

**TALENT
BEYOND
BORDERS**

THE **GLOBAL IMPACT** OF INTERNATIONAL GRADUATES

*How international graduates contribute
to economies and societies worldwide*



AN INITIATIVE BY



studyportals



CAMBRIDGE
English

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EXECUTIVE SUMMARY

WHERE GLOBAL TALENT BEGINS

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EXECUTIVE SUMMARY

Where Global Talent Begins

Talent Beyond Borders seeks to provide a global understanding of how international graduates contribute to economies, workforce development and society at large.

International education has expanded over recent decades, with around 7.3 million students choosing to study abroad in 2023. This growth has brought attention to the role of international students and graduates and the value they add to the communities where they study, live and work.

Traditionally, international students and graduates have been viewed through several narratives: sources of income for higher education, drivers of knowledge and economic growth, potential immigrants, or sources of soft power. What is missing in these narratives is an understanding of how internationally mobile students and graduates bolster knowledge, skills and culture, and how they impact their economies, communities and societies, during their studies and after graduation. In this report, we position international graduates as multifaceted agents with their own motivations, desires and constraints, who actively shape and transform the spaces they inhabit, individually and collectively.

THE TALENT BEYOND BORDERS REPORT

Previous research has examined the economic contribution of international students while they study, particularly through tuition fees and living expenditure. Little is known about what happens after graduation: where do international graduates build their careers? What economic and wider contributions do they make through their careers?

Where graduates build their careers is only one part of the picture. Talent Beyond Borders also examines the economic and wider contributions they make after graduation.

The report draws from the Studyportals Graduate Outcomes dataset – enriched and triangulated with external data – and builds on methodologies used in earlier national studies by leading research institutes (See Appendix A).

The Studyportals Graduate Outcomes dataset tracks the education and post-graduation employment pathways of international graduates worldwide.

Three broad research questions guide this report:

- **Understanding how talent flows:** What pathways do international graduates take after study and how are these reflected across three personas?
- **Economic contribution:** What is the economic impact of international graduates who stay in the countries where they studied?
- **Workforce and societal contribution:** How can we understand international graduates' contributions to the communities in which they work in ways other than through economic impact?

GRADUATE TALENT FLOWS

Three typical pathways (personas) were identified in international graduates' journeys:

- **Stayers**, who remain in their study destination and enter its labour market directly;
- **Homecomers**, who return to their country of origin and reinvest what they've learned there; and
- **Nomads**, who move on to a third country, using their international education as a springboard into the wider regional or global labour market.

These three pathways reveal distinct patterns in where international graduates build their careers and how talent moves after graduation. The highest stay rates for international students are in Canada, Australia and Germany. The three nationalities most likely to return home are Kenyan, South African and Sri Lankan students, while Indian, Iranian and Nepalese students are most likely to work in their study destination. Nomads are particularly prevalent in Europe, where freedom of movement enables graduates to study in one country and work in another. Students from France, Italy and Spain are most likely to follow this path.

THE IMPACT OF INTERNATIONAL GRADUATES

Where graduates build their careers is only one part of the picture. *Talent Beyond Borders* also examines the economic and wider contributions they make after graduation¹.

¹ Although the report covers all three personas, the economic analysis focuses specifically on Stayers because their contribution within the study destination can be modelled using available retention and economic data.

Economic contribution

With a focus on the Stayer persona, the report presents estimates of international graduates' economic contribution after graduation. Of the approximately 7.3 million international students worldwide in 2023, an estimated 2.67 million graduated in 2024. Around 41% of these graduates chose to stay in their study country and entered the local workforce by 2025. The 2024 cohort of graduate Stayers generates approximately USD 110 billion in economic output in their first year of work and USD 1.7 trillion over their working lifetime.

The 2024 cohort studying in the Big Four study destinations (the United States, United Kingdom, Australia and Canada) generates approximately USD 1 trillion, almost 60% of the global economic contribution over their working lifetime.

The report also shows that international graduates' economic contribution extends beyond their own participation in the labour market. Through entrepreneurship and business creation, graduates can create opportunities for others and contribute to wider economic activity.

The role international graduates can play in addressing workforce needs is also highlighted. More than 46,000 graduates in the dataset studied Computer Science and IT, while over 42,000 chose Engineering and Technology, and 31,000 pursued Medicine and Health – all fields linked to sectors experiencing talent shortages. Based on the Graduate Outcomes dataset, Stayers represent the largest share of graduates across these fields ranging from 48% in Medicine and Health to 59% in Engineering and Technology.

Beyond economic contribution

In addition to their economic contribution, the report shows that many international graduates go on to work in roles that contribute to the social and cultural life of their communities. To illustrate this, and considering the limitations of the dataset, three broad areas of contribution were identified: community-oriented, creative and non-profit roles. While these roles have an economic impact, they also create value through more intangible and less visible means and are

therefore not often mentioned when discussing the impact of international graduates.

An analysis of the Graduate Outcomes dataset shows that over 35,000 international graduates work in non-profit organisations, with more than 30,000 securing roles in the creative arts, museums, historical sites and zoos, and over 20,000 employed in the health, wellness and fitness sector. Some patterns are observed in terms of the personas, with healthcare, care services, public safety and community services primarily supported by Stayers, while Homecomers are concentrated in media, communications, design and non-profit work.

INTERNATIONAL GRADUATES THROUGH A NEW LENS

Overall, *Talent Beyond Borders* presents a broader picture of the value of international education beyond the period of study. The report shows how international graduates contribute through the economic value they generate, the businesses and opportunities they create, the workforce needs they help address, and the community-oriented and creative roles they take on. It also highlights how these contributions take different forms depending on where graduates build their lives and careers.

By looking beyond graduation and following international talent across different pathways, the report provides policymakers, employers, higher education institutions and business leaders with a more comprehensive understanding of the role international graduates play across economies and societies.

English-taught education accounts for an estimated 54.5% of international students globally, and the 2024 cohort generate approximately USD 1.7 trillion over their working lifetime.

INTRODUCTION

FROM EDUCATION TO IMPACT

AN INITIATIVE BY



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INTRODUCTION

The internationalisation of higher education and the demand for talent

International higher education has grown rapidly over the past two decades. A report from UNESCO released in 2026 estimates that the number of students seeking to study outside their home country has almost tripled from 2002 to 2023, from 2.5 to 7.3 million. Similarly, an average 7% of students enrolled in higher education in OECD countries² in 2021 pursued their studies outside their home country, with Luxembourg reaching as high as 49%³ (OECD, 2023). Indeed, despite disparities across countries, UNESCO's 2026 findings show that every region of the world has seen increases in the number of international students choosing to study within its borders, and many also see their own students seeking educational opportunities abroad.

This growth has boosted the internationalisation of higher education, increasing connections between universities and creating growing numbers of graduates who cross national borders to pursue further study, employment and opportunities to contribute to societies beyond their countries of origin. The growth in student numbers

comes alongside a proliferation of policies focused on encouraging higher education internationalisation in general and academic mobility in particular (De Wit et al., 2015; OECD, 2023; UNESCO, 2026). At the core of these policies, internationalisation processes are understood as intentional practices aimed at the integration of international or global perspectives into higher education (De Wit et al., 2015; Hunter et al., 2023; Knight, 2004) that deliver benefits to the macro (e.g., nations) and micro (e.g., students) actors that engage with them. Ultimately, international education processes and their outcomes are intended “to enhance the quality of education and research for all students and staff, and to make a meaningful contribution to society” (De Wit et al., 2015, p.281).

The effects of the internationalisation of higher education have been the focus of a vast amount of research, which has investigated not only its benefits, challenges and risks, but also its causes, motivations and the policies and events that impact them (King and Raghuram, 2013; Luo et al., 2023; Shen et al., 2022).

² OECD (and associated) countries and economies represented in this data are: Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, India, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Saudi Arabia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye, United Kingdom, United States.

³ Note that the OECD calculation includes both international and foreign students, the latter group also containing long-term residents or students born in the receiving country.

THE HISTORY OF THE INTERNATIONALISATION OF HIGHER EDUCATION

The internationalisation of higher education is often viewed as a product of globalisation, but the movement of students, scholars and ideas across borders has a much longer history.

While the scale and forms of mobility have changed over time, knowledge exchange has been shaped by shifting political, economic and social forces for centuries.

Ancient origins

The roots of international education are often traced to ancient centres of learning in Greece, China, Rome, India and later the Islamic world, where scholars travelled in pursuit of knowledge and intellectual exchange. Long before the emergence of modern universities, ideas, teachings and expertise regularly moved across regions and civilisations.

The medieval universities

The emergence of universities such as Bologna, Paris and Oxford created some of the earliest organised forms of international higher education. Scholars and students travelled between institutions, forming transnational academic communities and establishing traditions of academic mobility that continue today.

Nation-building and education (18th–19th centuries)

As nation-states consolidated, universities became increasingly linked to national priorities, identities and state-building projects. Higher education systems became more nationally organised, although international scholarly exchange continued.

The World Wars

The two World Wars disrupted international academic collaboration and mobility. At the same time, they reinforced the importance of cross-border educational cooperation as a means of fostering mutual understanding and rebuilding international relationships in the post-war period.

The Cold War

During the Cold War, international education became closely connected to diplomacy and geopolitical competition. Scholarship programmes, academic exchanges and international cooperation initiatives were increasingly used as instruments of influence, relationship-building and soft power.

The 21st century

International student mobility has expanded dramatically in recent decades, becoming a central feature of global higher education. What distinguishes the contemporary era is not simply the unprecedented scale of international student mobility, but the growing recognition that its impacts extend far beyond graduation. International graduates are increasingly seen as contributing to labour markets, innovation systems, institutions and societies across multiple countries, highlighting the lasting and interconnected effects of international education.

Current trends

As international mobility expands, its reach is impacted by macro-level forces that challenge the idea that internationalisation is synonymous with mobility. The rise of transnational education is increasingly enabling students to access foreign qualifications through branch campuses, partnerships and locally delivered international programmes. Similarly, increased digitalisation and the availability of online learning programmes have created a virtual form of internationalisation that requires less or even no mobility. These processes have accelerated during and after the Covid-19 pandemic, which restricted physical mobility, thus accelerating the adoption of alternative forms of internationalisation.

INTERNATIONAL ACADEMIC MOBILITY

As a particularly prominent aspect of internationalisation, student mobility abroad has attracted a fair amount of attention. From the perspective of the nations and regions that receive international academic mobility, which, according to the 2026 UNESCO report, are typically concentrated in Europe and North America, international students not only contribute financially through tuition fees and living expenses during their studies (Cannings et al., 2023), but also through their integration into the labour system post-graduation. Internationally mobile students may readily integrate into local labour markets wherever they choose to work, merging their own experience and knowledge with the local cultural and social experiences acquired throughout their studies (OECD, 2023; Riaño et al., 2018; Shen et al., 2022). In doing so, they may contribute to innovation and development and in some cases help mitigate skill shortages (Hawthorne, 2008; OECD, 2023).

For the primary countries and regions from where international students travel (currently those in East Asia and the Pacific, South and West Asia and, to a lesser extent, Western Europe and North America, based on UNESCO estimates from 2026), the conversation tends to centre on issues of brain drain and talent loss. More recently, however, scholarship has highlighted the possibility of brain or knowledge circulation, whereby internationally mobile students may either return to their origin countries after graduation, or may create or maintain professional ties while studying or working abroad. (Shen et al., 2022).

Although earlier studies focused primarily on the macro effects of international academic mobility, with less focus on the students themselves (Madge et al., 2015), an increasing amount of research is investigating what internationally mobile students experience, learn, gain and lose during their stays abroad and afterwards, and how decisions about their studies and post-graduation careers are made (Madge et al., 2015; Shen et al., 2022).

These studies suggest that international education experiences may bring benefits to mobile individuals particularly in the

development of skills or knowledge that cannot be easily explained in words, such as cultural norms (Lo, 2019; OECD, 2023). Going abroad to study may present an opportunity for students to acquire and circulate innovative and diverse knowledge, develop intercultural competence, generate international professional networks and increase their employability and readiness for a globalised labour market (Deardorff and Jones, 2023; Lo, 2019; OECD, 2023; Shen et al., 2022). Some studies have even shown the transformative impact of international mobility experiences on the development of personal attributes and characteristics, such as responsibility and agency (Tran and Vu, 2017, 2018), and the formation of identity and the self.

International students are often subject to numerous, sometimes conflicting policies and regulations, such as those governing education and migration, which operate across many different levels, for example institutional and national, (Riaño et al., 2018), often with limited agency to shape or change them. In this context of multiple identities and demands, standard life transitions – such as moving from education to employment – may be significantly more complex. For an international student, leaving university to find a job may mean not only changing from ‘student’ to ‘worker’, but from ‘student’ to ‘migrant’.

For an international student, leaving university to find a job may mean not only changing from ‘student’ to ‘worker’, but from ‘student’ to ‘migrant’.

INTERNATIONAL GRADUATES AS MOBILE TALENT

For many students, international study is just one of many moves they will experience as part of increasingly mobile lives. (Findlay et al., 2012a; Madge et al., 2015). After graduation, international students' life trajectories may see them staying in the place where they studied, returning to their countries of origin or moving to one or multiple different places.

Choosing where to go after graduation is a complex and deeply personal decision. It can involve many considerations such as family formation and ties, professional development, self-realisation, professional and social networks and language proficiency (Cheung and Xu, 2015; Findlay et al., 2012a; Geddie, 2013; Han et al., 2022; Hooijen et al., 2017; Van Mol and Timmerman, 2014). External factors may facilitate or constrain these decisions, including financial concerns, immigration policies and the availability of career opportunities, as well as geopolitical and economic macro-forces, such as the conditions and opportunities in origin countries (Cheung and Xu, 2015; Geddie, 2013; Han et al., 2022; Hooijen et al., 2017; King and Raghuram, 2013; Koenings et al., 2021; Mathies and Karhunen, 2021). Indeed, a recent study found that international students who transition from temporary student status to permanent residence in OECD countries are particularly attracted by high living standards, economic and educational opportunities and the broad societal, political and financial quality of the destination country. Geographical distance, common language and the historical ties between countries also emerged as factors affecting these decisions, but migrant networks had a smaller effect (Wang, 2026).

The varied life and spatial trajectories of internationally mobile students highlight that they often negotiate and enact a multiplicity of identities, not just as students but also as migrants, workers, family members and many more (King and Raghuram, 2013; Madge et al., 2015). As such, they are also often viewed through many different lenses and can find themselves tied to wider debates about migration, labour shortages, housing pressures, border controls and geopolitical competition.

COMPETING NARRATIVES AROUND INTERNATIONAL GRADUATES

The many facets of the international graduate experience are often reflected in the narratives that surround them.

In their analysis of international student migration policies, Riaño and colleagues identified five types of public and political discourses about international students and graduates (2018, p.285), framing them as:

1. economic agents or drivers of knowledge and eventually of economic growth
2. sources of income for the higher education sector
3. temporary subjects
4. immigrants of doubtful value
5. instruments of soft power.

Initial perceptions of international students may portray them as temporary components of the receiving society. This view aligns with the erroneous idea that international study is something that can only happen at a specific point in a person's life (Findlay et al., 2012b; Madge et al., 2015), effectively ignoring the multiple trajectories that student mobility may take. These narratives may also align with those that portray international students and graduates as agents of soft power who, after spending some time abroad, may return to their countries of origin and act as ambassadors for the host societies. In cases where students do not return, however, international students and graduates may be seen as furthering the diplomatic and cultural ties between countries through the representation of their home countries.

If international graduates decide to switch from students to migrants, some may be viewed as immigrants with varying degrees of value to the local economies and societies. International student migrants from backgrounds perceived as less prestigious may be accused of using study visas as 'back doors' to access the labour market of the receiving country, even if immigration policies and regulations increasingly seek to control this very transition (Riaño et al., 2018).

In contrast, international graduates from other backgrounds, or those with highly specialised skills in short supply, are seen as economic agents with the power to contribute to the economic growth of receiving societies. Through this lens, international students are viewed as a part of a readily available but finite global talent pool. They are considered particularly valuable due to the combination of a high skill set and their acclimatisation to the host country's language and customs, both developed through education (Luo et al., 2023; Riaño et al., 2018).

International students are often also seen as essential sources of income for the higher education institutions that receive them. In many of the traditional destinations for international student mobility, such as the United Kingdom or the United States, international students supplement institutional income through high fees, sometimes becoming essential for the adequate funding of universities' research function (Findlay et al., 2017; Madge et al., 2015).

One narrative that hasn't been considered up to now is one that permeated early visions of the internationalisation of higher education: the view of the international student and graduate as key players in the exchange of knowledge and ideas (Choudaha and Van Mol, 2023; Reinold and Czaika, 2026).

TALENT THAT MOVES ACROSS BORDERS

International students and graduates have traditionally been viewed as sources of income for higher education, drivers of knowledge and economic growth, temporary participants, potential immigrants, or sources of soft power. *Talent Beyond Borders* takes a complementary view by examining what happens to international talent after graduation and the different ways graduates contribute across countries and communities.

The project follows these pathways through three personas: **Stayers**, who remain in their study destination, **Homecomers**, who return to their country of origin, and **Nomads**, who move onwards to other countries. These personas are not intended as a hierarchy of contribution, but as a way of understanding how talent flows after graduation and how the value created

through international education can take different forms and move across borders.

This first *Talent Beyond Borders* report uses this framework to examine the contribution of international graduates from three connected perspectives guided by a set of questions:

- **Understanding how talent flows:** What pathways do international graduates take after study and how are these reflected across three personas?
- **Economic contribution:** What is the economic contribution of international graduates who stay in the countries where they studied?
- **Workforce and societal contribution:** How do international graduates contribute to societies in which they work beyond their economic impact, including by addressing critical labour gaps and participating in community-oriented roles and creative sectors?

THE ROLE OF LANGUAGE IN INTERNATIONAL STUDENTS' STUDY AND WORK DECISIONS

Language plays a multifaceted role in international student and graduate mobility, influencing whether students choose to study abroad, where they study, how easily they integrate into academic and social environments and their opportunities in post-graduation labour markets.

Improving language proficiency as a motivator for studying abroad

Some students may view studying abroad as a practical means of improving their language proficiency (Fakunle, 2021), particularly if they are interested in that language or if the local language is one of the major global languages (e.g., English or French) (Ovchinnikova and Jones, 2026). Major languages are often perceived as useful, playing key roles in the knowledge and labour markets, leading some students to wish to enhance their linguistic proficiency by using their language in the very spaces where they are spoken (Nada et al., 2026).

The role of language proficiency in the selection of study and work destinations

A common or similar language between origin and destination is a key attraction for international students (Abbott and Silles, 2016; Hou and Du, 2022; Y. Wang, 2026). Language proximity (i.e., the degree of similarity between two different languages) is likewise a significant pull factor, especially for students who do not speak a major language and perceive a similar language as easier to acquire (Ovchinnikova et al., 2023; Ovchinnikova and Jones, 2026). Individual (perceived) proficiency and feelings about the destination language also influence students' choices (Nada et al., 2026; Ovchinnikova et al., 2024). A shared or proximal language may also signal shared history (particularly colonial connections) as well as political and cultural closeness, enhancing the sense of familiarity between home and destination spaces (Ovchinnikova and Jones, 2026).

Language continues to matter after graduation and influences graduates' decisions about whether to remain in the destination country or seek employment elsewhere.

A common or similar language is one of the key aspects of the destination country to be considered when deciding where to migrate, for migration in general and highly-skilled migration in particular (Adserà et al., 2026; Fink et al., 2017; Soto Nishimura & Czaika, 2024; Y. Wang, 2026).

Language proficiency as a competitive differentiator in the labour market

Language proficiency supports graduates' integration into local communities and workforces (Adserà et al., 2026) and can differentiate candidates in recruitment. Employers may consider the language skills of international students when making hiring decisions and multilingualism may even be considered an asset (Han et al., 2022). Local-language proficiency may also be associated with higher earnings (Han et al., 2022; Z. Wang, 2020). Study in the destination country may itself signal enhanced language proficiency, increasing graduates' attractiveness to employers who value linguistic skills (Hawthorne, 2008).

PART 1

GRADUATE TALENT FLOWS



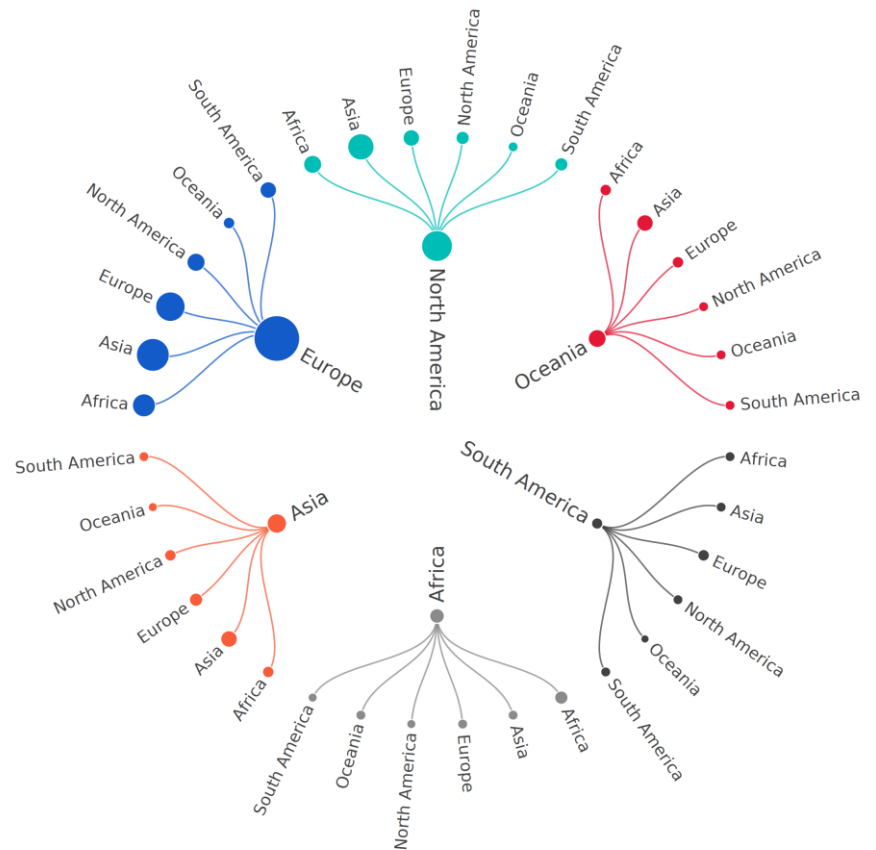
GRADUATE TALENT FLOWS

International education creates a global system through which talent moves, circulates and creates value across borders.

Each of the world's 7.3 million internationally mobile students has their own story: their own ambitions, motivations, uncertainties and aspirations. Their journeys are shaped not only by personal choices, but also by the opportunities, barriers and pathways available after graduation. To understand the impact of international graduates, we must first examine where they choose to live and work.

The Studyportals Graduate Outcomes Dataset tracks the education and post-graduation employment pathways of graduates worldwide. Built upon Studyportals user data, it currently contains more than 1.1 million graduate outcomes globally and captures information such as employment location, employer, industry, job title and further education outcomes.

Figure 1 – Global Talent flows based on the Studyportals Graduate Outcome Dataset



Note. The outer ring shows the student's continent of origin, and the inner ring shows where they find their first job.

International education creates a global system through which talent moves, circulates and creates value across borders.

THE THREE GRADUATE PERSONAS

Not all international graduates follow the same pathway after leaving university. While every person's path is unique, the Graduate Outcomes dataset allows us to see some patterns.

Focusing on the graduates' country of origin and the location of their first job after graduation, we can spot three distinct pathways we call personas explained below. Using these three personas, we explored differences in study disciplines, employment sectors and career outcome.



STAYER GRADUATE

First job: in the same country where they studied.

41% of graduates worldwide



TOP DISCIPLINES

- Business and Management
- Computer Science and IT
- Engineering and Technology



TOP INDUSTRIES

- Education
- Manufacturing
- Corporate and Financial Services
- Healthcare



HOMECOMING GRADUATE

First job: back in the country where they lived before studying.

35% of graduates worldwide



TOP DISCIPLINES

- Business and Management
- Social Sciences
- Computer Science and IT



TOP INDUSTRIES

- Education
- Software and IT
- Non-Profit



NOMAD GRADUATE

First job: a third country – neither home nor where they studied.

24% of graduates worldwide



TOP DISCIPLINES

- Business and Management
- Social Sciences
- Computer Science and IT
- Engineering and Technology



TOP INDUSTRIES

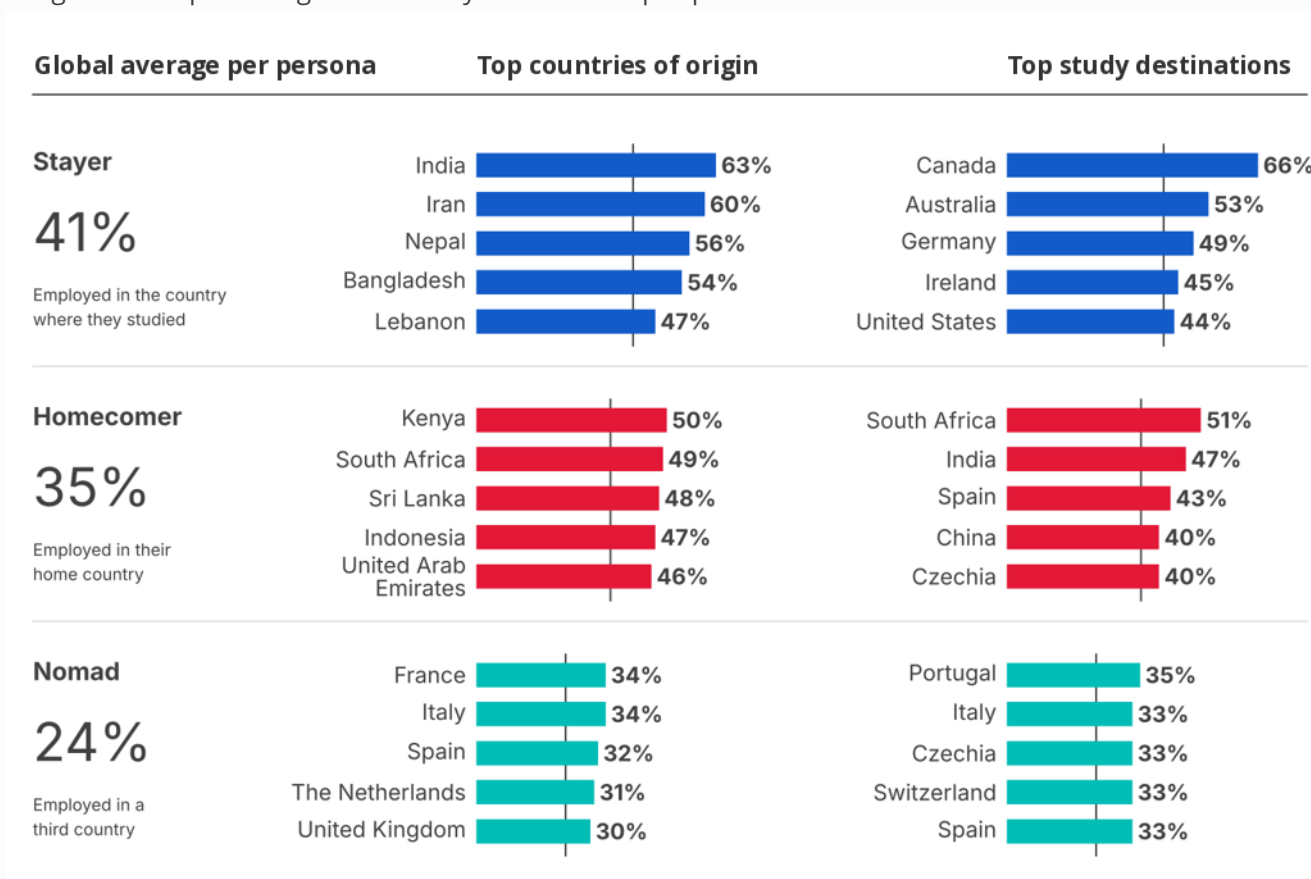
- Education
- Non-Profit
- Software and IT

The three personas are not mutually exclusive. For example, graduates who hold jobs in both their home and study countries are counted in each relevant category, which creates duplicate entries. The characterisation of the international student and graduate journey through these three profiles matches broader research on international student migration. This research not only calls for an expansion of traditional stay-return frameworks but also considers the more complex trajectories of students who stay, return, remain undecided, or choose to move to one or many third countries. (Geddie, 2013; Madge et al., 2015; Shen et al., 2022; Wu and Wilkes, 2017).

While the methodology can capture individuals who fit more than one persona at the same point in time, it does not yet capture longer-term mobility pathways, such as graduates moving between countries over the course of their careers.

These pathways have been identified as an important aspect of international graduate mobility (Madge et al., 2015) and will be explored in future research. The three personas demonstrate that international education creates a global circulation system in which talent moves in multiple directions and generates value in different ways depending on where opportunities emerge. In the following sections, we use Studyportals Graduate Outcomes data to provide a deep dive into insights on the three personas, including the top origin and destination countries, the top industries for each persona and how they help fill critical labour shortages in many countries.

Figure 2 – Top five origins and study destinations per persona



41% of international graduates are STAYERS who build their careers where they studied

Stayers transition directly into the labour market of their study destination, building their careers in the country where they earned their degree.

Graduates from India, Iran, Nepal, Bangladesh and Lebanon show the strongest retention, representing 63%, 60%, 56%, 54% and 47% of the Stayer persona respectively. For destinations, Canada has the highest proportion of Stayers at 66%. Australia follows at 53%, Germany at 49%, Ireland at 45% and the United States at 44%. The origin-country figures represent the average outcome for international graduates from that origin across all study destinations, while the destination-country figures represent the average outcome for international graduates studying in that destination regardless of their origin.

This pattern resonates with the trends observed in a 2026 UNESCO report on study mobility, where South and West Asia and East Asia and the Pacific represent the major 'sending' regions and North America and Europe the main 'receiving' regions. According to the UNESCO report, these destinations have historically been the preferred receivers of international students, currently hosting about 50% of the global number of internationally mobile students.

When studying, many of the Stayer graduates chose STEM-related disciplines like Computer Science and IT, which accounted for 12%, while 3% selected Environmental Studies and Earth Sciences. Another 20% opted for Business and Management. A smaller but still noticeable portion of graduates chose Social Sciences at 8%, Medicine and Health at 5%, Arts, Design and Architecture at 3% and Humanities at 2%.

For work, international graduates who stay in the countries where they studied tend to go into Education professions, which account for 26% of graduates. This is followed by Manufacturing at 9%, Software and IT at 8%, and Corporate and Financial Service industries at 7% and 6%, respectively. As was observed for the study disciplines, a smaller proportion go to jobs in Health Care, which represents 7% of graduates,

and other industries such as Non-Profit at 6% and Retail at 5%. The predominance of the Stayer persona in the dataset may be partially explained by the influence of policies in countries that typically receive international students. In many such destinations, policy frameworks have historically focused on retaining highly skilled international graduates after graduation. Post-study work schemes, skilled migration pathways and graduate retention initiatives are often designed to support international students' integration into local labour markets, reflecting the economic and demographic value attached to retaining internationally educated talent (Kamm et al., 2022; Morris-Lange, 2019).

Within this persona, there is still meaningful variation: some graduates settle down permanently and integrate into the local economy and community, while others only stay temporarily – often until their post-study work visas expire – before moving or returning home. This makes 'staying' less a single outcome than a spectrum of durations, from a few working years to a lifetime.

International education creates a global circulation system in which talent moves in multiple directions and generates value in different ways depending on where opportunities emerge.

FROM INTERNATIONAL STUDENT TO ENTREPRENEUR: HOW LÍVIA RIBEIRO DE SOUZA BUILT A SUSTAINABLE TECHNOLOGY COMPANY

 STAYER
GRADUATE



Livia Ribeiro de Souza

“ For me, international exchange is all about the different aspects of culture people bring... It's not just the economic impact but the cultural exchanges graduates bring too that enrich a country. ”

Growing up in Brazil, Livia Ribeiro de Souza never expected to build a company in the UK. She was a strong student who initially imagined pursuing a PhD in mathematics in the United States. During university, however, a different opportunity emerged. Through *Brazil's Science Without Borders programme*, she was accepted to study a Master's degree in Mineral Science in Germany.

THE TURNING POINT

How one opportunity led to another

While studying in Germany, Livia had a friend who applied to Cambridge and was accepted. Suddenly, for Livia, Cambridge no longer felt like an unreachable dream.

After completing her Master's degree, she returned to Brazil and worked as a consultant. But she could not shake the feeling that she wanted something different.

One morning, while drinking coffee and looking at the mountains, she made a decision.

That same week, she applied to Cambridge.

THE IMPACT

What one opportunity set in motion

For Livia, one of the biggest impacts of studying abroad was not academic. Instead, it was the confidence that came from reaching milestones she had once considered beyond her reach.

"It opened my eyes to new opportunities, new doors to walk through."

That shift in perspective stayed with her. Rather than ruling out opportunities because

they seemed unlikely, Livia became more willing to take a chance.

What began as a study opportunity eventually led to the creation of a company developing technology designed to make infrastructure more sustainable.

Today, Livia is the Co-founder and Chief Technology Officer of Mimicrete, a company developing self-healing concrete technology. The innovation is designed to reduce maintenance requirements, lower costs, and decrease some of the carbon emissions associated with repairs. The company is working to develop systems capable of operating in different environmental conditions around the world.

"With Mimicrete, we are aspiring to have something that could have a positive impact on the environment and a positive impact economically."

For Livia, success is not only about the technology itself. It is also about creating opportunities for others.

Mimicrete now employs four people in the UK, including undergraduates and recent graduates. What started as an educational opportunity has grown into a business that creates jobs and helps early-career professionals gain experience in a growing technology company.

35% of international graduates are HOMECOMERS who return to their home country

Homecomers take home the knowledge, skills, international experience and professional networks they developed overseas. International education serves as a temporary mobility experience rather than a migration pathway.

The highest shares of Homecomers are observed among graduates originating from Kenya at 50%, followed closely by South Africa at 49%, Sri Lanka at 48%, Indonesia at 47% and the United Arab Emirates at 46%.

Destinations which see the highest percentage of international students return to their country of origin are South Africa at 51%, followed by India at 47%, Spain at 43% and both China and Czechia at 40%.

Origin-country numbers are again aggregated across all destinations, while destination-country results are aggregated across all origins.

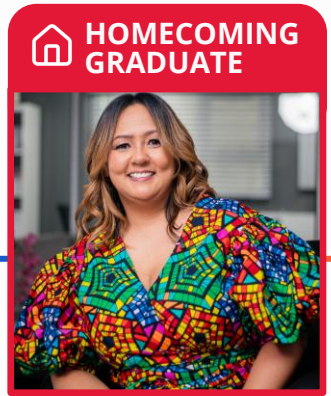
While China remains one of the world's largest countries of origin for internationally mobile students, many international digital platforms are restricted there. Because Chinese-language information channels and recruitment ecosystems dominate, prospective Chinese students are less likely to use English-language platforms like Studyportals when exploring study opportunities abroad. As a result, Chinese students are underrepresented in the dataset relative to their actual share of global student mobility. The reported figures should therefore be interpreted as indicative of observed patterns among Studyportals users rather than a comprehensive representation of all internationally mobile Chinese students.

Twenty-one percent of Homecomer graduates for whom we have data studied Business and Management, followed by Social Sciences at 11% and STEM-related degrees at 8% for Computer Science and IT, and 7% for Engineering and Technology. As we saw for the Stayer persona, many Homecoming graduates went on to work in the Education industry (17%), followed by 9% in Software and IT and 9% in the Non-Profit sector.

Homecomers are often less visible in host-country discussions about the benefits of international education because their post-graduation contributions accrue primarily outside the study destination. However, a growing body of research highlights the role of returning graduates in transferring knowledge and skills, supporting innovation, strengthening research and higher education systems, and contributing to economic development in their home countries (Wang et al., 2024; Qiao et al., 2024, Wang 2021).

Some Homecomers may return by choice because opportunities at home are attractive, while others may return because remaining abroad is difficult due to policy or labour-market barriers.

BUILDING BRIDGES THROUGH LEGAL INNOVATION: HOW INTERNATIONAL EDUCATION SHAPED **NAOMI THOMPSON'S** PATH



Naomi Thompson

“

What I've always wanted to do and what I'm busy building is that bridge between what happens internationally and in South Africa.

”

Naomi grew up in a rural village in South Africa and was the first in her family to go to university. After building a successful career as a commercial lawyer in South Africa, she realised she wanted a broader perspective on business and leadership.

Naomi received her MBA at Hult International Business School in Boston and later completed executive education at Harvard through the Harvard South Africa Fellowship.

This education gave her exposure to different markets, cultures, and ways of thinking. Learning alongside people from around the world challenged assumptions she did not even realise she held and expanded her understanding of leadership, business and opportunity.

THE TURNING POINT

How a growth mindset opened an unexpected door

One of the most important lessons she took from the experience was a growth mindset.

"It really just broke down an invisible barrier that I didn't even know existed within me."

That mindset would go on to shape important decisions throughout her career and help her pursue opportunities she may not otherwise have considered.

THE IMPACT

What one international experience set in motion

When Naomi returned to South Africa, she put that mindset into practice.

The confidence to pursue unfamiliar opportunities led her into legal technology

and innovation, a field she knew very little about at the time.

That decision eventually led her to found Catalynt, a company focused on legal transformation, innovation and the future of legal services.

Through consulting, partnerships and thought leadership initiatives, Catalynt helps legal professionals adapt to new technologies, strengthen leadership skills and rethink how legal services are delivered.

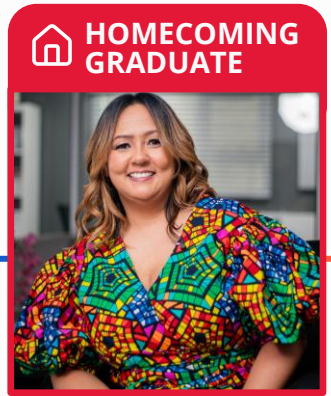
Naomi also created the Legal Innovation Summit, which brings together legal professionals, business leaders, technology companies and thought leaders from Africa and around the world. The Summit creates a platform for conversations about AI, innovation, leadership and the changing delivery of legal services, while connecting people and ideas that are helping shape the future of the legal profession in Africa.

For Naomi, the goal has always been bigger than one company. She believed that the knowledge and opportunities she gained abroad should benefit South Africa.

"What I've always wanted to do and what I'm busy building is that bridge between what happens internationally and in South Africa."

One example came from a small legal AI startup that approached the Legal Innovation Summit with almost no budget. Naomi gave the company a platform at the event because she believed innovative ideas should be seen, even when they come from smaller organisations.

BUILDING BRIDGES THROUGH LEGAL INNOVATION: HOW INTERNATIONAL EDUCATION SHAPED **NAOMI THOMPSON'S** PATH



Naomi Thompson

A year later, the startup had expanded its team, gained new opportunities and progressed to an international startup competition. For Naomi, helping create opportunities like these is one of the most rewarding parts of her work.

She also regularly mentors students and professionals, helping them expand their thinking and pursue opportunities they may not have considered for themselves.

"If I could take everyone to Hult or to Harvard, I would, but I can't".

She focuses on helping others expand their thinking, just as her own international education helped expand hers.

Through the summit, mentoring, and industry partnerships, she helps bring international expertise into African legal markets while also showcasing African innovation to the rest of the world. She has used these platforms to support legal innovators, entrepreneurs and emerging leaders, helping create opportunities that extend well beyond her own career.

“

If I could take everyone to Hult or to Harvard, I would, but I can't.

”

24% of international graduates are NOMADS who take their skills to a third country

Nomads use their international education as a springboard into wider regional or global labour markets rather than settling in either their study destination or their home country. Their journey spans multiple countries, connecting different education systems, labour markets and cultures.

Nomads are the hardest of the three groups to track through conventional data sources, since standard alumni and visa datasets are typically structured around a single 'origin' and 'destination' pair rather than sequential, multi-country mobility.

Nomads make up 23.5% of graduates globally. In the Graduate Outcomes dataset, many Nomads originate from France and Italy at 34% each, followed closely by Spain at 32%, the Netherlands at 31% and the United Kingdom at 30%. Their most common destination countries are Portugal at 35%, while Italy, Czechia, Switzerland and Spain each attract 33%.

As for the other two personas, Nomads in this dataset tend to choose Business and Management degrees, which account for 20% of the total. Similar to Homecoming graduates, 11% opt for Social Sciences, while STEM-related programmes attract 8% of students for Computer Science and IT, and 7% for Engineering and Technology. When starting work, 18% go on to work in the Education sector, followed by 11% in Non-Profit, and 10% in Software and IT.

Compared with Stayers and Homecomers, Nomads in this dataset appear more concentrated within Europe, reflecting patterns of regional mobility and the ease of movement across closely connected labour markets. These graduates may be particularly well positioned to transfer skills, knowledge and professional networks across borders, serving as conduits for the circulation of international talent rather than for talent retention or return.

While intra-regional student mobility is common in Europe, it is increasingly observed in other regions. In a report from 2023, the OECD observes that 95% of students moving to Japan

and Korea for their studies originate from the Asian continent and UNESCO reported in 2026 that the number of students from East Asia choosing to study within the region is growing faster than the number who choose to do so abroad. Similarly, Latin American and Caribbean students who studied abroad tend to stay in the region (OECD, 2023; UNESCO, 2026). These trends represent mobility in the pursuit of education; however, studies related to work-based immigration and international student workforce integration also suggest that geographical (and linguistic) proximity may be factors affecting the decision of where to settle for work post-graduation (Soto Nishimura and Czaika, 2024; Wang, 2026). While the origin and destination distribution of the Graduate Outcomes Dataset mostly highlights European intra-regional mobility, worldwide student movement data indicate that other mobility patterns may be present and could be further explored.

While intra-regional student mobility is common in Europe, it is increasingly observed in other regions.

ONE SCHOLARSHIP CREATED OPPORTUNITIES FOR THOUSANDS OF STUDENTS: **OUSMAN CAMARA'S** STORY



**NOMAD
GRADUATE**



Ousman Camara

“*International education should not be viewed simply as the movement of students from one country to another. It is a form of mutual exchange that creates lasting relationships, strengthens cooperation between societies, and prepares individuals to address challenges that extend beyond national borders.*”

Ousman Camara did not originally plan to become a non-profit founder.

Born in The Gambia, he received a fully funded scholarship to study Islamic studies in Doha, Qatar. He later joined the Academic Bridge Programme at Qatar Foundation's Education City before earning a degree in Political Science from Georgetown University's School of Foreign Service in Qatar.

The experience exposed him to new cultures, ideas, and networks that would shape everything that followed.

“Travelling outside, getting exposed to these international universities, meeting with different students from all over the world, that alone is an education.”

THE TURNING POINT

How one school repair project became a non-profit

The turning point came while Ousman was at university.

A friend from his former boarding school in The Gambia reached out asking for help repairing part of the school before the rainy season. Ousman contacted friends and supporters in Qatar to raise funds.

What started as an effort to repair the building quickly became a full reconstruction project.

As he shared updates with donors, people began asking what happened to students after they graduated from traditional boarding schools. Could they continue into formal education? Could they access scholarships?

Those conversations ultimately led to the creation of Educate a Generation, the non-profit organisation Ousman founded to support young people through education, counselling, career development and scholarship access.

THE IMPACT

What one project set in motion

What began as one project grew into a much broader effort to expand educational opportunities across borders.

Educate a Generation partnered with the University of The Gambia to distribute 3,800 academic books across multiple disciplines.

Inspired by the Academic Bridge Programme that helped prepare him for university, Ousman later launched a similar programme in Sierra Leone focused on academic writing, research, presentations, public speaking and digital skills.

Of the 32 students who completed the programme, 15 received fully funded scholarships.

His international network also led to a partnership with a vocational school in Hamburg, Germany. Through that collaboration, a 40-foot shipping container filled with computers, smartboards, laboratory materials, desks, chairs and other educational resources was delivered to a school in Sierra Leone.

ONE SCHOLARSHIP CREATED OPPORTUNITIES FOR THOUSANDS OF STUDENTS: **OUSMAN CAMARA'S** STORY



Ousman Camara

The initiative later expanded to include teacher development programmes and support for international and refugee students in Germany.

"My experience in Germany, my experience in the Middle East and from Africa is helping people all over the world."

Ousman believes international education should not be viewed simply as the movement of students from one country to another.

"It is a form of mutual exchange that creates lasting relationships, strengthens cooperation between societies, and prepares individuals to address challenges that extend beyond national borders."

“

Travelling outside, getting exposed to these international universities, meeting with different students from all over the world, that alone is an education.

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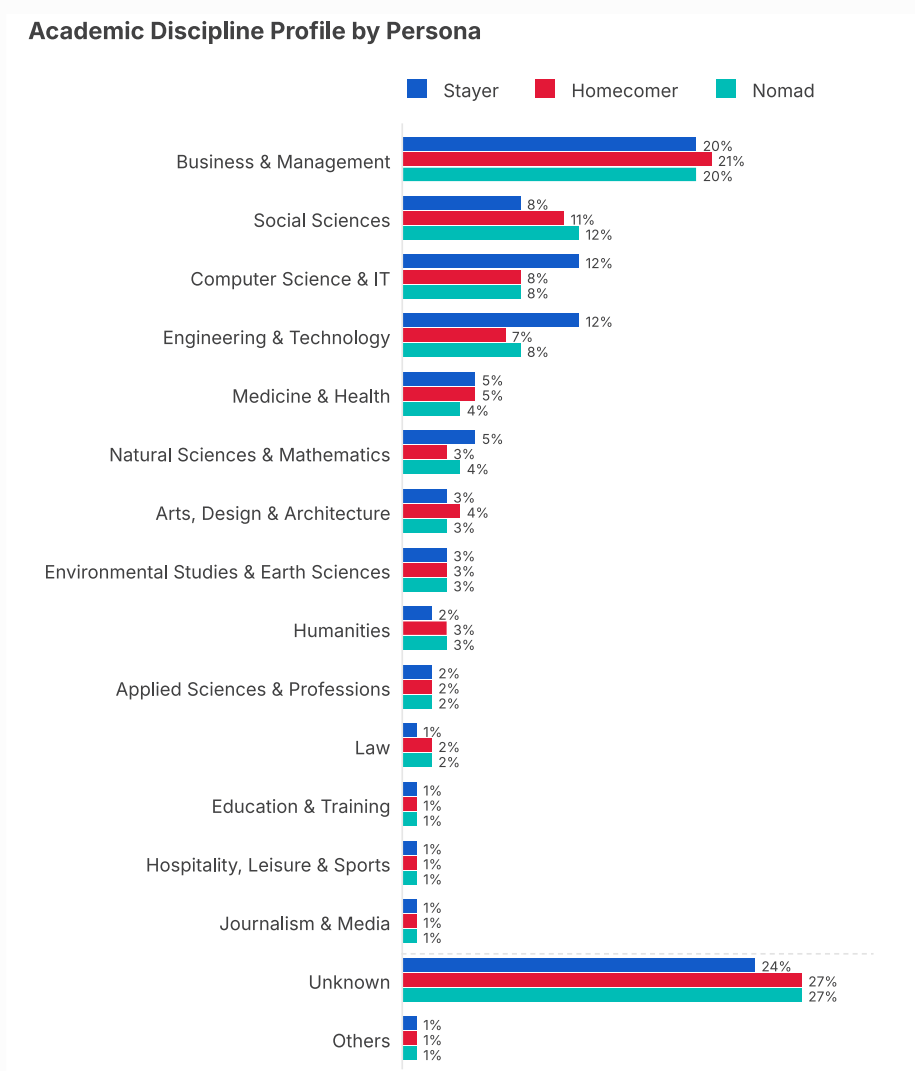
THREE PERSONAS, MANY PATHWAYS

The description of the personas highlights that international graduates study and find employment across a diverse range of disciplines and industries, whether they remain in the host country, return home, or move to a third country. However, the data also show patterns of similarities and differences across mobility pathways.

When it comes to study, across all three personas, Business and Management is the most common degree, accounting for around one-fifth of graduates (20–21%). Significant shares are also observed in Social Sciences, (8–12%), Computer Science and IT (8–12%), and Engineering and Technology (7–12%).

The latter two study fields tend to be characterised by strong employer demand and globally transferable skills creating more opportunities for international graduates to secure employment and remain in their study destination. This pattern is confirmed by what we see in the workforce data. Stayers are more concentrated in STEM-related study fields, with higher proportions in Computer Science and IT (12%) and Engineering and Technology (12%) than either Homecomers or Nomads. In contrast, Homecomers and Nomads exhibit a slightly more diverse disciplinary profile, with relatively larger shares in Social Sciences subjects such as Economics and Psychology, and Humanities subjects such as History and Literature.

Figure 3 – Proportion of personas per academic discipline of studies



Education is the leading area of work for all three personas, but it plays a particularly prominent role for Stayers. More than a quarter of Stayers work in Education (26%), compared with 18% of Nomads and 17% of Homecomers. The category extends beyond teaching and includes employment in universities and research institutions, such as PhD positions, postdoctoral appointments, lecturing and research support roles.

Stayers are comparatively more concentrated in Manufacturing (9%) and Healthcare (7%), and in Retail, in areas such as sales and e-commerce (5%) than Nomads (7%, 5%, and 3%) or Homecomers (8%, 5% and 3%), suggesting that their career outcomes are more strongly clustered in a set of large, locally anchored industries. While this data does not allow for firm conclusions, the higher percentage of Stayers entering Retail jobs (compared to the other two personas) could be indicative of underemployment among some international graduates, in line with studies pointing towards this group's vulnerability in local job markets (Luo et al., 2023).

Homecomers show the most evenly distributed profile across the largest industries. After Education (17%), their employment is split between Non-Profit (such as in think tanks and charities) and Software and IT Services, each at 9%, followed by Corporate Services (such as recruiting), Finance and Manufacturing, each at 8%. No single industry beyond Education dominates their outcomes. This suggests that graduates returning home apply their international education across a relatively broad set of private, public-interest, technical and production-oriented industries rather than concentrating overwhelmingly in one field.

Nomads have a more internationally oriented industry profile. Non-Profit is their second-largest destination at 11%, followed by Software and IT Services at 10% and Corporate Services at 9%. Nomads are more concentrated in each of these industries than Stayers, for whom the corresponding shares are 6%, 8% and 7%. Media and Communications also accounts for 5% of Nomads, compared with 3% of Stayers. The pattern shows that Nomads are relatively more visible in knowledge-intensive, digital, creative

and mission-driven sectors.

Overall, the data suggest that the three personas represent more than different geographical pathways; they are also associated with different patterns of industry participation.

Table 1 – Proportion of personas per industry of graduates' first job

Industry	Industry Destinations by Persona		
	Stayer	Homecomer	Nomad
Education	26%	17%	18%
Software & IT Services	8%	9%	10%
Non-Profit	6%	9%	11%
Manufacturing	9%	8%	7%
Corporate Services	7%	8%	9%
Finance	6%	8%	7%
Health Care	7%	5%	5%
Media & Communications	3%	5%	5%
Recreation & Travel	4%	3%	4%
Energy & Mining	3%	4%	3%
Public Administration	2%	4%	4%
Retail	3%	3%	3%
Construction	2%	2%	2%
Consumer Goods	2%	2%	2%
Transportation & Logistics	2%	2%	2%
Hardware & Networking	2%	2%	1%
Agriculture	1%	1%	1%
Design	1%	1%	1%
Entertainment	1%	1%	1%
Legal	1%	1%	1%
Public Safety	1%	1%	1%
Real Estate	1%	1%	1%
Wellness & Fitness	1%	1%	1%
Arts	0%	1%	0%
Total	100%	100%	100%

Note. Percentages are calculated within each persona and sum to 100% across the vertical. For example, 26% for Stayers in Education means that 26% of all Stayers in the dataset work in the Education industry. It does not mean that Stayers constitute 26% of all graduates working in Education. The results describe industry distribution and do not establish why graduates enter particular industries or whether their employment directly matches their field of study.

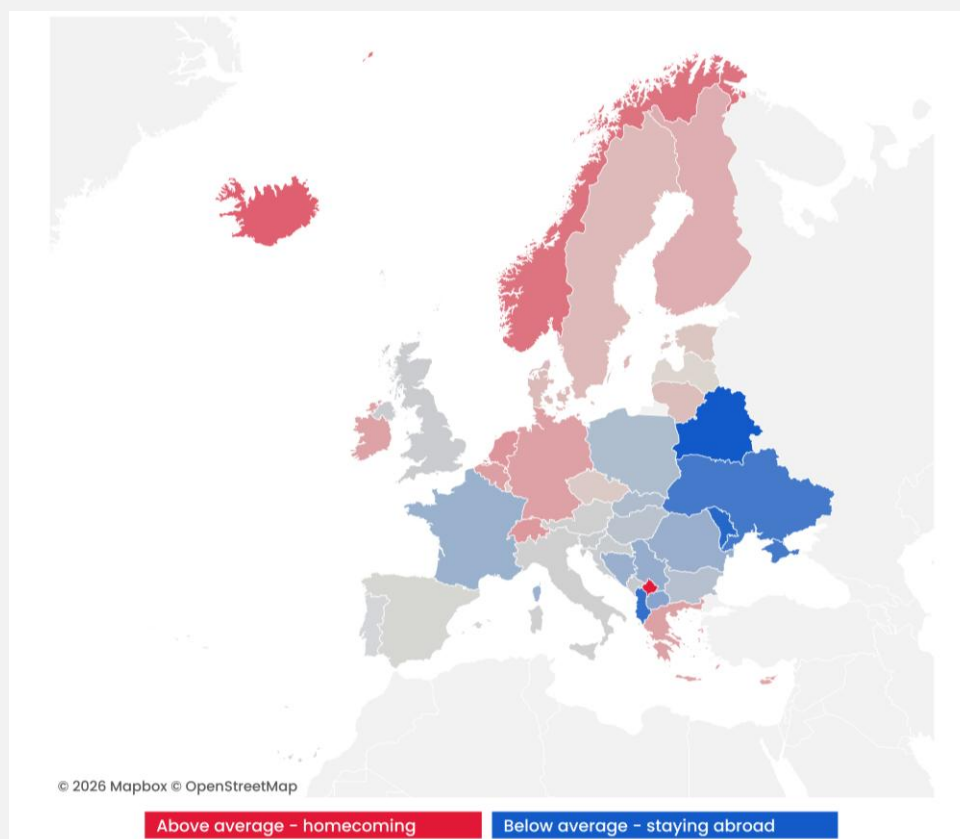
FROM CAMPUS TO AN INTERNATIONAL CAREER

The map shown below examines international graduate mobility from the perspective of students' countries of origin. Rather than focusing on where graduates move, it shows how likely students from each European country are to return home for work after completing an international degree, or alternatively, to remain abroad.

Viewed in this way, homecoming rates provide a lens on the relationship between international education and national talent retention. Higher rates suggest that studying abroad often functions as a temporary educational experience before graduates re-enter their home labour markets. Lower rates indicate that international study is more frequently associated with longer-term participation in labour markets beyond the home country.

A clear geographic pattern emerges: graduates from Northern and Western European countries, i.e., from higher income countries, are generally more likely to return after studying abroad, while graduates from many parts of Eastern and Southeastern Europe are more likely to remain abroad. This suggests that graduate mobility is shaped not only by opportunities in destination countries but also by the opportunities available back home. Where graduates perceive strong career prospects in their country of origin, international education often becomes a temporary experience. Where opportunities are more limited, studying abroad is more likely to become the first step in a longer international career.

Figure 4 – Homecoming students of Europe
Percentage of students returning to their home countries for work after graduation



Note. Kosovo appears as an outlier with particularly high homecoming rates, although this result should be interpreted with caution given the relatively limited sample size.

PART 2

IMPACT OF INTERNATIONAL GRADUATES



PART 2

THE IMPACT OF INTERNATIONAL GRADUATES

International education has evolved from a relatively niche exchange activity into a central component of global talent flows.

Over the past four decades, international higher education has grown rapidly. As access to higher education has expanded worldwide, international student mobility has also increased substantially, reaching 7.3 million students studying outside their home countries in 2023 (UNESCO, 2026). International education has evolved from a relatively niche exchange activity into a central component of global talent flows. The system has expanded dramatically, creating new opportunities for students, institutions and societies around the world. Yet, understanding where this growing pool of international graduates goes is only one part of the picture. The next question is what happens when they enter labour markets and communities and the contributions they make there.

Part 2 examines this impact from two perspectives:

Economic impact: What is the contribution to the local economy of international graduates who stay⁴ in the countries where they studied? This includes their direct economic contribution as well as their wider role in entrepreneurship and business creation.

Workforce and societal contribution: How can we understand international graduates' contributions to the communities in which they work in ways other than through economic impact? This may include their participation in community-oriented roles and creative sectors.

⁴ Please note that the economic estimate focuses on the staying persona because their contribution within the study destination can be modelled using available retention and economic data.

THE ECONOMIC IMPACT OF INTERNATIONAL EDUCATION

The economic contribution of international students during their studies has been extensively documented by leading destination countries, with research highlighting the value of tuition fee income, living expenditure and even tourism generated through visits from friends and family⁵. In the United States, NAFSA estimated in 2025 that international students contributed USD 42.9 billion to the economy and supported 355,736 jobs during the 2024–25 academic year. In the United Kingdom, the latest 2026 HEPI report claimed that international students commencing studies in 2024/25 will generate GBP 40.4 billion (approximately USD 53.7 billion) over the course of their studies. Similarly, the Australian Government reported in 2025 that international education generated AUD 53.6 billion (approximately USD 35.4 billion) in export income for fiscal year 2024–25. Global Affairs Canada estimated that in 2022, international students generated approximately CAD 35.2 billion⁶ (approximately USD 21.3 billion) in spending. These estimates primarily capture tuition fees, living expenditure, tourism and export earnings generated during students' studies. Studyportals research estimated that 5.1 million internationally mobile students generated over USD 300 billion in global economic impact in 2016, highlighting their value to both higher education and national economies (Choudaha, 2019).

However, these estimates capture only one stage of the international student journey. The longer-term contribution of international education is shaped by what happens after graduation. Stayers remain and work in the country where they studied, homecoming graduates return to their respective countries and nomads move onwards, using their degree as a springboard into a third country.

The economic value generated after graduation remains much less understood. The report's central argument is that the value of students predominantly lies not in the tuition fees they pay, but in the economic and societal impact they create in the communities where they live

and work after graduation. Some of this impact can be measured, while some can only be signalled.

In the following sections, we will first describe the methodology used to obtain economic impact estimates to then focus on two key aspects: first-year contribution of the 2024 graduates who entered the labour force by 2025 and their lifetime contribution. We will then apply this analysis to the 'Big Four' international study and migration destinations: the United States, the United Kingdom, Australia and Canada, as a group. Finally, we will look at each of the fifteen focus countries included in the report. These countries are major international study destinations⁸ with a broad international reach. They collectively host approximately 60% of the world's internationally mobile students.

The report's central argument is that the value of students predominantly lies not in the tuition fees they pay, but in the economic and societal impact they create in the communities where they live and work after graduation.

⁵ The Australian international higher education sector is responsible for 69% of international tourism spend in Australia. (Universities Australia, 2024).

⁶ Amount adjusted to exclude international students in grades K12 and below.

Estimating the economic contribution of international graduates: methodology

Scope of the analysis

This section estimates the economic contribution of international graduates who remain in their country of study and work after graduation (the Stayer persona). We focus specifically on this group because their contribution within the study destination is more readily observable using available retention and economic data than the other two personas. This does not mean that Stayers are more valuable than Homecomers or Nomads. Rather, their contribution is more readily observable through the datasets currently available.

Rather than measuring the contribution of all international graduates currently active worldwide, the analysis follows 2024 graduates entering employment and estimates both immediate and long-term economic impact. This provides a consistent starting point for estimating the economic value generated by international graduates of a specific year and then tracking how that contribution develops over their working lives, without conflating it with the accumulated contribution of previous cohorts. In addition, a cohort-based approach is more practical given the absence of globally comparable longitudinal data that would allow the contribution of multiple international graduate cohorts to be tracked consistently across countries and over time.

Additionally, given the central role of English-medium programmes in international student mobility, the analysis also estimates the share of global economic impact associated with English-taught education.

Study destinations

To provide a representative global estimate, the analysis focuses on fifteen major international study destinations⁷, which collectively host approximately 60% of the world's internationally mobile students. The destinations were selected to capture a mix of major Anglophone, European and Asian study destinations. Regional destination hubs with student populations primarily drawn from neighbouring countries

were excluded, as the objective was to focus on destinations with broad international reach to better estimate global trends. Graduation and retention trends observed across the focus countries were then used to estimate outcomes for the rest of the world, allowing us to calculate total global numbers for international graduates and retention.

Within the selected destinations, the analysis also considers the United States, United Kingdom, Australia and Canada as a separate grouping (the 'Big Four'), to examine their share of the global international graduate contribution.

Estimation approach

To estimate the economic contribution, the analysis follows seven-steps. The first four steps model the cohort's first-year economic impact, while steps 5 and 6 project its lifetime value. The final step isolates the specific share of this contribution driven by English-taught education and the Big Four. Further details about the methodology are provided in Appendix B.

⁷ The fifteen focus destinations are as follows: Australia, Canada, France, Germany, Ireland, Italy, Japan, Malaysia, the Netherlands, New Zealand, Singapore, South Korea, Türkiye, the United Kingdom and the United States.

ANNUAL ECONOMIC CONTRIBUTION (STEPS 1–4)

Step 1: Estimating the global international student population

UNESCO international student mobility data (see Appendix B) were used to estimate the global and country-level population of internationally mobile students. UNESCO Institute for Statistics (UIS) data were used, as they provide the most comprehensive global dataset on international student mobility available.

UNESCO data were used to establish the global population of internationally mobile students in 2023. UIS served as the primary source for the 15 focus destinations where 2023 country-level data were available. Where UIS did not report 2023 data, the official national source for 2023 was used instead.

Step 2: Estimating the annual international graduate cohort

For the 15 focus countries, national-level graduate data were used to estimate the annual volume of international graduates completing a higher education degree in 2024. Where official 2024 data were available, these figures were used directly. Where 2024 graduate data were unavailable, 2024 graduate cohorts were estimated using country-specific historical data. Further details on the estimation approach are provided in Appendix B. For countries lacking suitable historical data, as well as the rest of the world, benchmark graduation ratios derived from the focus countries with available data were applied.

Step 3: Estimating graduate retention after study

Studyportals Graduate Outcomes data were used to estimate the share of 2024 graduates who remain to work in their country of study, creating an estimate of the annual population of international graduate stayers for the year 2025.

Step 4: Calculating first-year economic contribution

The number of retained working graduates was multiplied by country-level 2025 GDP-per-worker⁸ data from the World Bank for the focus

countries. The global 2025 GDP-per-worker average was applied to the rest of the Stayer population. This provided an estimate of the annual economic output generated by the 2025 cohort of international graduates during their first year after graduation.

LIFELONG ECONOMIC CONTRIBUTION (STEPS 5–6)

Step 5: Estimating long-term graduate retention

To estimate long-term retention, the OECD's International Migration Outlook 2022 longitudinal retention data were used where available. For six⁹ of the 15 focus countries, the OECD provides year-by-year retention data over a ten-year period, allowing retention curves to be applied directly. For a further three countries¹⁰, only five-year and ten-year retention rates were available, so a curve was used to fill in the missing years. For countries not covered by the OECD dataset, a global average pattern was applied, calculated from the countries with full data. The United States is handled separately using the weighted-average retention pattern of the United Kingdom, Australia and Canada rather than the global pattern, because these countries share similar international student markets, retention pathways and job opportunities. This approach produced estimated retention rates for each year following graduation, up to 40 years, which was assumed to represent a graduate's working lifetime.

⁸ GDP per person employed represents labour productivity, which is the output per unit of labour input. To compare labour productivity levels across countries, GDP is converted to international dollars using purchasing power parity rates, which take account of differences in relative prices between countries.

⁹ Australia, France, Germany, Italy, New Zealand and the United Kingdom.

¹⁰ Canada, Japan and the Netherlands.

Step 6: Calculating lifetime economic contribution

The estimated number of retained graduates in each year was then converted into economic output using the GDP-per-worker methodology described above. GDP per worker was projected forward annually based on each country's long-term productivity growth trend. By combining projected productivity levels with the number of retained graduates, we calculated the lifetime economic contribution of the modelled annual cohort of international graduates.

In addition, an estimate was produced for the Big Four study destinations (the United States, United Kingdom, Australia and Canada), which form part of the 15 focus countries included in the analysis. For this calculation, the graduate volumes, retention estimates and economic contribution of these four destinations were extracted from the broader model and aggregated to assess their contribution to global totals.

ECONOMIC CONTRIBUTION IN THE BIG FOUR (STEP 7)

Step 7: Calculating the contribution of English-taught education and the Big Four

A separate calculation was undertaken for English-taught higher education. For the selected non-Anglophone destinations included in the analysis, a 50% adjustment was applied to estimate the share of students studying through English-taught education. This assumption was chosen as a pragmatic midpoint estimate, reflecting the substantial but highly variable presence of English-taught education across major non-Anglophone study destinations and the absence of a single internationally comparable dataset covering programme language at a global level. For the rest of the world outside the selected country sample, a more conservative 15% assumption was applied, reflecting the lower prevalence of English-taught provision outside the major international study destinations and the greater uncertainty surrounding global coverage. Graduate volumes, retention estimates and economic contribution were then recalculated using these adjusted student populations. The adjustments are intended to provide an indicative estimate of the contribution associated with English-taught education rather than a precise measure.

Estimating the economic contribution of international graduates: key findings

Global economic contributions

The analysis estimates that approximately 1.15 million Stayers from the 2024 graduating cohort generated approximately USD 110 billion in economic output in 2025 (the first year after graduation).

To understand the broader scale of this contribution, the analysis extended these observed retention patterns across a typical forty-year working horizon (see Table 2). As retention declines over time, the estimated annual contribution falls to USD 66 billion at the five-year mark and USD 53 billion at the ten-year mark. Across the forty-year working horizon, the estimated lifetime-equivalent economic contribution generated by this cohort of international graduates is approximately USD 1.7 trillion. In other words, the 2024 cohort of international graduates who entered the workforce in their study destination is expected to generate lifetime economic output equal to one year of Türkiye's GDP (the world's 17th-largest economy).

This scale isn't unique to the global estimate; it holds at a national level too. A recent study by the German Economic Institute, commissioned by DAAD, found that even in Germany's predominantly publicly funded higher education system, where tuition fees are generally low or absent for most students, international students generate substantial long-term fiscal returns. Unlike many major study destinations, Germany combines publicly funded universities with extensive social protection systems, including universal healthcare, social security benefits and significant public investment in education. The DAAD study estimates that the 2022 cohort of around 79,000 international students intending to graduate will contribute approximately EUR 15.5 billion more to public budgets over their lifetimes than they receive in public benefits. In other words, the study estimates that despite social protection system costs, international graduates contribute considerably more to public finances over their lifetimes than they receive in public services and benefits.

Table 2 – Lifetime economic contribution of an annual cohort of Stayers

Measure	Global total
First-year economic contribution	USD 110 billion
Economic contribution at the five-year mark	USD 66 billion
Economic contribution at the ten-year mark	USD 53 billion
Lifetime-equivalent economic contribution	USD 1.7 trillion

Despite social protection system costs, international graduates contribute considerably more to public finances over their lifetimes than they receive in public services and benefits.

The DAAD study measured net fiscal returns to government, providing an important national benchmark for the logic underpinning the present analysis, which takes a broader perspective by estimating economic output generated by retained international talent. The findings from both studies, even though coming from different areas of focus, point to a similar conclusion: the long-term value of international education is realised not primarily through tuition fees, but through graduates' labour-market participation after study.

Contribution of English-taught education and the Big Four

English-taught education accounts for an estimated 55% of internationally mobile students globally, and 75% of the first-year economic contribution generated by 2024 cohort of graduate Stayers, equivalent to approximately USD 82 billion. In other words, just over half of internationally mobile students study through English-medium education, yet they account

for three-quarters of the economic value generated by graduates who remain and work after graduation. Table 3 provides more details on these estimates.

A stronger concentration emerges when examining the Big Four (i.e., the four dominant study destinations): the United States, United Kingdom, Australia and Canada. Together, these countries host just 35% of the world's internationally mobile students, yet they account for 46% of graduate stayers in 2025 and generate almost 60% of the total economic contribution estimated in this section.

The 2025 cohort of international graduates who remain in the Big Four countries alone generates approximately USD 65 billion in economic output.

Table 3 – Calculation of first-year economic contribution of English-taught education and the Big Four

Metric	Global total	English-taught education (estimated)	Big Four (US, UK, Australia and Canada)
International students (2023)	7,300,000	3,977,097	2,561,639
Share of global students (2023)	100%	55%	35%
2024 international graduates	2,675,660	1,536,689	1,092,094
Share of 2024 global graduates	100%	58%	41%
Graduates who stayed and were employed by 2025	1,154,666	697,810	525,581
Share of global stayers (2025; first year of employment post studies)	100%	60%	46%
2025 Economic contribution	USD 110 billion	USD 82 billion	USD 65 billion
Share of 2025 global contribution	100%	75%	59%

Table 4 – Overview of the first-year and lifetime economic contribution at the global, English-taught education and Big Four level

Measure	Global total	English-taught education	Big Four (US, UK, Australia and Canada)
First-year economic contribution	USD 110 billion	USD 82 billion	USD 65 billion
Economic contribution at the five-year mark	USD 66 billion	USD 50 billion	USD 39 billion
Economic contribution at the ten-year mark	USD 53 billion	USD 40 billion	USD 32 billion
Lifetime-equivalent economic contribution	USD 1.7 trillion	USD 1.3 trillion	USD 1 trillion

When it comes to lifetime estimates, English-taught higher education generates an estimated USD 1.3 trillion from the 2024 cohort of retained graduates, representing approximately 75% of the global total. The Big Four destinations, while hosting just over one-third of international students, generate approximately USD 1 trillion. They also account for nearly 60% of the global lifetime-equivalent economic contribution identified in this study.

The estimates presented thus far are built from the combined contribution of focus destinations or groups of focus countries. While the global figures provide an overall picture of the economic value generated by international graduates, they are shaped by substantial differences across individual destination countries.

The next table brings these components together, showing how differences in international student volumes, graduate numbers, retention rates and labour-market productivity contribute to both national and global estimates of the economic value generated by international graduates who remain and work after graduation.

The table highlights how the global lifetime value generated by international graduates is highly concentrated, with the United States, Canada and the United Kingdom accounting for more than half (52%) of worldwide lifetime value.

While the United States generates the largest lifetime contribution (USD 359 billion, 21% of the

global total), this is driven primarily by scale rather than retention, with a relatively moderate graduate stay rate of 44%. In contrast, Canada achieves almost the same lifetime value (USD 331 billion, 20% of the global total) despite enrolling only around half as many international students as the UK, owing to an exceptionally high 66% graduate retention rate. The United Kingdom ranks third, benefiting from the largest graduate output (414,175 international graduates). Among smaller destinations, New Zealand stands out for combining strong retention rate (54%) with substantial economic returns.

Ireland generates a higher estimated lifetime contribution than Japan despite hosting only around one-fifth as many international students and producing far fewer international graduates. This reflects the substantially higher economic value attributed to each retained graduate in Ireland's highly productive economy (nearly USD 260,000 per worker in 2025 according to

the World Bank), suggesting that long-term economic returns depend not only on the size of international student cohorts and retention rates but also on the productivity and earnings potential of the economies into which graduates are retained.

Table 5 – Economic contribution by focus countries¹¹

Rank by Lifetime contribution	Country	International students (2023)	International graduates (2024)	Graduate stay rate %	Year 1 (2025) contribution of 2024 cohort (USD bn)	Lifetime contribution of 2024 cohort (USD bn)	Share of global lifetime value
1	United States	956,923	311,013	44%	22B	359B	21%
2	Canada	389,181	203,304	66%	15B	331B	20%
3	United Kingdom	748,461	414,175	40%	19B	196B	12%
4	Australia	467,074	163,602	53%	10B	123B	7%
5	Germany	423,197	75,072	49%	5B	99B	6%
6	Türkiye	301,634	110,558	31%	3B	53B	3%
7	France	276,217	94,175	39%	5B	46B	3%
8	Ireland	40,400	15,545	45%	2B	35B	2%
9	Japan	181,821	64,331	38%	2B	33B	2%
10	Singapore	71,239	26,111	30%	2B	28B	2%
11	The Netherlands	127,920	29,150	43%	2B	14B	1%
12	New Zealand	36,407	17,365	54%	1B	14B	1%
13	South Korea	127,624	36,271	22%	1B	12B	1%
14	Italy	106,450	16,715	28%	1B	7B	<1%
15	Malaysia	109,036	21,992	26%	<1B	6B	<1%
n/a	Rest of World (residual aggregate)	2,936,416	1,076,281	41%	22B	342B	20%
Global total		7,300,000	2,675,660		110B	1.7B	100%

Note on 2024 graduate numbers: Where directly reported 2024 international-graduate totals were unavailable, estimates were developed using official historical national data (the US, Canada and France). Where no historical graduate statistics were available, the average graduate-to-enrolment ratio across focus countries with available data was applied (Türkiye and Singapore). For Japan, the Studyportals Graduate Outcomes stay rate was not used because the sample was insufficient to provide a robust estimate. Instead, the rate was calculated using 2024 data from the Japan Student Services Organization (JASSO). JASSO reported that 24,353 of 64,331 international graduates obtained employment in Japan, resulting in a stay rate of 37.9%.

¹¹ The destinations included in this analysis should not be interpreted as the definitive global top 10. Rather, they represent the most global education destinations identified through Studyportals student interest patterns. As a result, some important regional studyhubs, including China, Russia, South Africa and Argentina, are not included despite attracting substantial numbers of international students.

Internationally mobile talent contributes through the businesses it establishes, the innovation ecosystems it helps build, the technologies it develops, and the wider entrepreneurial activity it stimulates.

Entrepreneurship, business creation and leadership

The economic contribution of international graduates is not limited to their own participation in the labour market. Many international graduates go on to become entrepreneurs and leaders who create opportunities for others.

Research published by the US National Bureau of Economic Research suggests that increasing the share of international master's students is associated with startup formation, which creates spillover effects that may also encourage entrepreneurship among domestic graduates (Beine et al., 2024). Together, these findings suggest that internationally mobile talent contributes through the businesses it establishes, the innovation ecosystems it helps build, the technologies it develops and the wider entrepreneurial activity it stimulates. This contribution can also extend to the development and leadership of globally significant firms. Internationally mobile talent is visible both in the creation of globally significant companies and in their leadership. Mo Ibrahim from Sudan went on to found Celtel, while Satya Nadella and Sundar Pichai both from India rose to lead Microsoft and Alphabet/Google.

The ripple effects of international education therefore extend well beyond economic contribution alone. The graduates who remain after studying become workers, but they also become mentors, founders, investors, colleagues, neighbours and community members. Their influence does not stop with the value they generate individually; it spreads through families, organisations and societies, shaping future mobility, creating new opportunities and building connections beyond borders.

Addressing talent gaps

Labour shortages are widespread, but they are not evenly distributed across industries. OECD cross-country evidence identifies Healthcare, Transportation and storage, Accommodation and food services and Construction as sectors experiencing persistently high shortages across all countries included in its analyses (Causa et al., 2022, 2025). Healthcare also appears as a sector in high, widespread shortage in a recent analysis of the European workforce, alongside Professionals like nursing staff and teachers; Plant and machine operators and assemblers; and Elementary occupations such as domestic cleaners, helpers and freight handlers (Fischer-Barnicol et al., 2025).

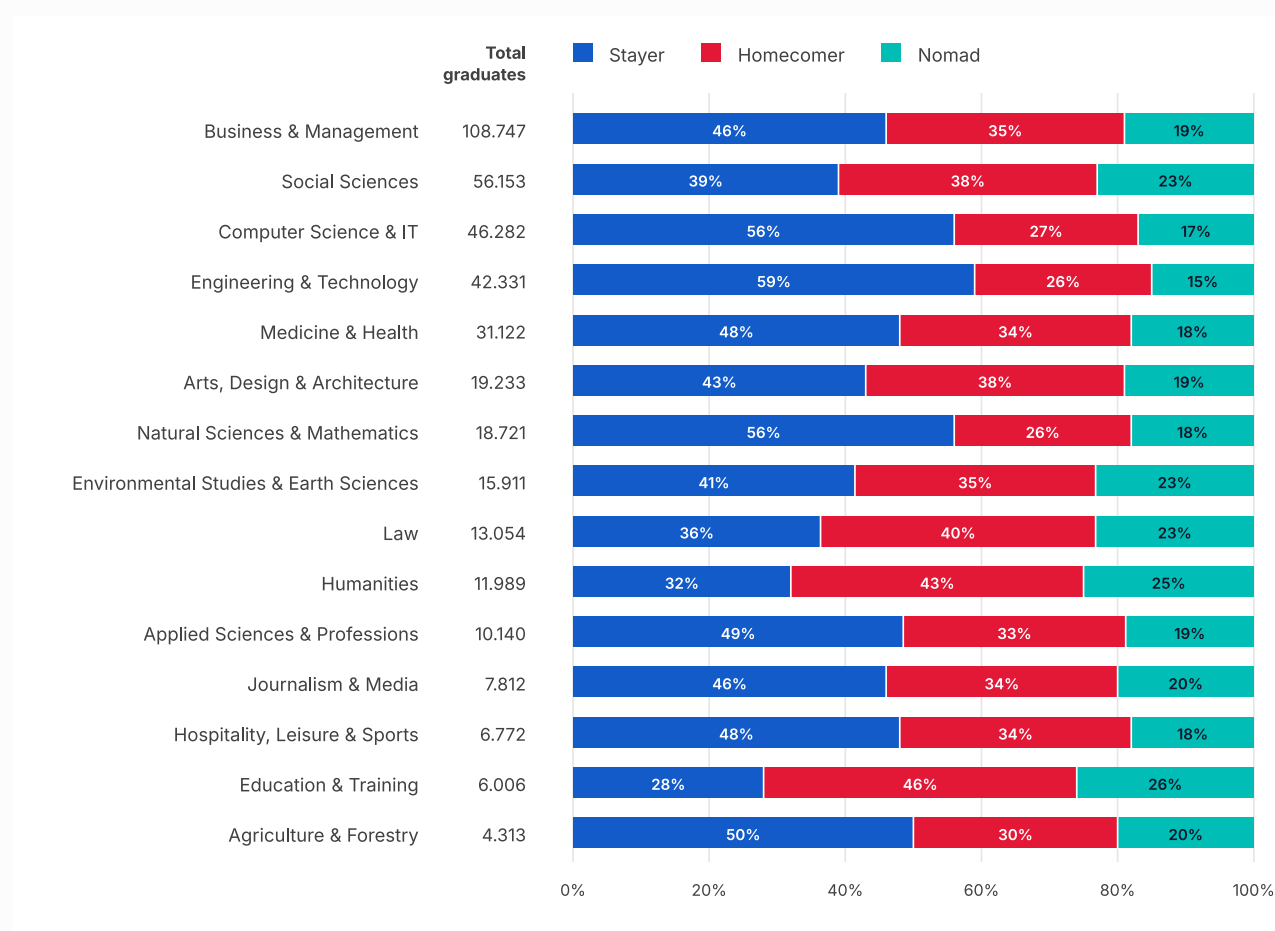
International graduates have sometimes been portrayed as highly skilled mobile talent that may help alleviate some of these talent gaps on a global scale. In particular, due to the high level of training obtained both in their countries of origin and abroad, international graduates may be an important source of talent for those high-skilled industries and sectors¹² that have experienced difficulties with recruitment across the globe, such as those related to information and communication technologies and healthcare.

At the firm level, OECD research covering 34 OECD countries, Brazil and South Africa also finds widespread shortages, mostly focused on the Manufacturing, Mining and Market services (e.g., information and communication technologies, professional services,

construction sectors), but also extending into sectors related to the provision of public goods, including Healthcare (Filippucci et al., 2025). Similar findings come from an analysis of worldwide vacancies across sectors, where health-related occupations have seen substantial increases in job postings, as have professions in the Transportation and storage, Education and social services and Accommodation and hospitality sectors (Feist et al., 2024).

The Graduate Outcome data may help us understand whether and how international graduates may be choosing these career pathways, either based on their choice of study or when entering the workforce.

Figure 5 – Distribution of graduates per discipline, per persona



¹² High-skill industries and sectors were identified here using the ISCO-08 guidelines (International Labour Office, 2012). In this report, they encompass sectors where Level 4 skills are required, which also typically need an education level of Bachelor or above. The major occupations groups included are within the Manager and Professionals group and sub-groups related to Administrative and commercial managers, Production and specialised services managers, Information and communications technology, Health services and Teachers.

Broadening the picture to include all mobility pathways, and as shown in Figure 5, a substantial number of international students in the database chose to study degrees in areas that could feed some of these shortage-affected sectors, including Medicine and Health (over 31,000), Engineering and Technology (over 42,000) and Computer Science and IT (over 46,000). Across these shortage-relevant fields, Stayers are the largest persona, accounting for 48% of Medicine & Health graduates, 59% of Engineering & Technology and 56% of Computer Science & IT. Homecoming are also highly represented in these fields (34%, 26% and 27%, respectively).

Nomads account for the smallest or middle share in these disciplines, ranging from 15% in Engineering & Technology to 18% in Medicine and Health. Nomads account for the smallest or middle share in these disciplines, ranging from 15% in Engineering and Technology to 18% in Medicine and Health.

Choice of study alone cannot paint the full picture. A key question that remains is whether international graduates pursue careers or professions in industries typically considered to have skill gaps, at least in their first job post-graduation.

Figure 6 – Distribution of graduates per industry for their first job after graduation, per persona

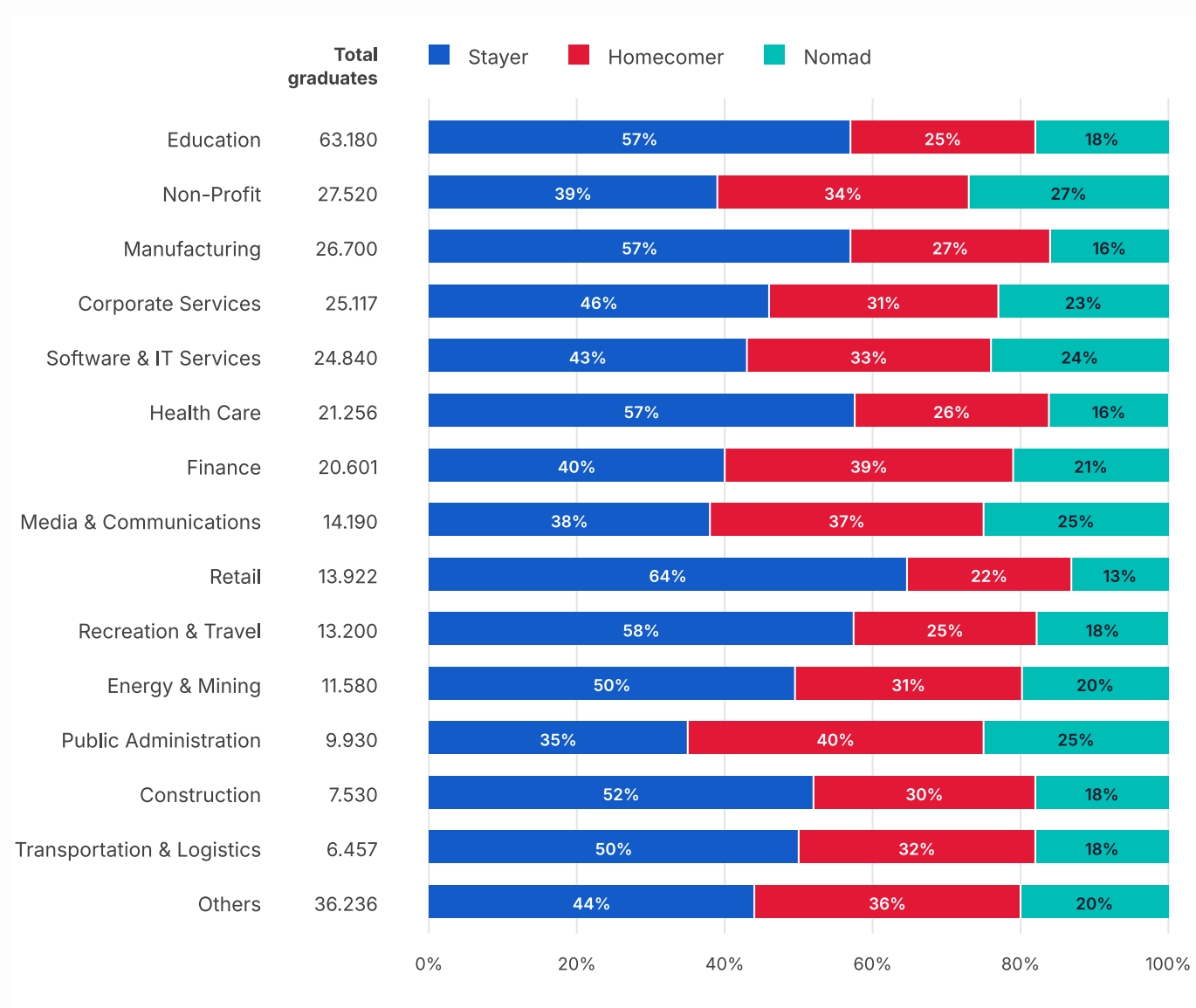


Figure 6 shows the number of graduates in the dataset whose first job industry may be linked to areas experiencing labour or skill shortages or where there is evidence for high demand coupled with difficulties in recruitment (even if not always classified as in shortage). In this dataset, a total of 21,256 international graduates across the world went into healthcare professions, a sector commonly identified as persistently shortage-affected. Stayers are most visible in supplying this workforce (57%, $n = 12,193$), followed by Homecoming at 28% and Nomads at 16%. A sizeable number of international graduates chose Software and IT Services jobs after their graduation (24,840), of which 43% were Stayers. Professions in the information and communications technologies sector are in high demand, particularly for firms investing in digital and AI transformations (Filippucci et al., 2025).

Though this analysis cannot provide strong evidence regarding the role of international graduates in the alleviation of labour or skill shortages, it suggests that both the choices of study and the first jobs of international graduates may be directed in these professional pathways. In general terms, this data indicates that Stayers may be addressing specific labour demand shortages in destination economies, with Homecomers providing an additional mobile talent pool across these industries and Nomads less visible in the available industry outcomes. It must be noted that the available data are less representative of Homecomers, which limits the conclusions that can be drawn about their contribution.

More nuanced analyses of the correspondence between the sectors and occupations that are usually identified as in shortage with the data from the Graduate Outcomes database, as well as analyses of the country-level distributions, may help paint a more complete picture. These will be the subject of future reports in this series.

BEYOND ECONOMIC IMPACT

The economic contribution of international graduates explored in the previous section, though an important aspect of their impact, is only one measurable dimension. In addition to their economic impact, international graduates across all mobility pathways also shape the communities and cultures where they live and work, putting to use their internationally acquired knowledge and skills in service of their local societies. These wider contributions are more difficult to quantify with the available data, but still fundamental to adequately understand the contribution of international graduates.

In this section, we will use Graduate Outcomes data to investigate international graduates' participation in community-oriented and creative sectors, exploring how graduates in these roles not only contribute to the economy but also to local culture. We will also examine existing research to consider wider effects, including how experiences abroad can be transformative for the individuals who participate and how these effects can extend through their professional and social networks.

In addition to their economic impact, international graduates across all mobility pathways also shape the communities and cultures where they live and work, putting to use their internationally acquired knowledge and skills in service of their local societies.

CONTRIBUTING THROUGH COMMUNITY SERVICE OR CULTURE ROLES

The sectors and occupations shown in Figure 7 were selected to illustrate three broad areas of contribution: 1) Community, health and care services, 2) Cultural and creative industries and 3) Non-profit organisations. The selection does not represent a formal industry classification framework but helps illustrate some of the less visible ways international graduates contribute to the societies in which they live and work. In fact, the largest industries represented in this figure are not necessarily the sectors most commonly associated with international graduates.

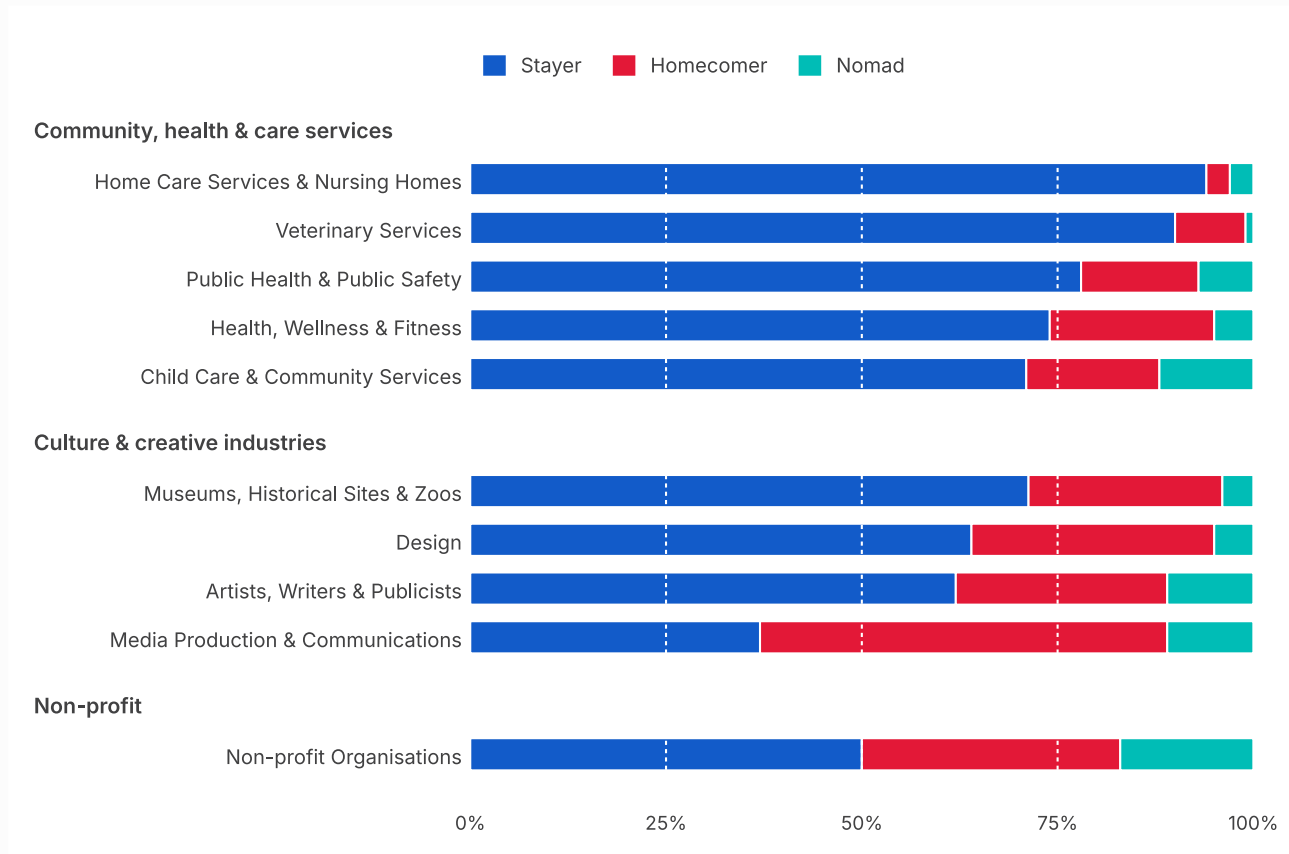
One of the clearest patterns we can observe is the high representation of Stayers across these sectors and occupations. Retention rates are high in Home Care Services and Nursing Homes at 94%, followed by Veterinary Services at 90% and Public Health and Public Safety at 78%. Similarly, Health, Wellness and Fitness shows a 74% retention rate, while Museums and Cultural Institutions stand at 72% and Child Care and Community Services at 71%. Across each of these sectors, Stayers remain the largest persona. This points to a broader contribution than simply supplying talent to STEM-intensive occupations. International graduates who remain in their study destination appear to be supporting a wide range of community, service and care-oriented industries. At the same time, some of these sectors include a substantial number of operational roles, meaning that the high representation of Stayers may also reflect patterns of underemployment discussed earlier in the report.

A different pattern emerges for Homecomer graduates. Most industries in the chart show Homecomer graduates representing roughly one-fifth to one-third of graduates. However, one category stands out dramatically: Media Production and Communications. Here, Homecomers make up 52% of all graduates, making it the only sector in which they outnumber Stayers who account for 37%. Similar trends appear in other fields, though Homecomers make up a smaller share of the total at 33% for Non-profit organisations, 31% for Design, Artists, Writers and Publicists at 27% and Museums, Historical Sites and Zoos at 25%.

These industries share a common characteristic: many skills are highly portable across labour markets. Creative, communications and cultural professions appear more internationally mobile than healthcare, childcare and public safety. This suggests that Homecomers may play a different role from Stayers, bringing internationally acquired skills and experience back to their countries of origin rather than filling workforce gaps within a single destination country. Nomads represent a smaller share of graduates across most of the industries presented. Their highest representation is among Artists, Writers and Publicists at 16% and Design at 15%, with lower shares across other areas. Taken together, the data on international graduates' community-oriented and creative roles suggests that the three personas contribute to their communities in distinct ways:

- Stayers are most strongly associated with locally embedded sectors such as healthcare, childcare, community services and public safety.
- Homecomers are more visible in internationally transferable occupations, particularly media, communications, design and non-profit work.
- Nomads have a comparatively smaller footprint in the current dataset but appear most prominently in creative roles such as Artists, Writers and Publicists and Design. The strongest contribution from international graduates is found both in globally mobile professions and locally embedded industries. Healthcare, care services, public safety and community services are overwhelmingly supported by Stayers, while Nomads are concentrated in media, communications, design and non-profit work.

Figure 7 – Proportion of international graduates in community-oriented, creative or service roles



Studying abroad can shape graduates' knowledge, skills and perspectives, as well as the personal and professional connections they build and maintain across countries.

CONNECTIONS THAT OUTLAST THE DEGREE

Beyond their contribution to communities, services and cultural life, international graduates can also have an impact at a more personal and network level. Studying abroad can shape graduates' knowledge, skills and perspectives, as well as the personal and professional connections they build and maintain across countries.

International study can contribute to a range of personal capabilities, including intercultural competence, personal growth, life skills and knowledge (Behrnd and Porzelt, 2012; Leong, 2007; Williams and Johnson, 2011). However, these outcomes are not automatic. Intercultural competence is shaped by both exposure to different cultures, and how students process and respond to unfamiliar experiences (Bartel-Radic and Cucchi, 2025). The value of international mobility lies in the reflection, adaptation and learning that can emerge from living and studying in a different environment.

These capabilities can continue to develop after graduation and be applied throughout graduates' professional and civic lives. Research suggests that the personal gains associated with study abroad can have longer-term relevance for graduates' working lives (Abodohou and Su, 2020; Morris et al., 2013). Communication, adaptability, empathy and resilience can be further strengthened and applied across different professional and social contexts (Hanley and Chankseliani, 2025). This means that international graduates may bring more than disciplinary expertise into organisations and communities, helping individuals and institutions operate across cultural and natural boundaries.

International experience may also contribute to innovation. Deep-level diversity, including differences in perspectives and approaches, is positively associated with creativity and innovation (Wang et al., 2019). The contribution of international graduates, therefore, comes not simply from their presence but from the ideas, knowledge and experiences they bring to organisations.

Beyond these individual and organisational effects, international education can also create networks that extend across countries. Higher education can create familiarity, connections and opportunities for engagement across borders (Gauttam et al., 2024). These relationships often persist well beyond graduation and may later influence collaboration in research, business, education and public life.

Finally, while international education should not be viewed as a direct driver of peace, intercultural learning can help build personal and institutional relationships that make cooperation more possible (Deardorff, 2018; UNESCO, 2024).

VALUE THAT MOVES WITH GRADUATES

The value of international education is not confined to the country in which a graduate studied. Homecomers may return with new knowledge, skills and professional networks, while Nomads can connect multiple countries through careers that span different labour markets and institutions.

Highly skilled returnees often transfer knowledge acquired abroad, although successful knowledge transfer depends on local conditions and institutions (Lam, 2023). Returned academics can similarly contribute to innovation through international networks and expertise, although their impact is shaped by the environment in which they work (Chen and Li, 2019).

Nomads highlight another form of value creation. Rather than returning home, they connect multiple countries through careers that span different educational systems, labour markets and professional communities. Diaspora networks can facilitate the circulation of knowledge and social capital across borders, challenging the idea that talent contributes to only one country at a time (Meyer, 2011).

The impact of international graduates can extend beyond the workplace. Ideas, behaviours and social capital move across borders through 'social remittances'. (Levitt, 1998). For instance, graduates may share information, opportunities and knowledge with families, communities and professional networks, extending the impact of international education beyond the individual. One example is future mobility: people who have already moved can provide information, support and examples that make mobility easier for others (Massey et al., 1993). One graduate's journey may therefore influence mobility decisions among friends, relatives and peers.

Taken together, these examples suggest that international graduates create value both when talent is retained within a study destination and when it circulates across borders. Knowledge, skills and relationships can move with graduates, creating benefits across origin countries, study destinations and future destinations.

FROM WIDER IMPACT TO MEANINGFUL OPPORTUNITY

Many of the wider effects of international education remain difficult to quantify. Intercultural understanding, knowledge exchange, international relations, soft power and long-term cooperation often develop gradually and are rarely captured by conventional datasets. Nevertheless, the evidence presented in this section indicates that the value of international education does not remain with a single graduate or within a single country. It can move through workplaces, families, professional networks, institutions and communities.

It is also important to note that the three personas should not be interpreted as a hierarchy. Stayers, Homecomers and Nomads represent different combinations of personal ambition, national policy, labour-market opportunity and access to mobility. Retention remains important, particularly when graduates possess skills needed in destination-country labour markets, but a system designed solely to retain graduates would overlook the value created by Homecomers and Nomads. International education should instead be assessed by whether graduates can translate their education into meaningful opportunities and apply their knowledge and skills effectively, wherever their careers take them.

CONCLUSION

FOLLOWING TALENT, UNDERSTANDING IMPACT

AN INITIATIVE BY



CAMBRIDGE
English

IELTS

CONCLUSION

The *Talent Beyond Borders* report uses Studyportals Graduate Outcomes data to explore the different pathways international graduates take and the economic, workforce and societal contributions they make after graduation.

[In the first part of the report](#), we observe that [graduate talent flows](#) take a variety of different pathways, but some patterns emerge: some students stay in the host country after graduation (Stayers), others return to their countries of origin (Homecomers) and yet others choose a completely different country to live and work in (Nomads). Each of these personas show distinct profiles in terms of origins, destinations, study and work choices, but all contribute to the economies and societies where they live.

[The second part](#) focuses on these contributions. Our analysis of their [economic impact](#) suggests that the 2024 cohort of graduate Stayers generates approximately USD 110 billion in economic output in their first year of work and USD 1.7 trillion over their working lifetime. The Big Four destinations generate approximately USD 69.1 billion, representing almost 60% of the sector's 2025 global economic contribution, with an estimated lifetime economic contribution of USD 1trillion. In fact, lifetime value appears to be highly concentrated, with the United States, Canada and the United Kingdom accounting for almost 60% of the global total. It should be noted, however, that long-term contributions are shaped not only on student numbers and retention rates, but also on the productivity of destination economies, and that these numbers

therefore need to be understood in context.

In addition to contributing to the economy of the places where they work, international graduates also help [alleviate workforce gaps](#) and shape the cultural and social landscape of their communities [through community-oriented and creative roles](#). Through this analysis, we found that a sizeable number of international graduates studied and went on to work in sectors that experience difficulties with recruitment across the globe, such as those related to information and communication technologies and healthcare. They also took on roles that have a direct effect on their communities, such as those in the childcare and nursing home sectors, or that help shape the cultural life of the spaces where they work, as artists, writers or media professionals.

The report also explores some of the less directly measurable effects of international education after graduation, including the personal capabilities, perspectives and relationships graduates develop [through international mobility](#). These can continue to shape graduates' professional and civic lives, contribute to organisations and innovations and support connections and collaboration across countries.

REDEFINING THE NARRATIVES AROUND INTERNATIONAL STUDENTS AND GRADUATES

Throughout the report, we have surfaced evidence that supports some of the narratives that surround international graduates, as well as evidence that puts them in question. The three graduate personas both support and contradict the narrative that positions international graduates as temporary components of the host society. On the one hand, data on the Homecomer and Nomad personas suggest that some international students do spend a limited amount of time in the country where they study, choosing to either return home or go somewhere else after graduation. On the other hand, the Stayer persona, the largest group identified in the dataset, contradicts this notion by staying for their first job in their country of study, positioning international graduates as immigrants with complex and highly individualised lifetime mobility patterns.

The value of international graduates as immigrants is highlighted by observing their economic, community and cultural influences. We have found that, as economic agents and drivers of economic growth, international graduates who stay where they studied make a substantial contribution to their host economies and may sometimes help support their communities through their roles in sectors with skill gaps, regardless of their mobility pathway.

The report also positions international graduates as mobilisers of knowledge and culture by exploring their societal and cultural contributions through their participation in professions related to the arts, media and community service, both at home and abroad. Though still at an exploratory stage, this analysis aims to spark a more nuanced understanding of how international students contribute to their communities through workforce participation.

A narrative that emerges from these observations is one where international graduates are seen as active shapers in the construction of their own highly mobile and interconnected lives, as well as the economic, societal and cultural spaces they inhabit. This lens aligns well with current thinking regarding international student and graduate migration (Yue et al., 2026), which emphasises the

importance of individual agency – the role graduates themselves play in shaping their mobility pathways and experiences – and a deeper understanding of their contributions, economic or otherwise.

CREATING THE CONDITIONS FOR INTERNATIONAL TALENT TO CONTRIBUTE

Many countries seek to attract international talent, but international students also consider the opportunities available to them after graduation. Their choice of study destination may be influenced by the ease of transition into employment and the opportunities to use their knowledge and skills after graduation. Some traditional study destinations such as Germany have expanded post-study work rights and pathways towards longer-term settlement. Some governments such as the Kingdom of Saudi Arabia and the United Arab Emirates are also pursuing talent strategies that more closely integrate education, skills development and economic priorities. Although the approaches differ, they reflect a common recognition that attracting students is only the first step. Creating opportunities for graduates to apply their skills after graduation is an important part of translating international education into longer-term value.

The countries that benefit most from international education may not necessarily be those that attract the largest numbers of students, but those that provide graduates with opportunities to use their knowledge and skills after graduation. These opportunities can affect how effectively societies convert internationally educated talent into workforce, economic, social and cultural value.

It is important to recognise that graduates' ability to benefit from these opportunities is not automatic. Labour-market barriers, unequal access to opportunities, challenges in the recognition of qualifications, immigration policies and differences in local institutional capacity can all influence how international graduates are able to use their knowledge and skills after graduation and determine who benefits from international mobility and how.

Addressing these barriers and creating better conditions for international graduates to contribute requires:

- clearer and more predictable transitions from study to work;
- earlier access to career guidance, local work experience, language support and professional networks;
- better recognition of international qualifications and graduate capabilities among employers;
- stronger coordination between universities, governments and industries experiencing skills shortages;
- targeted support to reduce underemployment and education-job mismatch;
- more affordable and flexible pathways into international education; and
- stronger alumni and professional networks for graduates who return home or move onwards.

These priorities apply differently across the three personas. Stayers need opportunities to transition into work that uses their education within their study destination. Homecomers need opportunities to transfer internationally acquired knowledge, experience and professional networks into their country of origin. Nomads need recognised qualifications and transferable skills that can be used across regional and global labour markets.

Creating the conditions for international graduates to contribute means viewing international education as a connected journey rather than as separate stages of recruitment, study, graduation and employment. Universities, employers and governments all play a role in shaping the opportunities available to graduates along the way.

A BROADER MEASURE OF SUCCESS

International higher education sits at the intersection of some of the defining debates of our time: globalisation, migration, talent competition, economic development, inequality and national competitiveness. These conditions help explain why graduates follow different trajectories and why their opportunities after study vary so considerably.

Our vision is for an international education system that does not measure success solely by enrolment, tuition revenue, or the number of graduates retained within a single country. It should instead be judged by whether students can convert international education into meaningful opportunity and whether their knowledge and skills can create value wherever their careers take them.

In this vision, international education serves both national gain and global value. Destination countries may gain skilled workers, entrepreneurs, researchers, taxpayers and internationally connected professionals. Countries of origin may gain through returning talent, remittances, investment, knowledge exchange and international networks. Third countries gain when internationally educated graduates bring their skills and experience into their labour markets. These contributions overlap rather than belonging exclusively to one country.

Talent Beyond Borders therefore points towards a broader understanding of international education. Its value does not end when students graduate, nor is it confined to tuition revenue or the economy of the country in which they studied. It continues through the careers graduates build, the knowledge they circulate, the organisations they shape, the relationships they sustain and the opportunities they create for others.

The ultimate measure of success is not simply where an international graduate ends up. It is whether international education has enabled that graduate to create meaningful value wherever their pathway leads.

WHAT COMES NEXT?

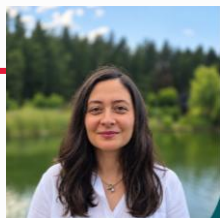
This first edition of *Talent Beyond Borders* provides a starting point for understanding international graduate pathways and the different forms of contribution that follow them. Some of these contributions can be observed more readily than others. The economic contribution of Stayers, for example, can be modelled because they remain and participate in the labour market of their study destination. This does not suggest that Stayers contribute more than Homecomers or Nomads. Stayers' contribution is simply more readily captured with the available data.

Other forms of contribution are more difficult to capture through the current data. The Graduate Outcomes data provides extensive insights into where graduates study, move and work, but its coverage varies across countries and disciplines and reflects students who use an English-language study platform. Similarly, the community-oriented sectors and creative roles explored in this report provide examples of wider societal contribution rather than a comprehensive measure of it.

Future editions of *Talent Beyond Borders* will build on this foundation by deepening the analysis of all three personas and the different ways they create value. This includes further exploration of Homecomer and Nomad pathways and the circulation of talent and knowledge across countries, as well as international graduates' contributions to skills gaps, entrepreneurship and innovation, and graduates' contributions across different sectors. Combining quantitative evidence with graduate stories and external academic research will help develop a more multifaceted understanding of how these contributions emerge over time and how they are shared across origin countries, study destinations and future destinations.

Our vision is for an international education system that does not measure success solely by enrolment, tuition revenue, or the number of graduates retained within a single country. It should instead be judged by whether students can convert international education into meaningful opportunity and whether their knowledge and skills can create value wherever their careers take them.

ABOUT THE AUTHORS

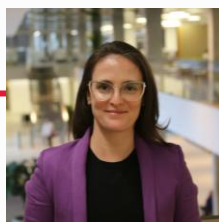


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Her research focuses on language assessment, with particular interests in listening assessment, fairness, Global Englishes and the use of AI in assessment. Her work explores how language assessments can better reflect the diverse ways English is used and experienced in increasingly global contexts.



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Carla Pastorino obtained her PhD in Theoretical and Applied Linguistics from the University of Cambridge, where she specialised in the cognitive processes involved in second or additional language acquisition. Within the English Research Group, she manages research projects related to Equity, Diversity and Inclusion (EDI), ethics and the validation of new technologies for language assessment. Her research interests also include the cognitive and affective variables that may affect a learner's language acquisition and performance and the nature of the constructs evaluated in language testing.

Before joining the English Research Group, she worked as a researcher in Cambridge International Education and a research assistant in Concordia University in Canada.

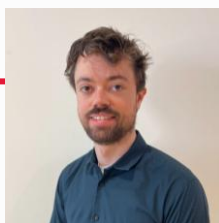
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APPENDICES

METHODOLOGY AND DATA SOURCES

AN INITIATIVE BY



APPENDIX A

About the Studyportals Graduate Outcomes dataset

What is the Studyportals Graduate Outcomes dataset?

The Studyportals Graduate Outcomes dataset is a global dataset used to analyse the employment and mobility outcomes of graduates. It combines Studyportals user data with publicly available professional and educational information to track where graduates work after completing their studies, the industries and occupations they enter and whether they remain in their study destination, return home or move to a third country. The dataset currently contains information on more than 1.1 million graduate outcomes and enables comparisons across countries, disciplines and graduate groups.

Data origins and methodology

The analysis begins with individuals who used Studyportals before enrolling in higher education abroad and created an account on Studyportals. The origin of the student is derived from the web traffic location while using Studyportals. Employment and education information is gathered from publicly available sources. Studyportals has successfully examined and confirmed the strong correlation between the web traffic location while using Studyportals' websites and public datasets related to enrolments and commencements in various destination markets ([Correlation Studies – Studyportals](#)). These comprehensive investigations have yielded the following outcomes:

- Studyportals pageviews and OECD/Eurostat/UNESCO enrolment data (2017): $p = 0.85$
- Studyportals pageviews and HESA enrolment data (2018): $p = 0.79$
- Studyportals pageviews and HESA enrolment data (2021): country-level ($p = 0.92$) and institution-level ($p = 0.83$)
- Studyportals and US enrolment data (2022): Ohio ($p = 0.80$), New York ($p = 0.76$), Texas ($p = 0.79$), Pennsylvania ($p = 0.78$), and Massachusetts ($p = 0.77$)
- Studyportals pageviews and US enrolment data (2023): $p = 0.80$
- Studyportals pageviews and Australian commencements (2023): $p = 0.80$
- Studyportals' composite (private) enrolment dataset and UNESCO enrolment data (2023): UK ($p = 0.91$) and the Netherlands ($p = 0.81$)

For this report, graduate outcomes are based on the first identified job after graduation. A graduate is included in the analysis once their enrolment is recorded as completed and a subsequent employment record can be identified. Graduates are grouped into three mobility personas:

- **Homecomers:** employed in their country of origin.
- **Stayers:** employed in their study destination.
- **Nomads:** employed in a third country.

In some cases, graduates may hold jobs in multiple countries simultaneously and therefore fit more than one persona. When this occurs, they are included in each relevant category.

Key strengths

The dataset offers several advantages for analysing international graduate mobility:

- **Global coverage:** Enabling analysis across a large number of origin and destination countries.
- **Consistent methodology:** Using a single methodology applied consistently worldwide, allowing international benchmarking that is difficult to achieve using national datasets alone.
- **Detailed discipline insights:** By leveraging Studyportals' extensive global programme database, graduates can be classified into consistent study disciplines, enabling analysis of employment and mobility outcomes by field of study.
- **Mobility insights:** Unlike most national datasets, which primarily measure graduate retention, this dataset also captures return migration and movement to third countries, providing a more complete view of international graduate mobility.

Important considerations

As with any dataset, results should be interpreted with several considerations in mind.

First, the dataset measures self-reported employment outcomes rather than legal residence, tax residency or citizenship. National administrative datasets can provide more precise measurements within a single country,

while the data used throughout this research provides a consistent method for comparing outcomes internationally.

Second, not all graduates can be matched to complete records. For some graduates, information such as study discipline or employment details may be unavailable and therefore classified as Unknown.

Third, coverage varies by country and region. For example, as mentioned before, China is underrepresented due to language and internet ecosystem differences that limit visibility of the Studyportals platforms and publicly available data sources.

Fourth, country of origin is inferred using a combination of indicators, including information provided on the Studyportals platform and the user's most common web traffic location while using Studyportals. In most cases, this provides a strong proxy for a graduate's country of origin. However, it may not always reflect nationality. For example, a student who completed a bachelor's degree abroad and subsequently searched for a master's programme from their country of residence may be classified based on that location rather than their nationality. While extensive validation and correlation analyses have been conducted, some uncertainty remains. In addition, the use of VPNs or other location-masking technologies may result in a graduate being assigned to an incorrect origin country.

Finally, this report focuses on the first observed employment outcome after graduation. More complex pathways, such as multiple simultaneous jobs, sequential international moves or long-term career trajectories, are not yet included in the analysis but represent areas for future development.

APPENDIX B

Methodology for estimated economic impact

This section develops an indicative estimate of the economic contribution generated by international graduates who remain in their study destination after graduation.

The Stayer persona is used in this analysis as a measurable starting point for understanding the wider economic value generated by international education.

International student estimates are based on 2023 data, reflecting the latest year for which comparable global coverage was available through UNESCO at the time of analysis. Graduate estimates, however, were standardised to a 2024 international graduate cohort, as 2024 graduate data were available for the majority of focus destinations.

Using a single graduate cohort year improves comparability across countries and provides a consistent baseline for future iterations of the *Talent Beyond Borders* economic impact model, enabling annual graduate cohorts to be tracked and compared over time. The combination of 2023 total international students data and 2024 graduate data therefore reflects a balance between maximising data coverage and using the most recent information available for each component of the analysis.

Furthermore, the analysis uses a pragmatic one-year sequencing of the available data: the 2023 international-student stock represents students at different stages of higher education; as many degree programmes span over multiple years, the study calculates the proportion who complete their studies in 2024; and those who remain in the host country are assumed to enter the workforce and begin generating economic value in 2025. Accordingly, the model follows the sequence 2023 enrolled → 2024 graduation → 2025 workforce entry. It is important to note that this timing convention does not imply that all 2024 graduates enrolled in 2023.

This cohort is used to:

- identify the economic contribution generated during their first year after graduation.
- identify the economic contribution over their lifetime

The objective is to understand the scale of economic impact created by a new cohort of internationally educated talent, both immediately upon entering the workforce and in the long term.

Annual contribution of one global cohort

To calculate their economic contribution immediately after graduation, the analysis was done in four stages.

1. Fifteen major international study destinations were selected: Australia, Canada, France, Germany, Ireland, Italy, Japan, Malaysia, the Netherlands, New Zealand, Singapore, South Korea, Türkiye, the United Kingdom and the United States. Collectively, these countries host approximately 4.4 million internationally mobile students, representing around 60% of the world's 7.3 million internationally mobile students. These countries represent a diverse mix of established and emerging study destinations across Anglophone, European, and Asian education systems. Regional destination hubs (i.e., countries attracting students from neighbouring countries) were excluded. The research also prioritised destinations where consistent data could be assembled across the full analytical framework.
2. UNESCO 2023 international student mobility data were used as the primary source for estimating international student populations across the focus destinations. Where 2023 UNESCO data were unavailable (Ireland and the Netherlands), equivalent 2023 enrolment figures from official national sources were used instead. National graduate statistics for 2024 were then collected to estimate the proportion of international students who successfully complete a qualification each year. Where official national statistics directly reported international-graduate totals, these figures were used. Where this was unavailable for 2024, estimation methods based on official national data were applied; for the United States and Canada, the latest four-year historical graduate-to-enrolment ratios were calculated using official national data across matched reporting years to estimate the 2024 graduating cohort number (and percentage). In the case of France, the estimated international share of the graduating population (as per Campus France) was applied to Eurostat's 2024 total graduate count for France. These estimates

are forecasting proxies used to create a consistent 2024 cohort.

Where graduate statistics were unavailable for 2024 and previous years (Singapore and Türkiye), average graduate-to-enrolment ratios derived from focus countries with available data were applied. The same approach was subsequently used to estimate graduate volumes for countries outside the primary study sample, enabling a global annual international graduate cohort to be calculated.

Note: Despite the absence of graduate-level statistics, both Singapore and Türkiye were retained as focus destinations. Singapore was included because it represents a fully English-medium international study destination with strong global visibility, while Türkiye was retained due to its large international student population and broad recruitment footprint spanning multiple world regions.

3. Studyportals Graduate Outcomes data were used to estimate the proportion of 2024 international graduates who remain in their country of study after graduation and are their first-year employment in 2025. Country-specific stay rates were applied across the fifteen focus destinations to estimate the number of graduates entering host-country labour markets. For Japan, a country-specific stay rate derived from the Japan Student Services Organization (JASSO) was used in place of the Studyportals Graduate Outcomes estimate, as the Graduate Outcomes sample size for Japan was limited and a more robust national source was available. Studyportals' global average stay rate of 41% was applied to the estimated graduate population outside the focus destinations.

Note on the Rest of World stay rate: Applying the above model results in an implied weighted average stay rate of 43.15 %, compared with the 41 % global stay rate observed in the Graduate Outcomes dataset. This occurs because the 41 % global stay rate already includes the fifteen focus destinations, many of which have above-average stay rates. Applying those countries' individual stay rates while also applying the global 41 % rate to the remaining Rest of World stay rate would require excluding the 15 focus countries from the sample, leaving a substantially smaller dataset and reducing the robustness of the estimate.

4. Finally, economic output was estimated by applying country-level GDP-per-worker figures from World Bank 2025 data to the number of total employed international graduates. For each of the fifteen selected study destinations, the number of graduates retained according to Studyportals Graduate Outcomes data was multiplied by the country's GDP-per-worker value to estimate their annual economic contribution. For graduates outside the selected countries, the estimated number of employed Stayers was multiplied by the global average GDP-per-worker figure. These country-level and rest-of-world estimates were then aggregated to produce a global estimate of the economic contribution for the year 2025 generated by the 2024 cohort of international stayers.

Modelling retention over a working lifetime

To estimate long-term retention, evidence from the OECD's International Migration Outlook 2022 was incorporated. The graduate retention trends used in this analysis rest on the following assumptions:

International graduates are assumed to follow the retention pattern of international students.

The OECD tracks students from the point at which they receive their first education permit, not from graduation. The analysis assumes that the pattern of departure observed across the student population is representative of the pattern followed by graduates specifically.

Graduation is assumed to occur two years after the first education permit. The OECD series therefore begins at the graduation year, and the 2010 cohort's 2012 position is taken as the graduation-year baseline against which all

subsequent years are indexed. Two years are taken to reflect a typical postgraduate degree duration, and this assumption is applied to all destinations and all levels of study.

A maximum working life of forty years is assumed. No contribution is counted beyond that point, and no allowance is made for retirement, death or departure from the labour force within it.

Beyond the final observed year, each country's curve is extended at a constant annual retention rate calculated as the average of its final three observed year-on-year transitions, for most destinations the transitions into 2018, 2019 and 2020. The final years of the observed period are used because retention behaviour changes markedly over the course of the decade. Departures are concentrated in the years immediately after graduation when graduates are moving between visa categories, seeking employment or returning home and annual retention rates in that phase are both low and volatile: across the six countries with year-by-year data, retention in the first three years after graduation ranges from 71% to 92%, varying by as much as nine percentage points from one year to the next within a single country. By the end of the observed period this has settled. Annual retention across the final three years is consistently higher, typically between 92% and 97%, and considerably more stable, varying by around one percentage point year on year in most destinations. Those who remain eight years after graduation have, in general, established employment, residence status and family ties, and are far less likely to leave. The final three years are therefore taken as the best available indication of long-term settled behaviour, while averaging across three years rather than using a single transition avoids giving undue weight to any one year's fluctuation. This rate is then held constant to year forty.

Furthermore, for the calculations around retention rates, the countries were divided into three tiers, according to what each country's data allows.

1. *Countries with full year-by-year retention data.* For six destinations (Australia, France, Germany, Italy, New Zealand and the United Kingdom), the OECD reports the status of the 2010 student-permit cohort in each year from 2010 to 2020 (OECD, 2022a, p.187, Figure 7.4).

These observed curves were used directly. Graduation is assumed to occur two years after the first education permit, so the observed series provides retention from graduation to year eight. Beyond the final observed year, each country's curve is extended at a constant annual retention rate calculated as the average of its last three observed year-on-year transitions, corresponding to calendar years 2018, 2019 and 2020.

2. *Countries with five- and ten-year retention markers only.* For Canada, Japan and the Netherlands, the OECD reports retention at five and ten years for the 2010 student-permit cohort (OECD, 2022a, p.185, Figure 7.2). but no year-by-year series. A two-segment exponential curve was fitted to these markers: an annual retention rate of $(\text{five-year retention} \div \text{first-year stay rate})$ to the power of one-fifth was applied across years one to five, and $(\text{ten-year retention} \div \text{five-year retention})$ to the power of one-fifth from year six onwards. This construction reproduces both OECD observations exactly and extends the curve to year forty.

3. *Countries with no retention data.* Equivalent OECD estimates were not available for the United States, Malaysia, Singapore, Ireland, South Korea, Türkiye or for the rest of the world outside the study sample. For these countries excluding the United States, a global retention pattern was applied, calculated as Year-1-weighted average of the six year-by-year curves weighted by each country's number of graduate Stayers. Each destination retains its own first-year stay rate; only the shape of the decline is borrowed. The United States was treated separately: its retention trajectory was based on a Year 1-Stayer-weighted average of the United Kingdom, Australia and Canada, which were selected as they form the Big Four countries; the most comparable large-scale international study destinations to the

US in terms of international student enrolment, graduate retention pathways and post-study migration patterns.

The choice between the two possible global patterns was tested rather than assumed. Because the six countries with year-by-year data also have five- and ten-year markers, the marker-based method could be applied to them and compared against their known outcomes. Doing so showed that the marker-based approach overstates retention by approximately 49% at the five-year mark and by 18% across the full forty-year period. The reason is the shape of attrition: observed departures are heavily concentrated in the first three years after graduation and then flatten markedly as the remaining graduates settle, a pattern that a curve fitted to only two data points cannot reproduce. The year-by-year pattern was therefore adopted, as it is the only one of the two that has been validated against observed outcomes.

Converting retention into economic output

The retained graduate population in each year was multiplied by country-level GDP per worker (World Bank, GDP per person employed, constant 2021 PPP dollars). The 2025 value is applied in the cohort's first year of labour-market entry and grown in each subsequent year at a country-specific compound annual growth rate, calculated from the same World Bank series over the twenty years from 2005 to 2025. A twenty-year window was chosen to capture long-run productivity trends rather than short-term fluctuations or post-pandemic rebound effects. Because the underlying series is expressed in constant 2021 purchasing-power-parity dollars, all figures are inflation-adjusted, and the growth rates represent real productivity growth rather than nominal wage inflation.

This approach replaces an earlier method in which the five-year contribution was weighted across years two to five and the ten-year contribution across the remaining working life, with GDP per worker held at its 2025 level throughout. The present approach calculates each of the forty years explicitly and allows productivity to grow and it supersedes the earlier estimates.

Caveats and limitations

Annual graduate cohorts are inherently sensitive to timing. The model is built around a single 2024 international graduate cohort to maximise data availability, improve comparability across countries, and create a consistent baseline for future editions of the *Talent Beyond Borders* model. However, graduate numbers for every country vary between years as a result of enrolment growth/decline, changing completion rates, policy developments or other country-specific factors. Consequently, some destinations may appear relatively stronger or weaker than they would if a different cohort year were selected. The results should therefore be interpreted as estimates for the 2024 graduate cohort rather than as a definitive measure of long-term international graduate output.

Some 2024 graduate numbers are estimated rather than directly reported. Official 2024 international graduate data were not available for all focus countries. For the United States and Canada, 2024 cohorts were modelled using historical graduate-to-enrolment ratios, while for France an estimated internationally mobile share was applied to the national graduate population.

These approaches create a consistent global 2024 cohort but introduce additional uncertainty relative to countries with directly reported international graduate counts.

Graduate-to-enrolment ratios are used as modelling inputs rather than direct measures of completion. To estimate the total number of international graduates globally for 2024, the analysis first calculated graduate-to-enrolment ratios for focus countries with available data. These ratios were then used to derive benchmark graduation rates that could be applied to focus countries lacking graduate

statistics and to the rest of the world international student population.

However, these ratios should be interpreted with caution. In several destinations, 2024 graduate counts were compared with 2023 international student populations as reported by UNESCO/national official bodies. Since graduates in a given year originate from multiple earlier enrolment cohorts, these ratios are not exact measures of student completion. As a result, the calculated graduate-to-enrolment ratios do not represent true cohort graduation rates and should be interpreted as pragmatic approximations of annual graduate output. Changes in enrolment growth, student retention, programme duration or reporting practices may affect the accuracy of these estimates.

The OECD data measures residence. This is the most significant limitation of the long-term estimates. OECD tracks individuals holding any valid residence permit, including education permits, work permits, job-search permits, family permits and long-term or permanent residence. It therefore measures whether a graduate is still in the country, not whether they are working in it. Applying GDP per worker to the full retained population consequently assumes that all remaining graduates are economically active at the national average level, which will overstate employment in destinations where non-work permits are common. Retention patterns from this source should be understood as patterns of continued residence used as a proxy for continued economic participation.

Coverage and definitional differences between destinations. The OECD figures are compiled from permit statistics and therefore cover only individuals who received a residence permit. Students moving under free-mobility arrangements are not included, which principally affects the European destinations in the sample, where intra-EU students do not require a permit, and the United Kingdom, which was an EU member state for the 2010 cohort. Retention in these destinations is therefore observed for permit-holding students only and it is not known whether free-moving students follow a similar pattern.

Definitions vary in other respects too: German data include persons already resident who obtained a first-time education permit; data for France, New Zealand and the Netherlands exclude individuals who acquired citizenship, who appear instead in the unknown or exit category and whose retention is consequently understated; and OECD data for Italy refer to the 2011 cohort rather than 2010, so their five- and ten-year marks fall at four and nine years after admission. Cohort definitions are not fully harmonised across destinations and cross-country comparisons of retention should be read with that in mind.

First-year stay rates and long-term retention come from different periods and different cohorts. First-year stay rates are drawn from Studyportals Graduate Outcomes data reflecting recent graduating cohorts from 2018 onwards, whereas the OECD retention patterns track the cohort that received its first education permit in 2010 and follow it to 2020. The analysis therefore applies a historical retention pattern to a contemporary graduate population. Immigration policy, post-study work rights and labour-market conditions have changed materially in several destinations over the intervening period, in both directions. The two sources are combined because no single dataset provides both a current stay rate and an observed long-term retention path, but the resulting curves should be read as indicative rather than as a forecast for any specific recent cohort.

The global pattern rests on six countries. The retention pattern applied to destinations without country-specific OECD data (Singapore, Malaysia, South Korea, Türkiye, Ireland and the Rest of the World) is derived from Australia, France, Germany, Italy, New Zealand and the United Kingdom, using a weighted average based on each country's Year-1 graduate Stayer population. The United States, which also lacks OECD data, was assigned a retention pattern based on a weighted average of Canada, the United Kingdom and Australia, due to its closer similarity to the other Big Four destinations. These approaches assume that the recipient destinations follow broadly comparable long-term retention trajectories, an assumption that cannot be directly verified. This is particularly important because the Rest of the World

population is the single largest group of Stayers in the analysis and, together with the United States, accounts for approximately two-fifths of the estimated global economic contribution.

Retention beyond the observed period is modelled, not measured. No destination has observed retention data beyond eight years after graduation. Years nine to forty are projected rather than observed and account for approximately two-thirds of the estimated lifetime contribution. Because the observed data show attrition slowing as cohorts age, with annual retention still rising in most countries when the data ended, holding the rate constant at its final observed level is likely to understate long-run retention.

Economic contribution is measured as output, not net fiscal impact. GDP per worker measures the average economic output associated with an employed person. It is not a measure of tax paid, public services consumed, or net fiscal contribution and it does not distinguish between fields of study, occupations, seniority or earnings levels. Graduates are assumed to contribute at the national average.

Labour force participation and mortality are not modelled. The lifetime estimates assume that retained graduates continue contributing economic output throughout the 40-year period used in the analysis. The model does not account for unemployment, disability, mortality or other life events that may reduce or end labour market participation for certain durations. While these factors would reduce lifetime economic contribution, no robust and globally comparable dataset was identified that would allow these effects to be incorporated consistently across all countries included in the model.

Top 10 countries by economic contribution in this report may not represent the full global picture. Consequently, the country rankings should be interpreted as comparisons among the destinations included in the model rather than as a definitive global league table.

Several countries that play significant roles as regional education hubs, such as China, Russia, South Africa and Argentina, are excluded from the analysis even though they attract substantial international student populations, particularly from neighbouring countries. The destination set reflects countries attracting the most student interest globally, as observed through Studyportals data, rather than total international student enrolment alone. As a result, the estimated shares and rankings reported here may differ from those that would emerge from a truly comprehensive global assessment.

Note: To provide an additional estimate focused specifically on English-taught higher education, a separate calculation was undertaken using an adjusted student population. For the Big Four destinations (United States, United Kingdom, Australia and Canada), Ireland, New Zealand and Singapore, all international students were assumed to be studying in English. For the non-Anglophone destinations included in the study sample, student totals were adjusted to reflect estimated participation in English-taught higher education. For the rest of the world outside the selected country sample, a conservative assumption was applied that 15% of internationally mobile students were studying in English-taught programmes. The resulting English-taught student population was then used to recalculate graduate volumes, graduate retention and economic contribution, providing an indicative estimate of the share of global economic value generated through English-medium international education.

External data sources used in the economic impact model

The following sections document the external data sources used at each stage of the methodology where external data inputs were required. Not all methodological steps relied on external sources; therefore, sources are reported only for those stages where external datasets, statistics or published evidence were used to support the analysis.

The global international student population

Source: Gutović, V., Bouckaert, M., Xia, T., Quinteiro Goris, J. A., Baroni Boces, G., Sears, M. D., Peterson, M. S., and Osei, E. (2026). Higher Education Global Trends Report: Towards

inclusive, equitable and quality higher education in an internationally mobile landscape. UNESCO. <https://doi.org/10.54674/IN.2026.94>.

The analysis uses 7.3 million internationally mobile students in 2023 as its global starting population. This figure comes from UNESCO's Higher Education Global Trends Report 2026, which states that the number of internationally mobile students reached 7.3 million in 2023. The report's mobility estimates are based on data from the UNESCO Institute for Statistics and cover students studying outside their country of origin*.

**Source:* UNESCO Institute for Statistics. (n.d.). Internationally mobile students. UNESCO Institute for Statistics. <https://databrowser.uis.unesco.org/resources/glossary/3242>.

An international student is defined according to the UNESCO Institute for Statistics (UIS) concept of an internationally mobile student. Under this definition, students must have physically crossed a national border to undertake their studies in another country. UNESCO identifies a student's country of origin as the country where they obtained their upper secondary qualification (or, where this cannot be determined, their usual residence and, only as a last resort, their citizenship). Distance-learning programmes completed from the home country and foreign degree programmes delivered within the student's home country are explicitly excluded from this definition.

International student population in the 15 focus destinations

Sources: UNESCO Institute for Statistics. (n.d.). UIS Data Browser: Internationally mobile students [Data set]. UNESCO Institute for Statistics. <https://databrowser.uis.unesco.org/view#indicatorPaths=UIS-EducationOPRI%3A0%3A26637andgeoMode=countriesandgeoUnits=AUS%2CJPN%2CKOR%2CMYS%2CNZL%2CSGP%2CCAN%2CDEU%2CFRA%2CGBR%2CIRL%2CITA%2CTUR%2CUSA%2CNLDandbrowsePath=EDUCATION%2FUIS-EducationOPRI%2Fint-studentandtimeMode=rangeandview=tableandchartMode=multipleandtableIndicatorId=26637andchartIndicatorId=26637andchartHighlightSeries=andchartHighlightEnabled=trueandyears=2020%2C2025>.

Centraal Bureau voor de Statistiek. (2026). Hoger onderwijs; internationale studenten, onderwijskenmerken [Data set]. CBS StatLine. <https://opendata.cbs.nl/#/CBS/nl/dataset/85125NED/table>.

Higher Education Authority. (2025). Key Facts and Figures. Higher Education Authority. <https://hea.ie/statistics/data-for-download-and-visualisations/key-facts-figures-report/>.

International student population global and focus country figures for 2023 were primarily obtained from the UNESCO Institute for Statistics (UIS) Data Browser, using the indicator for internationally mobile students. Where a 2023 UNESCO observation was unavailable (the Netherlands and Ireland), the analysis used the available official country-level source for 2023 instead. For the Netherlands, the analysis used 2023/24 academic year data from the Dutch Central Bureau of Statistics (CBS). Similarly, for Ireland, academic year 2023/24 data from Irish Higher Education Authority (HEA) was used.

THE ANNUAL INTERNATIONAL GRADUATE COHORT (1/3)

Annual international graduate cohort estimates were derived from official national statistics, government publications and higher education data sources across the 15 focus destinations. As countries differ in their reporting schedules and data availability, a single reference year was not applied across all destinations. Instead, the analysis uses the latest available graduate data for each country at the time of data collection. Consequently, the reporting year varies across countries. Reliable graduate data were identified for 13 of the 15 focus countries. For Singapore and Türkiye, comparable graduate statistics could not be identified.

Country	Year reported	Source
United Kingdom Higher Education Statistics Agency (HESA)	2023/24*	Higher Education Statistics Agency. (2025). Table 18: HE qualifiers by level of qualification obtained, country of HE provider and sex 2014/15 to 2024/25. HESA. https://www.hesa.ac.uk/data-and-analysis/students/table-18 . Permanent address counted under 'Total non-UK' category including all levels were taken for 2023/24.
United States National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS)	2024 (calculated estimate)	Institute of International Education. (2025). Enrollment trends. Open Doors Report on International Educational Exchange. https://opendoorsdata.org/data/international-students/enrollment-trends/ . National Center for Education Statistics. (2024). Table 15. Number of degrees conferred at Title IV institutions, by race/ethnicity, level of degree, and sex: United States. Integrated Postsecondary Education Data System (IPEDS). https://nces.ed.gov/ipeds/search/viewtable?tableId=36567 . 2024 international graduate numbers for the United States were estimated using non-resident graduate completions from Integrated Postsecondary Education Data System (IPEDS) and international student enrolment data from Open Doors. Historical graduate-to-enrolment ratios were calculated for 2019/20–2022/23 by dividing annual non-resident graduate counts by the total international student population in the same academic year. These ratios were combined to produce a weighted historical graduate rate, which was then applied to the 2023/24 international student population of 883,908. This is a forecasting estimate of the annual international graduate cohort.
Australia Australian Government, Department of Education	2024	Australian Government Department of Education. (2025). Perturbed Award Course Completions Pivot Table 2024 [Data set]. Australian Government Department of Education. https://www.education.gov.au/higher-education-statistics/resources/perturbed-award-course-completions-pivot-table-2024 . The Pivot Table 2024 was downloaded from the aforementioned source link. Within the dataset, the pivot table was filtered to Citizenship Status = Overseas, and all award course completions were summed to derive the annual international graduate cohort for 2024.
Canada Statistics Canada, Government of Canada	2024 (calculated estimate)	Statistics Canada. (2026, May 5). Number of full-time international students in public postsecondary institutions by institution type, observed (2019/2020 to 2023/2024) and estimated (2024/2025 and 2025/2026). Statistics Canada. https://www150.statcan.gc.ca/n1/daily-quotidien/260505/cg-b001-eng.htm . Statistics Canada. (2025). Postsecondary graduates, by International Standard Classification of Education, institution, and program and student characteristics (Table 37-10-0233-01). Government of Canada. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710023301 . 2024 international graduate numbers for Canada were estimated using international graduate counts from Statistics Canada for 2020–2023, excluding upper secondary, post-secondary non-tertiary, and “not applicable” ISCED categories. International enrolment at public colleges and universities was used as the student population measure, with academic years assigned to their ending calendar year (for example, 2019/20 enrolment was matched with 2020 graduates). The resulting four-year series produced a weighted historical graduate rate, which was then applied to the 2023/24 international student population to estimate international graduates in 2024. This is a forecasting proxy for the annual international graduate cohort.

THE ANNUAL INTERNATIONAL GRADUATE COHORT (2/3)

Country	Year reported	Source
France Campus France European Commission, Eurostat	2024 (calculated estimate)	Campus France. (2025). Les étudiants étrangers en France en 2023-2024 [Foreign students in France in 2023-2024]. Campus France. https://chiffrescles2025.campusfrance.org/les-etudiants-etrangers-en-France. European Commission, Eurostat. (2026). Tertiary education statistics. Statistics Explained. https://ec.europa.eu/eurostat/statistics-explained/SEPDF/cache/1152.pdf. An estimate of 2024 international graduates was derived by applying the share of internationally mobile students in French higher education in academic year 2023/24 (10.64%, calculated as 14% foreign students × 76% internationally mobile as reported by Campus France) to the 885,100 tertiary graduates reported for France in 2024 by Eurostat.
Germany Federal Statistical Office (Destatis)	2024	Statistisches Bundesamt (Destatis). (2025). Bestandene Prüfungen nach Abschlussarten, Ausländer/innen. Destatis. https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bildung-Forschung-Kultur/Hochschulen/Tabellen/Irbil13.html#242448. Official German graduate statistics are reported by citizenship. The count of foreign-national graduates is therefore used as a proxy for international graduates.
Malaysia Kementerian Pendidikan Tinggi (KPT) Ministry of Higher Education Malaysia	2024	Ministry of Higher Education Malaysia. (2024). Statistik Pendidikan Tinggi 2024: Bab 2 Universiti Awam (UA). Ministry of Higher Education Malaysia. https://www.mohe.gov.my/muat-turun/statistik/2024-4/1703-bab-2-ua-2024-update-pdf/file. Ministry of Higher Education Malaysia. (2024). Statistik Pendidikan Tinggi 2024: Bab 3 Institusi Pendidikan Tinggi Swasta (IPTS). Ministry of Higher Education Malaysia. https://www.mohe.gov.my/muat-turun/statistik/2024-4/1704-bab-3-ipts-2024-update-pdf/file. International graduate/output counts were extracted from the two aforementioned reports; Chapter 2, Table 2.8 (Public Universities, UA) and Chapter 3, Table 3.6 (Private Higher Education Institutions, IPTS). The two figures were combined to calculate the annual international graduate cohort for 2024.
Singapore	–	Comparable data on annual international graduates could not be identified from official sources. Consequently, a proxy estimate was derived using the average international graduate rate calculated across the 13 focus countries in this list for which reliable graduate data were available. This average rate (36.7%) was applied to Singapore's international student population to estimate the annual international graduate cohort.
New Zealand Ministry of Education	2024	New Zealand Ministry of Education. (2026). Tertiary achievement and attainment. Education Counts. https://www.educationcounts.govt.nz/statistics/achievement-and-attainment. The 2024 international completion count was derived by subtracting the reported year-on-year increase (3,865) from the 2025 total (21,230), resulting in an estimated 2024 figure of 17,365.

THE ANNUAL INTERNATIONAL GRADUATE COHORT (3/3)

Country	Year reported	Source
Ireland Higher Education Authority	2024	Higher Education Authority. (2025). Key Facts and Figures. Higher Education Authority. https://hea.ie/statistics/data-for-download-and-visualisations/key-facts-figures-report/ . Data were extracted from Section B (Graduates), Graph 1, and filtered to exclude Ireland-domiciled students, leaving only international graduates. The HEA dataset covers Ireland's publicly funded higher education institutions, which represent the majority of higher education enrolment and graduates in the country.
Japan Japan Student Services Organization (JASSO)	2024	Japan Student Services Organization. (2026). 2024（令和6）年度外国人留学生進路状況調査結果 [2024 Foreign International Student Career Status Survey Results]. https://www.studyinJapan.go.jp/ja/_mt/2026/05/data2024s.pdf .
South Korea Ministry of Education	2024	Ministry of Education (Republic of Korea). (2025). 2024년도 고등교육기관 졸업자 취업통계 조사 결과 발표 [Release of the 2024 Higher Education Institution Graduate Employment Statistics Survey Results]. Ministry of Education. https://www.moe.go.kr/boardCnts/viewRenew.do?boardID=294&boardSeq=105011&lev=0&searchType=null&statusYN=W&page=1&ds=moe&dm=020402&opType=N .
The Netherlands Central Bureau of Statistics	2023/4*	Centraal Bureau voor de Statistiek. (2026). Uitstromers ho; arbeidskenmerken na verlaten onderwijs (Dataset 85777NED). StatLine. https://opendata.cbs.nl/#/CBS/nl/dataset/85777NED . The Netherlands' international graduate cohort was derived directly from CBS StatLine dataset 85777NED. The dataset was filtered to international students and academic year 2023/24. International graduates were defined as higher education leavers who obtained a diploma.
Italy USTAT (Ministry of University and Research)	2024	Ministero dell'Università e della Ricerca. (2024). USTAT - Didattica: Tutti gli Atenei. https://ustat.mur.gov.it/dati/didattica/italia/atenei .
Türkiye	–	Comparable data on annual international graduates could not be identified from official sources. Consequently, a proxy estimate was derived using the average international graduate rate calculated across the 13 focus countries in this list for which reliable graduate data were available. This average rate (36.7%) was applied to Türkiye's international student population to estimate the annual international graduate cohort.

*For countries that report data by academic year, 2023/24 data was used to identify international graduates in 2024.

Estimating graduate retention post-study

Source: Studyportals Graduate Outcomes data for 14 out of 15 (excluding Japan) focus countries and rest of the world.

Country-specific stay rates were calculated using Studyportals Graduate Outcomes records available at the time of analysis, covering graduates observed from 2018 onwards and tracking first job after graduation. The underlying dataset is proprietary and not publicly available.

Japan source: Japan Student Services Organization. 2024（令和6）年度外国人留学生進路状況調査結果 [Results of the 2024 survey on the post-graduation pathways of international students]. Japan Student Services Organization. 2024（令和6）年度外国人留学生進路状況調査結果 (see Table: Table 1(1), p. 1)

Calculating first-year economic contribution

Source: World Bank. (2026). GDP per person employed (constant 2021 PPP \$). World Development Indicators. <https://data.worldbank.org/indicator/SL.GDP.PCAP.EM.KD>.

The GDP-per-worker values used in the first-year contribution estimate are from 2025, consistent with the interpretation of the modelled cohort as entering the labour market in 2025.

Estimating long-term graduate retention

Source: OECD. (2022a). *International Migration Outlook 2022*. OECD Publishing, Paris. <https://doi.org/10.1787/30fe16d2-en>.

For Australia, France, Germany, Italy, New Zealand and the United Kingdom, year-by-year retention data from Figure 7.4 (p.187) were used directly for modelling graduate retention. For Canada, Japan and the Netherlands, five-year and ten-year retention benchmarks from Figure 7.2 (p.185) were used to model retention trajectories. For destinations without OECD retention data, a weighted average retention pattern derived from countries in Figure 7.4 with full longitudinal data was applied. The OECD raw data can be downloaded from the report link above for the respective figures.

Calculating lifetime economic contribution

Source: World Bank. (2026). *GDP per person employed (constant 2021 PPP \$)* (Indicator code: SL.GDP.PCAP.EM.KD). World Development Indicators. Downloaded dataset: <https://api.worldbank.org/v2/en/indicator/SL.GDP.PCAP.EM.KD?downloadformat=excel>.

World Bank GDP per person employed (constant 2021 PPP \$) data. Historical data for 2005–2025 were downloaded from the World Bank and used to calculate country-specific growth rates. These growth rates were applied to project GDP per person employed over the modelled retention period.

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