Elite Scientists and the Global Brain Drain

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The future will be shaped by a relatively small number of elite researchers.

Is there evidence of brain drain of the very best?

Does this matter?
University of Warwick, UK

Established only in 1965

Now Top 5-10 in UK

Our goal: world top 50 by 2015
We collected data on 3 types of individual researcher:

- ISI Highly Cited Physicists
- ISI Highly Cited Bioscientists
- Assistant Professors in the top 10 Economics departments in the US
In 2007, the best researchers are extraordinarily mobile.

Example 1:
Top Young USA-based Economists

Distribution of where Bachelor of Science was obtained

Outside USA 75%  
USA 25%
Top Young USA-based Economists

Distribution of where PhD was obtained

Outside
USA
13%

USA
87%
In 2007, the best researchers are extraordinarily mobile.

Example 2:
Highly-cited Physicists

Movement through their career

Stage of career

Born | Bsc | Phd | Current

USA | Rest of the World

Born Bsc Phd Current

Rest of the World

USA
Nearly half of all Highly-cited Physicists have left their home country

Currently not located in country of birth: 44%
Currently located in country of birth: 56%
Yet, within the elite, the very best are not more mobile
We look at data on the citations levels of ISI Hi Ci Physicists:

Movers and stayers have approximately the same h-index
Highly-cited Physicists

A comparison of h-indexes: ‘Movers vs Stayers’

Stages of Career

WARWICK
The elite cluster by subject in particular universities.

E.g.: a university might have 4 HiCi space scientists, 3 Hi Ci Economists, and almost no others in the other 19 ISI disciplines.
ISI Highly-cited researchers

Clustering within institutions

Cluster type

Statistically expected proportions

Actual proportions

0% 10% 20% 30% 40% 50% 60% 70%

Clusters of 2 out of 2
Clusters of 2 or 3 out of 3

Cluster type

Warwick
Three Conclusions

• There is now remarkable mobility among the best researchers
• Yet, within the elite, movers and stayers have the same h-index
• Star researchers cluster together by discipline
THIS IS THE WORLD IN WHICH UNIVERSITIES MUST COMPETE AND DESIGN STRATEGIES TO SUSTAIN WORLD CLASS STATUS
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