

# Ruchir Agarwal, Harvard University and Patrick Gaule, University of Bristol<sup>1</sup> – Written evidence (PSU0013)

## Strengthening U.K. Foreign Talent Policy

**Synopsis:** *The U.K. has the potential to attract a significant share of global talent due to the reputation of its universities, its stable institutional environment, and the ubiquity of the English language. However, to fully leverage that potential, the U.K. would need to implement a richer set of policies going beyond special visas to include scholarships and other tools. Making U.K. a global talent hub would help key industries (such as finance, academia, and tech), boost economic growth, and advance global innovation and science.*

### I. Context

The House of Lords Science and Technology Committee is conducting an inquiry into people and skills in science, technology, engineering, and mathematics (STEM) in the UK. Among other questions, the Committee is interesting in: *How attractive is the UK as a place for people with STEM skills to move to and make a career and has this changed recently?* Below are some considerations on U.K. foreign talent policy based on our research on the economics of talent (Agarwal & Gaule 2020, Agarwal, Ganguli, Gaule & Smith 2021, Agarwal, Ganguli & Gaule 2021).

### II. Why is Foreign Talent Policy Important?

**Economic growth requires innovation.** Innovation drives economic progress by raising productivity and living standards. Essentially, innovation raises labour productivity by enabling the same number of workers to produce a greater amount of goods and services. And enhanced productivity translates into a larger economy with higher household incomes, greater benefits for consumers and businesses, and better living standards. While a variety of factors contribute to raising productivity—such as combination of entrepreneurship, creative application of ideas to improve existing goods and services, a conducive regulatory environment, etc.—the role of innovation in the form of creation of new ideas through research and development (R&D) remains a central driving force. In this context, the government’s intention to increase the proportion of UK gross domestic product spent on research and development (R&D) to 2.4% by 2027 from the current 1.74% is promising.

**However, innovation requires top talent.** Innovation cannot happen without innovators. And highly-talented individuals in STEM fields are especially capable of advancing the innovation frontier—due to their ability to solve tough problems. For instance, in our past work ([Agarwal & Gaule 2020](#)), we find that teens who scored well in the International Mathematical Olympiad (IMO), a global math competition, were especially likely to get a PhD, publish and collect citations for their research, and win the prestigious Fields medal. Therefore, going forward, increased R&D

---

<sup>1</sup> The authors are co-founders of the Global Talent Lab, housed at the University of Bristol.

spending will need to go together with developing a workforce with strong STEM skills and talent to realise the country's full innovation potential.

**Since most of the top talent are born outside the borders of any single country, attracting foreign talent is key for promoting innovation.** Even in the United States, a country five times as large as the U.K. population wise, foreign talent is a major part of the scientific workforce. There is growing evidence that immigration has a positive causal impact on innovation, measured as patenting of local firms, and on economic growth, measured as real income growth for native workers. For instance, Burchardi et al. (2020) estimate that the large inflow of foreign migrants into the US since 1965 may have contributed to an additional 8% growth in innovation and 5% growth in wages. Attracting top talent from abroad be particularly important in quantitative finance, technology and academia which are all key industries for the U.K.

**Attracting foreign talent might benefit not just the U.K., also the global advancement of science.** Over the past decades, select countries like the United States, United Kingdom, and France have emerged as a hub for foreign talent. Accordingly, immigration policies and funding opportunities (e.g., scholarships) in these countries have significant implications for how fast the global knowledge frontier advances. At present, a lot of young talent from poorer countries don't realize their potential due to a variety of barriers. Agarwal and Gaule (2020) find the career success of top talent was also tied to where they were born – with IMO participants from low-income countries produce 34 percent fewer publications and 56 percent fewer citations than equally talented rich-country counterparts. Therefore, suboptimal immigration policies and insufficient funding opportunities in countries like the UK may deprive talented individuals of the opportunity to nurture their abilities. And in turn, humanity is potentially deprived of countless discoveries. In Agarwal, Ganguli, Gaule, and Smith (2021), we find that the global scientific output of future generations could be up to 42 percent higher if talented youth around the world had equal opportunities to nurture their abilities. Thus, there are potentially large global benefits of adopting an enhanced and well-designed foreign talent strategy in countries like the UK.

### ***III. The Current Foreign Talent Strategy and its Limitations***

**The current UK talent strategy focuses on visa policy and targets older, often already successful, people.** To attract international talent, the UK has introduced a number of special visas including the High Potential Individual visa and the Global Talent visa. Given that talented individuals may already be eligible for regular student and work visas, the current policy presupposes that facilitating the process to get a visa (through the special visa routes) would strengthen the attractivity of the UK. It is worth pointing out that talent strategy need not be about visas only: other countries, such as Italy, have used fiscal incentives (such as a reduction in personal income taxes) for high-skilled immigrants. We also note that the new visa typically targets people who are often older and already successful. In particular, the fact-track immigration for award winners is specifically designed for

individuals who have achieved career-defining success. Even graduating from a top global university (the key eligibility requirement for the Global Talent visa) is a challenging step for individuals coming from countries (such as India) that do not have such universities.

**However, the current UK strategy may not be targeting the most promising ways of attracting talent.** It still remains unclear why special visa routes by themselves would be effective in increasing the attractiveness of the UK. In addition, talented, people who are older or already successful may not be particularly mobile internationally, or may find other destinations more attractive than the UK. This point is particularly clear regarding the fast-track immigration route for prestigious award winners, to which just one person over the course of a year had applied to, according to media reports<sup>2</sup>.

**U.K. Universities train considerable number of foreign students but with a greater focus on ability to pay rather than to build the country's talent pipeline.** Given that higher education is a major export industry for the U.K., it is understandable that U.K. Universities are motivated to boost their profits by charging high international student fees. However, one consequence of universities prioritizing their profit goals is that is that highly talented students with moderate or low ability to pay are effectively prevented from coming to the U.K. for undergraduate or master study. So, while this may be privately optimal for each university, it may not be socially optimal for the country or the world.

#### ***IV. Some Considerations to Improve U.K. Foreign Talent Policy***

**A significant share of the world's top talent would like to come to the U.K. to study and live.** As part of our research (Agarwal et al. 2021), we surveyed recent participants to the International Mathematical Olympiad (IMO), a premier international competition for high-school students. We asked respondents where they would have wanted to study (for their undergraduate studies) if they could have studied anywhere in the world. Close to 25% of respondents cited the U.K. as their preferred destination, behind only the U.S. (Exhibit 1). We found that U.K. was considered an attractive destination for top talent due to reputation of its universities, its stable institutional environment, and the ubiquity of the English language around the world.

**Greater funding should be made available to enable universities provide full need-based funding for top talent.** A key factor preventing top foreign talent to move to the U.K. is their low ability to pay comparatively high UK tuition fees and living expenses. Financing constraints consistently featured in interviews and survey answers as playing a central role in where top talent study and their ability to come to their preferred destination. Providing a set of scholarships for top

---

<sup>2</sup> <https://www.newscientist.com/article/2322750-uk-visa-for-top-scientists-was-given-to-just-one-person-in-first-year/>

foreign talent to come and study in the U.K. could be a highly effective tool in attracting top foreign talent to the U.K.

**Universities should be encouraged to prioritize identifying and actively making efforts to attract top foreign talent.** U.K. universities are actively recruiting students abroad, but such recruiting efforts should also target top foreign talent irrespective of their ability to pay, especially if greater funding is available for top talent.

**Other countries have already shown the success of such a strategy.** For instance, the success of the U.S. in attracting top talent has been largely predicated on the targeted strategies of a few universities such as MIT of actively recruiting top foreign talent with funded admission offers. In, Agarwal, Ganguli, Gaule, and Smith (2021), we found that MIT attracts about a quarter of foreign International Mathematical Olympiad participants. Learning from this model and replicating its success requires combining (i) stable open borders with a right to work for top talent, (ii) full need-based educational scholarships for top talent (especially for those coming from lower income countries or disadvantaged backgrounds), and (iii) a having a select group of top-ranked universities serving as talent hubs. While political economy considerations and budgetary challenges may make it difficult to make progress along these lines, there is a strong economic case for action as the social returns from implementing such policies are large.

*4 September 2022*

## References

Agarwal, R., & Gaule, P. (2020). Invisible Geniuses: Could the Knowledge Frontier Advance Faster? *American Economic Review: Insights*, 2(4), 409-24.

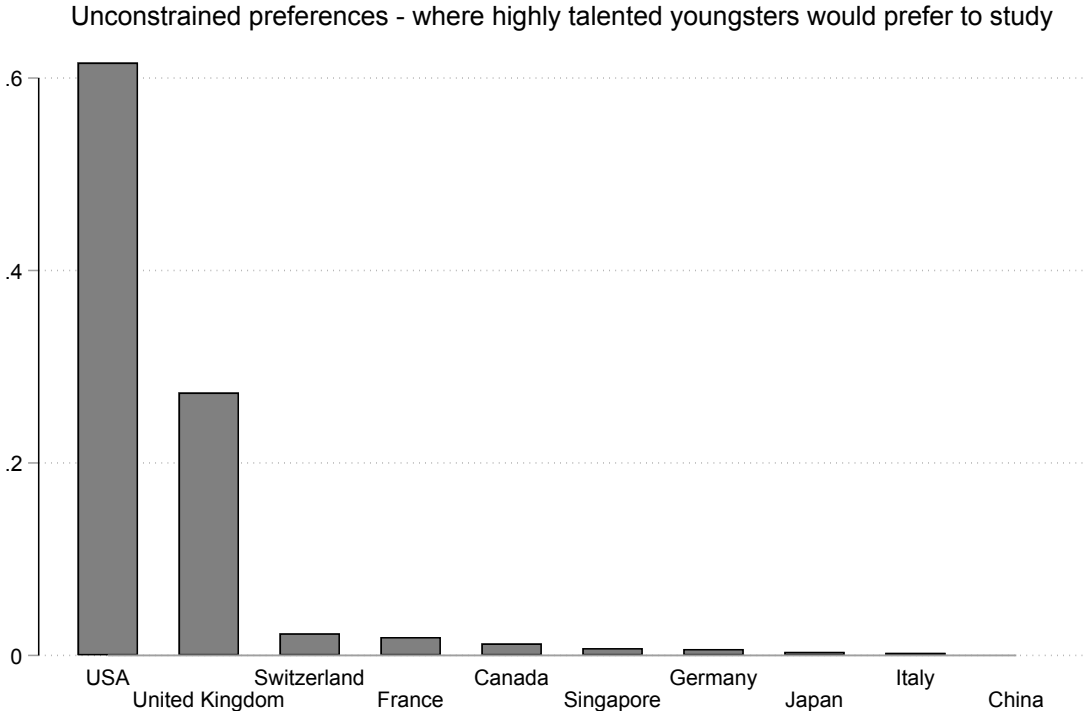
Agarwal, R., Ganguli, I., Gaule, P., & Smith, G. (2021). Why US Immigration Matters for the Global Advancement of Science. International Monetary Fund. WP/21/42

Agarwal, R., Ganguli, I., & Gaule, P. (2021). Embracing the Gift of Global Talent: More equal opportunities can make us all better-off. *Finance & Development*: 51-53

Burchardi, K. B., Chaney, T., Hassan, T. A., Tarquinio, L., & Terry, S. J. (2020). Immigration, Innovation, and Growth (No. 27075). National Bureau of Economic Research.

Gaule, P., & Piacentini, M. (2013). Chinese graduate students and US scientific productivity. *Review of Economics and Statistics*, 95(2), 698-701.

**Exhibit 1. Immigration Preferences of Top Talent**



Source: Authors' computations based on our retrospective survey of participants to the International Mathematical Olympiad (IMO), a premier international competition for high-school students. We asked respondents "If you could have studied anywhere in the world for your undergraduate degree, where would you have wanted to study?"