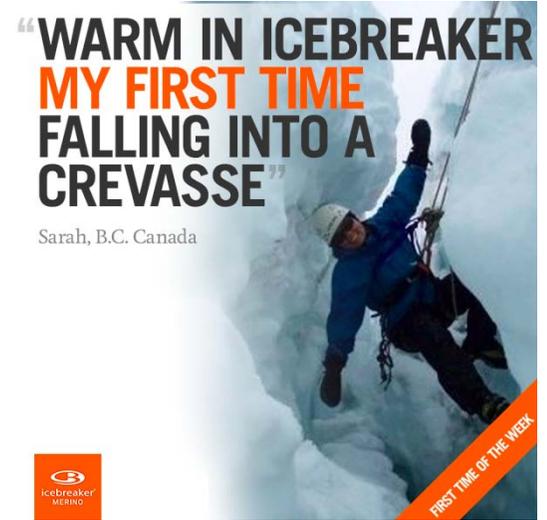
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# New Zealand Innovations



# Overview

- Spillovers: good news/bad news for small countries
  - Agglomeration and innovation
  - Research investment in small dollops
  - Business R&D as a policy goal
  - Entrepreneurship and Innovation
  - The “stickiness” problem
- Concluding thoughts



# Distance Still Matters

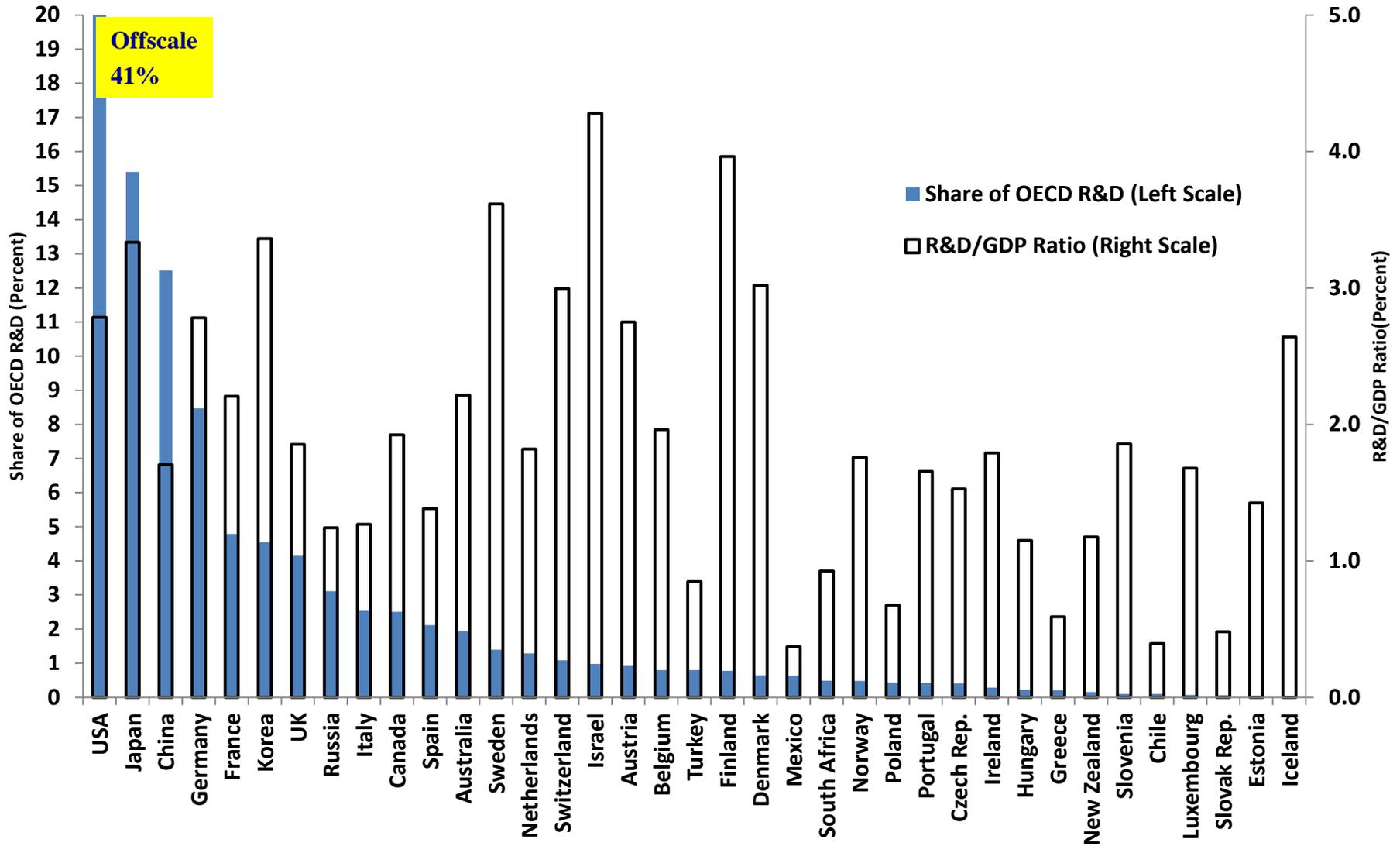


# So the World is Not Actually Very Flat After All

- Innovation remains dependent on personal interactions, so large agglomerations are more innovative
- Creating agglomeration not really a policy option
- Can you meaningfully increase internal connectedness to replace agglomeration?
- Technological, sectoral, institutional choices that minimize the disadvantages of small scale?
- Define “codifiable” as “can be effectively downloaded from a website”
  - Where are the economically meaningful boundaries?
  - Are they moving?



# Drops in the World Research Bucket



# Drops in the World Research Bucket

- Why do we all invest rather than trying to free-ride?
  - Capability building a la Cohen and Levinthal
  - Unique/distinctive needs
  - Adaptation
  - International reputation/diplomacy
    - Can these be targeted, or do you just hope for the best?
- Should we reach for the “stars”?
  - If so, how?



# “BERD” in Hand, or More in the Bush? (“Business Enterprise R&D”)

- Means to an end or end itself?
- Increased spillovers versus relabeling
- Small firms and R&D: low returns or “barriers”?
- Tradeoff between competition and cooperation
- “Potato chips versus semiconductor chips” (milk powder versus nano powders?)
- Limits on government capability



# How do we become Israel or Finland?

- Culture (cult?) of entrepreneurship
  - Ambition, attitude toward failure, attitude toward success
  - Are there any levers?
- Export orientation
- Wooing the multinationals
- IP rules
- Ubiquitous “shortage” of venture capital



# The Dark Side of Spillovers—The “Stickiness” Problem

- Success or failure:
  - Publicly funded patent licensed overseas
  - Domestic startup acquired overseas
  - Native born who emigrate and get rich
  - Immigrants who get rich
- Normative
  - Spillovers versus short-run jobs
  - who’s in the objective function
- Distinguish means and ends
- Distinguish short run and long run



# Parting Shots

- Innovation is still sexy (though possibly for the wrong reasons)
- Objectives unclear—well-being or winning?
- Theory alone essentially useless
- Innovation systems concept casts doubt on transferability of lessons
- No substitute for country-specific empirical micro research
- Climate challenge is a huge technology challenge
- (Inequality)

