




African Center for Aquatic Research and Education

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ACARE in a broader context:
Perspectives from the University of Minnesota

Erik Brown

Large Lakes Observatory

Graduate School/Sponsored Research/Academic Affairs

University of Minnesota Duluth

USA

External forces

Science funding agency priorities (US examples)

Global demographics (opportunities for graduate education)

Funding agencies shifting to new paradigm:

Example: US National Science Foundation officials tell me that NSF thinks that there will be a better return on investment for a large “Manhattan Project” focusing on a major challenge than for a collection of “curiosity-driven” single-investigator projects.

Is there evidence of US funding agency resources shifting to large, interdisciplinary projects?

Lagging Indicators

- Increase in multi-PI awards (especially for high-dollar opportunities)
- Increase in number of centers and center-level awards
- Increase in limited submission opportunities
- Increase in agency rhetoric about “interdisciplinarity,” “convergence,” and “collaborative” research

Agency Rationale

- Reduce agency **administrative burden**
- Yield greater impact and **return on investment**
- Gain **political cover** from demands to explicitly fund “national priorities”
- **De-risk** agency investments by investing in universities most likely to “succeed”

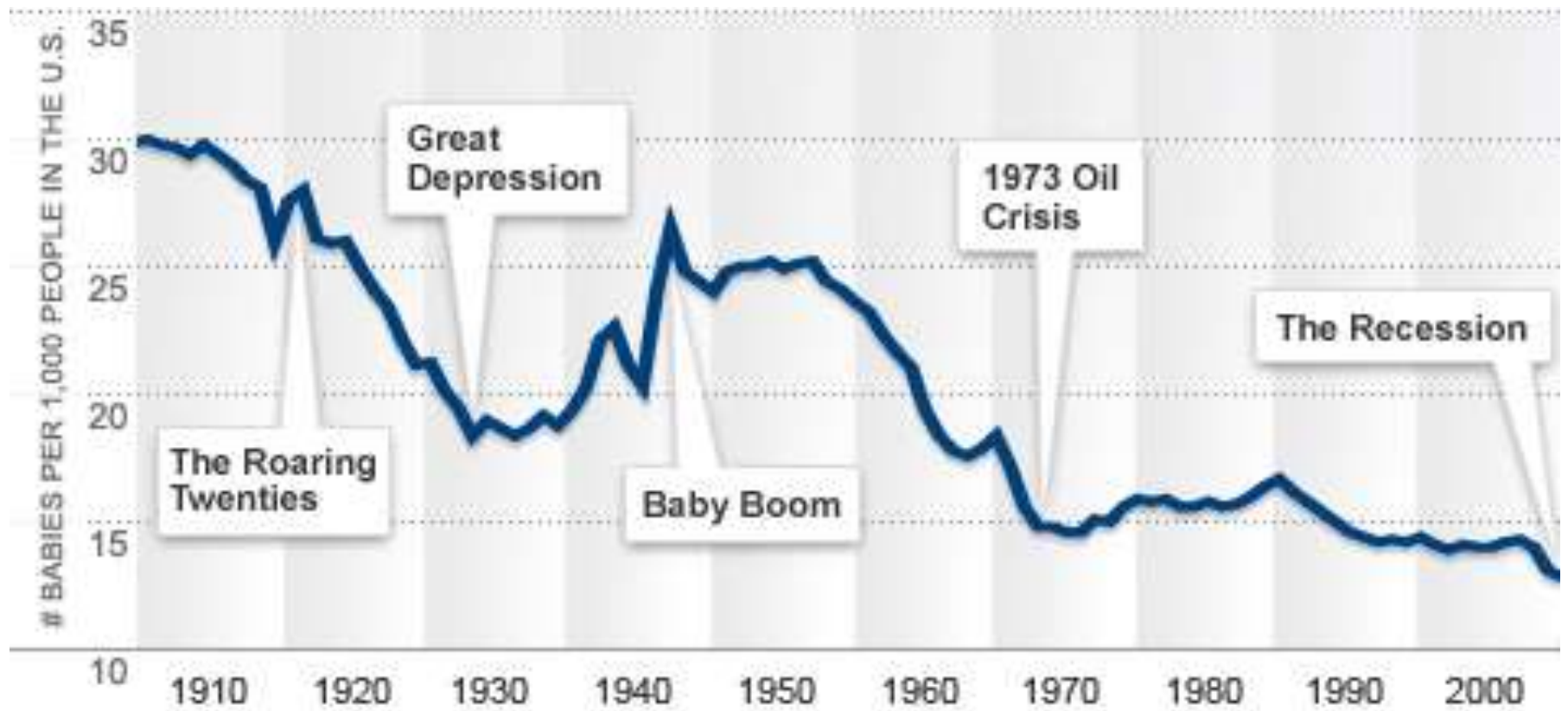
Implications for ACARE

- US researchers seeking to build **broader** research programs could work through ACARE to develop ties with new colleagues beyond their initial contacts.

Broader in terms of discipline (e.g. limnology, fisheries, ecosystem services, social impact) **or** region (e.g. comparative study across a gradient of climate conditions).

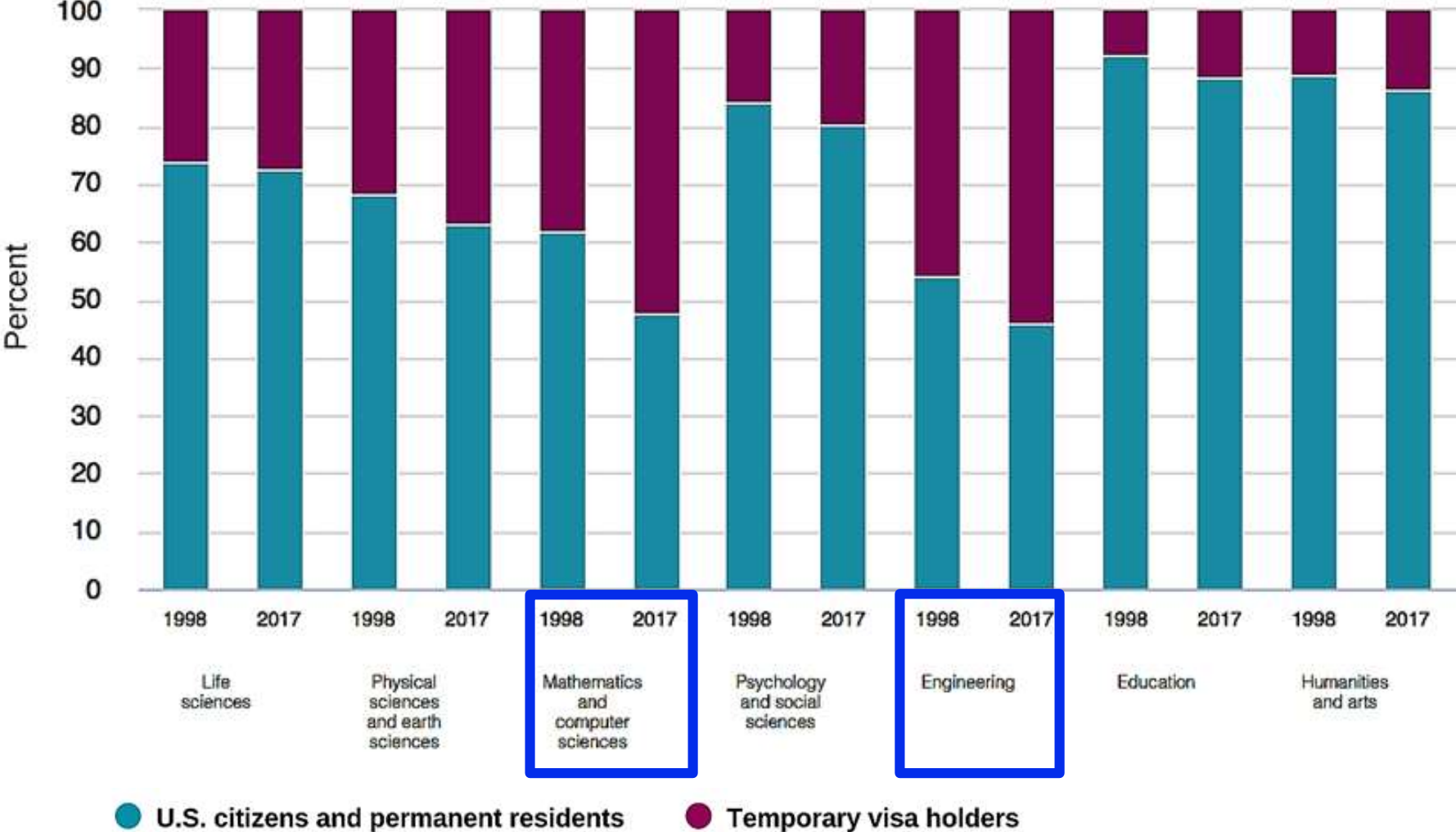
These new ties can also be used to identify resources to facilitate work on the best system for study of a specific phenomenon.

US demographics

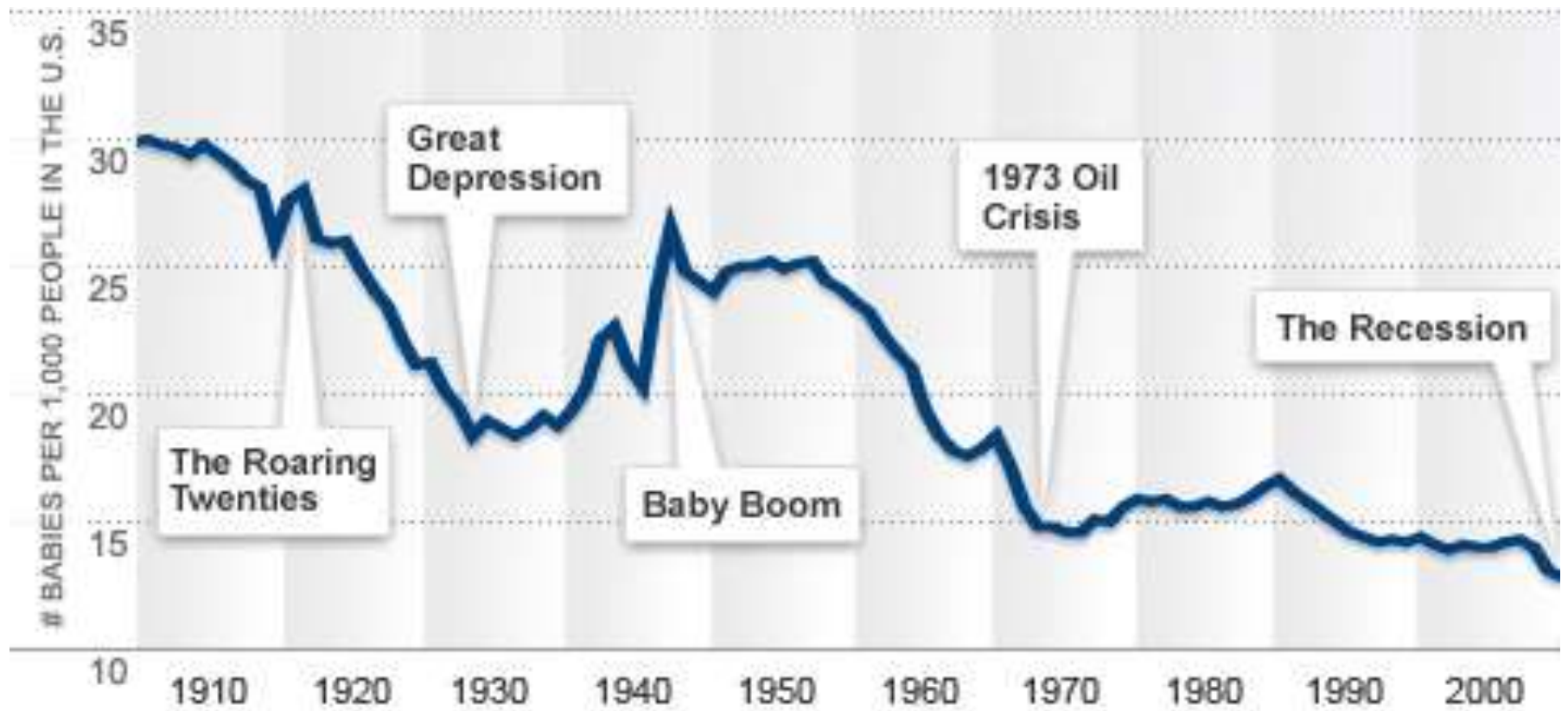


SOURCE: NATIONAL CENTER FOR HEALTH STATISTICS

Doctorates Awarded, by Citizenship & Field of Study: 1998 & 2017

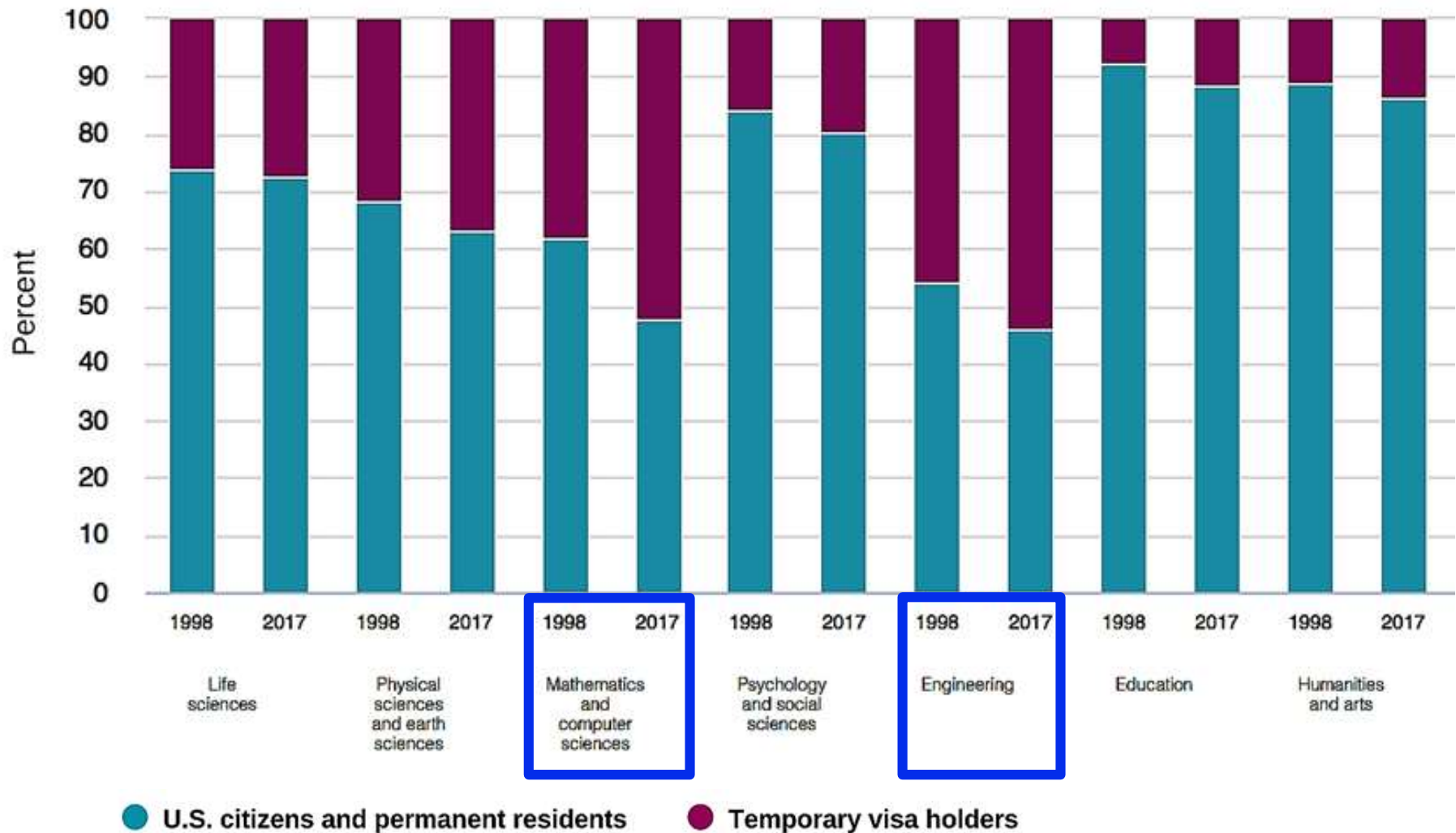


US demographics

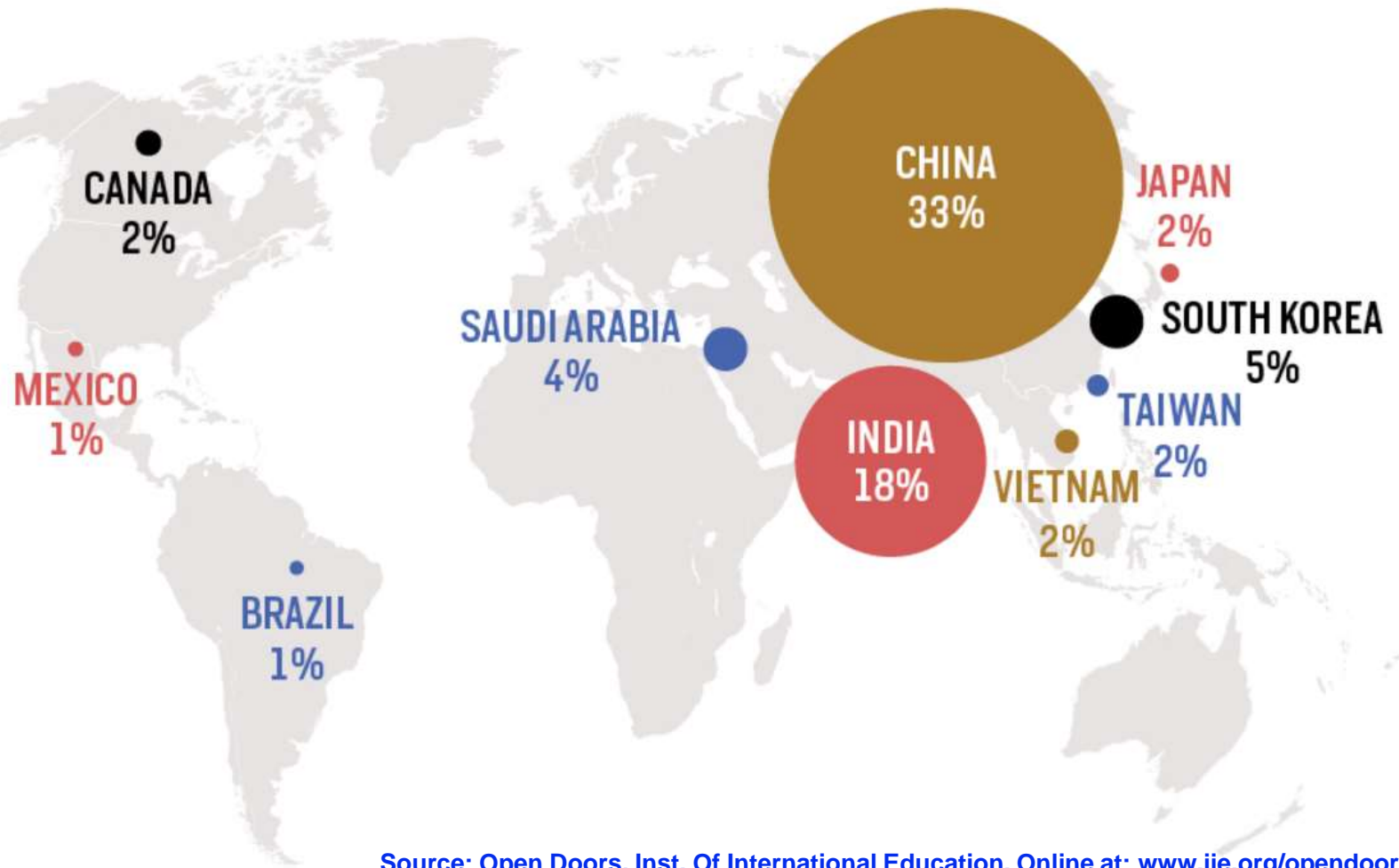


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Doctorates Awarded, by Citizenship & Field of Study: 1998 & 2017

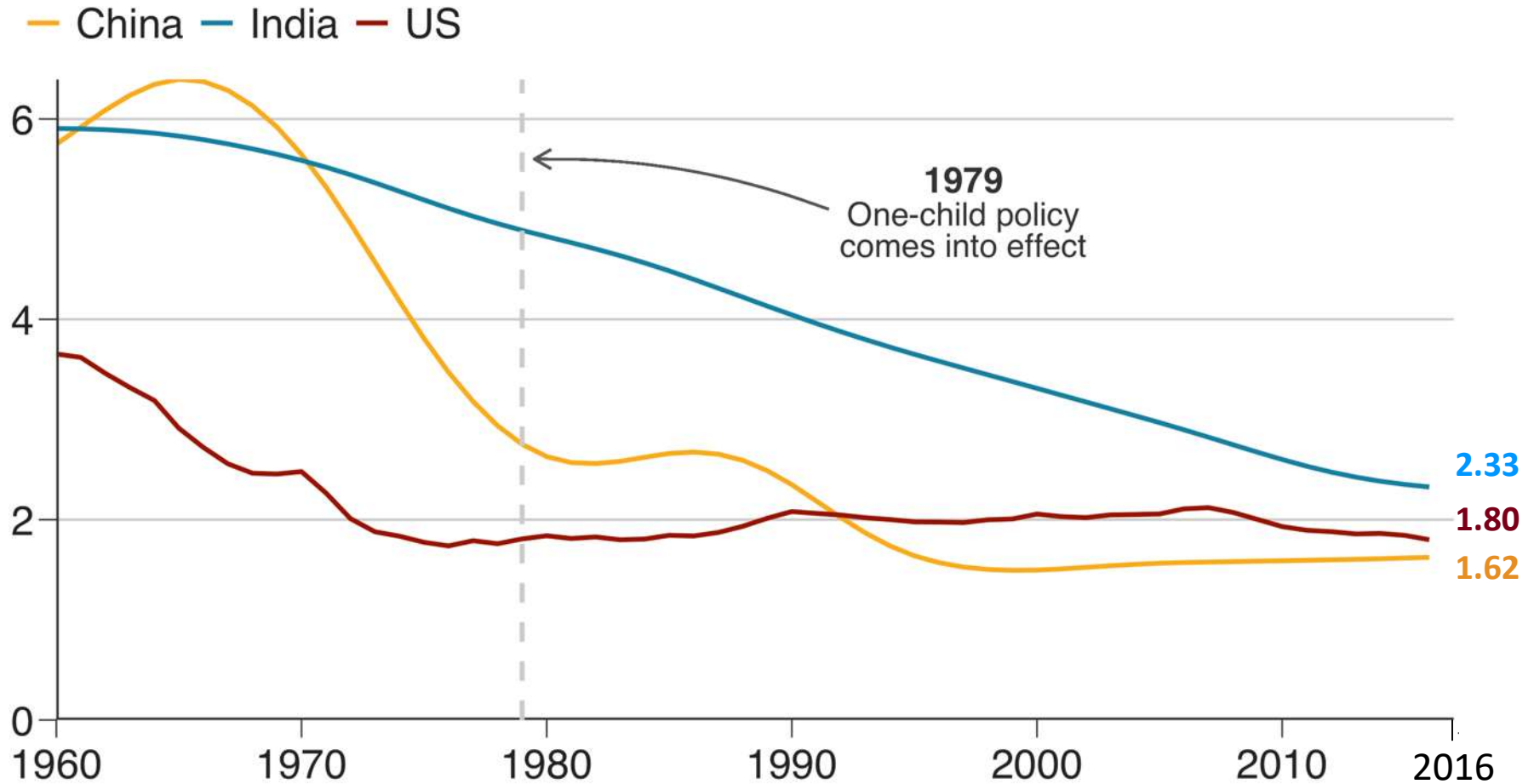


Major sources of international students to the US – AY2017-18



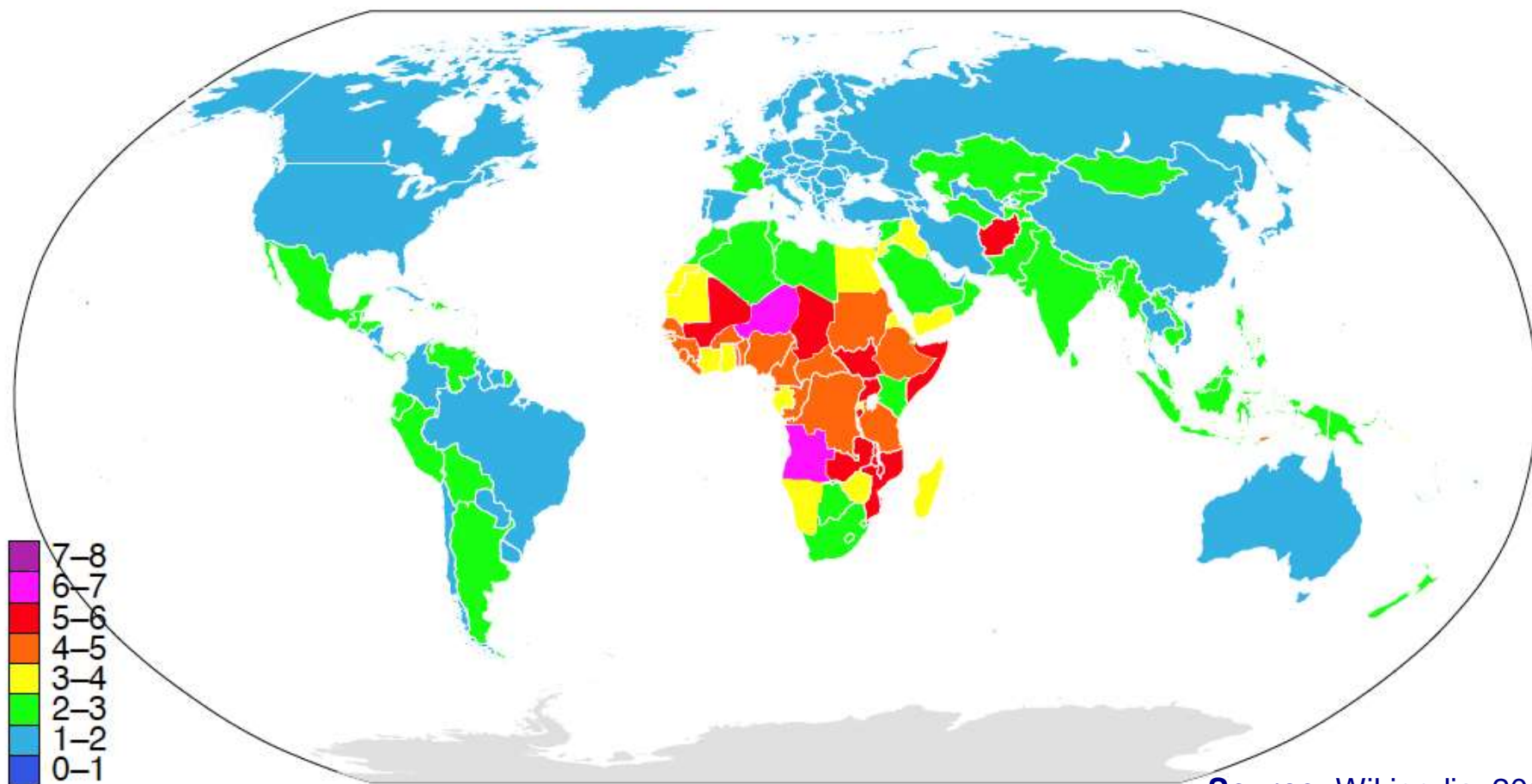
Source: Open Doors, Inst. Of International Education. Online at: www.iie.org/opendoors

Demography: China India & US (birthrate per female)



Source: World Bank

Global demography 2017: (birthrate per female)



Source: Wikipedia, 2019

Implications and opportunities for ACARE

US (and presumably European) universities have excess capacity for high level training. Graduate programs in science and engineering typically provide assistantships, stipends, and tuition waivers. This can provide outstanding educational opportunities for African scientists.

Can ACARE act as a conduit for communication among universities bringing African students information about opportunities in graduate education, and supporting their progress?