



Understanding the maturity of destination countries and the drivers for emerging destinations

'Deep Dive' case study #1 | International Higher Education Student Flows via Global Data Integration Project

This case study focuses on emerging destination countries in the international education system

It provides insight on destination country trends in global higher education and the implications for Australia as a destination country.

What we already know

There are a number of emerging destinations in the global international education system.

Based on available UNESCO data, some of these emerging destinations (such as China, Malaysia, Russia and Canada) are growing at a faster rate over the most recent six years (2010 to 2016) than most established destinations (US, UK and Australia).

Relatively limited information has been published about what is driving this growth and the implications for the Australian higher education system.

What is the focus of the research

The research for this case study has focused on three key areas:

1. Classifying destination countries to understand which are the 'emerging' destination countries globally
2. Understanding the drivers behind recent growth trends in key emerging countries
3. Determining the implications of emerging destination countries for established destination countries – such as Australia.

Why is this research area important

This case study focuses on a relevant topic and adopts a novel approach to gain insight on emerging destinations.

Relatively limited attention has been paid to date on emerging destinations as competitors for Australia.

Past research is limited and does not consider these issues at the global level.

Destination country maturity and drivers are assessed across four sections

This provides a holistic understanding of destination country trends in global higher education, as well as a detailed assessment of the countries that have been identified as 'emerging'. The document structure follows this approach.

Section 1 – 'Emerging' destinations in international education

Presenting a classification of different destination countries based on key characteristics and the similarities and differences between countries.

Section 2 – Testing drivers of international education mobility

Exploring three critical assumptions on global student mobility –

- New source countries will drive new destinations
- The next generation will not remain as source countries
- Institutional quality is correlated with national inbound mobility.

Section 3 – Competitor implications for Australia

Detailed level analysis on Australia's emerging competitors to provide in-depth analysis on how Australia has performed against emerging countries.

Section 4 – Drivers of growth for select emerging destinations

Further assessment of 'emerging' destinations to understand what are the factors driving growth for specific 'emerging' destinations.

Executive Summary

There are **five key groups of destination countries** – Established countries, mature countries and emerging countries (Next Wave, Latent and Promising)

Increasingly Australia is competing with both **emerging and established destination countries**

The three emerging country groupings are:

NEXT WAVE – which are two countries with ‘high pulling power’ attracting students from diverse source countries

Canada has experienced rapid growth in recent years – driven by Indian and Chinese student in major cities.



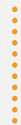
New Zealand which is a small destination country but has very high ‘pulling power’.

LATENT – a series of large destination countries with low pulling power which could increase its pull in future years

Russia, which has become a key destination country – but primary driven by local neighbour countries in specialist areas.



China, which has a faster growth rate than all other larger destination – 12% year-on-year.



Germany is also a latent emerging destination.

PROMISING – smaller destination countries that have shown promise as international education destination through strong recent growth

Malaysia is the key promising destination, experiencing strong growth (22% per annum) due to increasing student numbers from developing countries.



UAE, Netherlands, Turkey and Saudi Arabia are all also promising emerging countries.

Emerging destination countries have been driven by different categories of source countries – with some competing directly with established destinations while others have grown from neighbouring countries.

Emerging countries global share of all international students grew to **18% in 2016**, up from only **15% in 2011**.

For Australia’s top five markets...

...the growth of ‘Next Wave’ emerging countries has been comparable to established destinations.

However, for other countries Australia has experienced declining share of international students – this has been mostly due to other established countries which have increased their share in these countries.

Section 1 – ‘Emerging’ destinations in international education

This section outlines analysis focused on defining the maturity of international education destination countries. This includes:

- The methodology for clustering destination countries based on volume, growth and 'Pulling Power'
- Defining the key categories of international education destination countries – including those that are 'emerging'
- Identifying key changes in the international education landscape based on changes in cluster categories from 2011 to 2016.

While the sector typically considers major destination countries based on size, this case study adopts a novel three-dimension maturity assessment to classify countries

The assessment consists of a **cluster analysis** based on three factors related to destination countries...

... which provides a more robust and holistic view of **different 'clusters' of destination countries** globally.

What is it?

A cluster analysis is applied to classify destination countries based on **volume** (number of students), **growth** (5-year CAGR), and the assessed '**Pulling Power**' of a destination country.

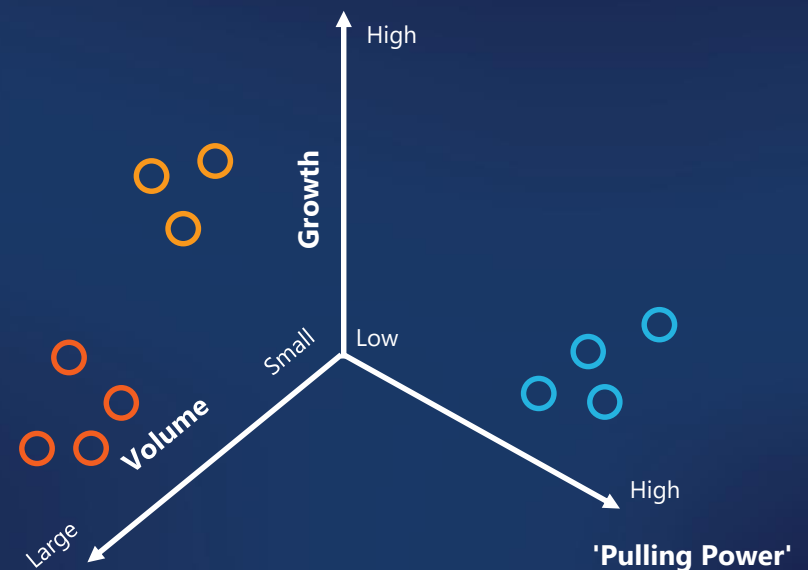
Why are we using it?

Using this approach, we are able to identify which destination countries are similar across these key dimensions, classify of destinations countries into groups and determine which countries are 'emerging' international education destinations.

How does it work?

The values are normalised and a weighting of 2 : 1.5 : 1 is applied respectively to **volume**, **growth** and '**Pulling Power**'.

A hierarchical, agglomerative, Euclidean clustering algorithm was then applied to mathematically calculate the clusters.



All destination countries will be assessed across three dimensions:

1. Volume (2016)
2. Growth (5-year CAGR)
3. 'Pulling Power'

'Pulling Power' accounts for a key difference across destination countries – namely its relative attraction as a destination for diverse groups of students

The 'Pulling Power' of a destination country is based on the extent to which it attracts students that are 'distant' from it – being both geographically far and/or culturally different.

What is 'Pulling Power'?

'Pulling Power' refers to the 'pull' of a destination country beyond total numbers. It considers the extent to which the destination country has a significant pulling effect for students choosing to study overseas. Destinations with strong 'Pulling Power' overcome:

1. **Geographic distance** – how far the student is coming from
2. **Cultural distance** – the 'gap' in cultural similarity between the source and destination country – calculated using the [Hostfede national culture](#) measure.

Each destination country receives a **score out of 100** indicating their relative '*Pulling Power*'. A high score (>60) means the destination country attracts students that are 'distant' from it, while a low score (<30) indicates the countries that it attracts students from are culturally similar, and/or geographically nearby.

How is 'Pulling Power' calculated?

Step 1 – Define the '**cultural distance**' and **geographic distance** between each country-country flow



Step 2 – Normalise the geographic and cultural score to form a '**distance index**' out of 100 for each country-to-country flow.



Step 3 – For each destination country, identify proportion of inbound students coming from each source country.



Step 4 – Calculate a '**Pulling Power**' score out of 100 for destination country based on 'distance index', weighted by inbound student flow source countries.

As one of the two components of 'Pulling Power' – 'cultural distance' is calculated using the Hofstede national culture measure

Hofstede defined six significant measures that characterise the national culture of a country. Each country is scored against the six measures ranging from a score of 0 to 100 from lowest to highest.

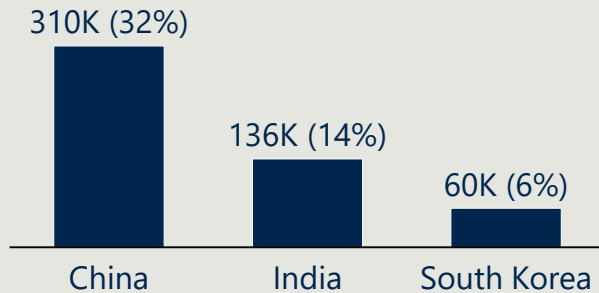
Power Distance	Individualism	Masculinity	Uncertainty Avoidance	Long-Term Orientation	Indulgence
is defined as the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally.	is defined by the degree of interdependence a society maintains among its members.	indicates whether society is driven by competition, achievement and success; or caring for others and quality of life.	is defined by the extent to which the members of a culture feel threatened and act to prevent ambiguous or unknown future situations.	describes how society prioritise links to the past to challenges of the present and future differently.	is defined as the extent to which people try to control their desires and impulses, based on the way they were raised.

The 'cultural distance' between two countries has been assessed as the sum of the difference between two countries across the six cultural measures. Notionally, 'cultural distance' could range from 0 to 600; however the actual 'cultural distance' ranged from 318 (between Denmark and Albania – which are very different) to 18 (between Lithuania and Estonia – which are very similar).

As an example, this is how 'Pulling Power' provides an assessment of the destination country based on their student profile

The USA has higher 'pulling power' as the international students that the USA attracts...

... are more culturally and geographically 'distant' than the international students Russia attracts.



out of a total of 971K students.

Case study | China to USA 'Pulling Power' – 92 (High)

1. **Geographic distance** – 11,647 km
2. **Cultural distance** – (39%* across six dimensions)
China scores **differently** to USA on:
 - (Low vs High) Individualism
 - (High vs Low) Long-term orientation
 - (Low vs High) Indulgence

This makes USA an '**high Pulling Power**' destination country



out of a total of 244K students.

Case study | Ukraine to Russia 'Pulling Power' – 22 (Low)

1. **Geographic distance** – 4,666 km
2. **Cultural distance** – (9% across six dimensions)
Ukraine scores **similarly** to Russia on:
 - (Both high) Uncertainty avoidance
 - (Both high) Power distance
 - (Both low) Indulgence

This makes Russia a '**low Pulling Power**' destination country

Cluster analysis defines three groups which can be further segmented into five categories of key destination countries

These categories group together destination countries based on their similarity across the three key variables – size, growth and 'pulling power'.

A. Major destination countries

1. Established destination countries

- United States
- United Kingdom
- Australia

2. Mature destination countries

- France
- Japan

3. 'Next wave' emerging destination countries

- Canada
- New Zealand

4. 'Latent' emerging destination countries

- Germany
- Russia
- China

B. Fast growing destination countries

5. 'Promising' emerging destination countries

- Malaysia
- Netherlands
- Turkey
- Saudi Arabia
- UAE

C. Smaller destination countries

6. All other destination countries – which attract less students, have lower 'pulling power' and/or are experiencing lower growth.

Three of these country categories which are identified as 'emerging' are the key focus of this case study

A summary of the key characteristics for established, mature and emerging destination countries is presented below.

Country category	Description	Size rank	Destination country	Student volume (2016)	CAGR (2011-16)	'Pulling Power' score	Cluster group	
Established destination countries	Established and growing destination countries with 'high Pulling Power' students from a mix of developed and developing countries.	1	United States	Mega Large	Medium	High	Group A – Major destination countries	
		2	United Kingdom	Large	Low	High		
		3	Australia	Large	Medium	High		
Mature destination countries	Mature destination countries with students from developing countries.	5	France	Large	Negative	Medium		
		8	Japan	Large	Negative	Medium		
'Next Wave' emerging destination countries	Emerging destination countries, with 'high Pulling Power' students from a mix of developed and developing countries.	7	Canada	Large	Medium	High		
		21	New Zealand	Medium	Medium	High		
'Latent' emerging destination countries	Emerging destination countries, with 'low Pulling Power' students from nearby countries.	4	Germany	Large	Medium	Low		
		6	Russia	Large	Medium	Low		
		9	China	Large	High	Low		
'Promising' emerging destination countries	Newly emerged and rapidly growing destination countries, generally with 'low Pulling Power' students from nearby countries.	10	Malaysia	Large	High	Medium		Group B – Fast growing destination countries
		12	Netherlands	Medium	High	Low		
		13	Turkey	Medium	High	Low		
		14	Saudi Arabia	Medium	High	Low		
		15	UAE	Medium	Medium	Low		

In **Section 4**, more detailed country briefs are provided for the five largest emerging markets – and New Zealand as the key regional competitor for Australia.

Section 2 – Testing drivers of international education mobility

This section tests several key hypotheses or critical considerations that exist within the Australian international education sector, namely:

- The Next Wave of emerging destination countries be driven by emerging source countries (as opposed to compete directly with established countries)
- The next generation of destination countries will not remain as source countries
- Emerging high quality institutions are correlated with increasing inbound student numbers for destination countries.

The three key hypotheses reveal different drivers behind emerging destination countries' growth

Three distinct approaches have been applied to test the hypotheses.

Hypothesis: Emerging destination countries be driven by emerging source countries (*as opposed to compete directly with established countries*).

Approach:

- Deep dive into three emerging destination countries (Malaysia, Canada and Russia).
- Analysed the countries' 2011 and 2016 student composition to identify key growth drivers (*i.e. are they attracting students from established or emerging, 'high PP' or 'low PP' source countries*).

Insights:

Some emerging destination countries are driven by emerging source countries, while others compete directly with Australia.

Not all 'emerging' destination countries will compete directly with Australia.

The next generation of destination countries will not remain as source countries.

- Deep dive into three destination countries (China, Malaysia and Australia) with different maturity levels.
- Compared the countries' 'Outbound to Inbound' ratios from 2011 to 2015 to illustrate the trajectory from *a primary source country to primary destination country*.

The next generation of destination countries is likely to remain source countries within the short term.

For example, China is likely still a number of years away from transitioning to be a destination (rather than source) country, despite a general trend in that direction.

Emerging high quality institutions are correlated with increasing inbound student numbers for destination.

- Selected the top ten destination countries (by volume).

Compared the destination countries:

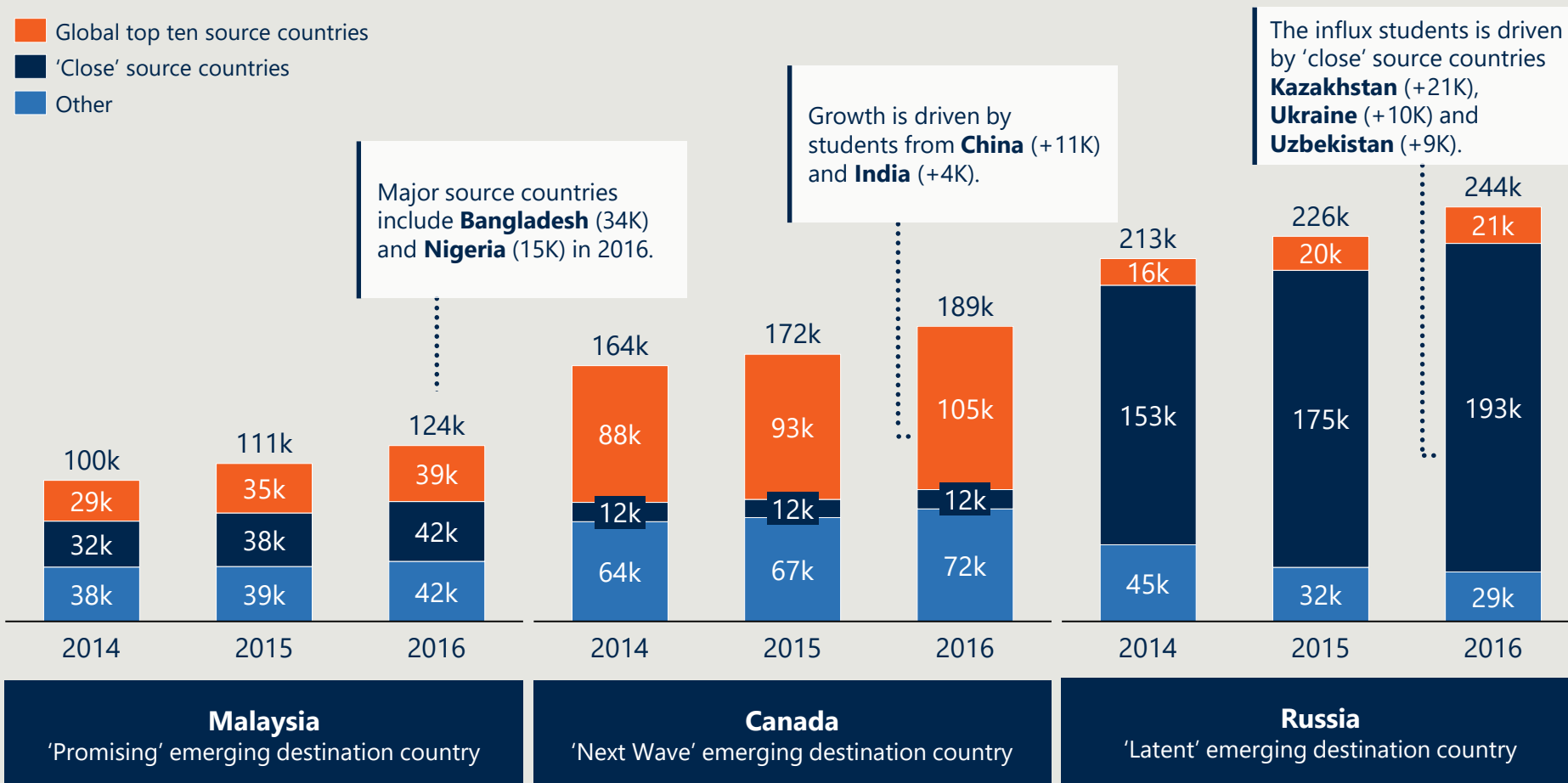
- Change in share of all international students
 - Changes in education rankings
- to understand whether there is a correlation between the two.

Institution quality does not clearly correlate to increased enrolments.

University rankings and net change in inbound student numbers at the national level do not appear to be directly correlated with inbound student growth. This suggests that other factors are also significant in driving inbound student flows.

Emerging destination countries are driven by different categories of source countries

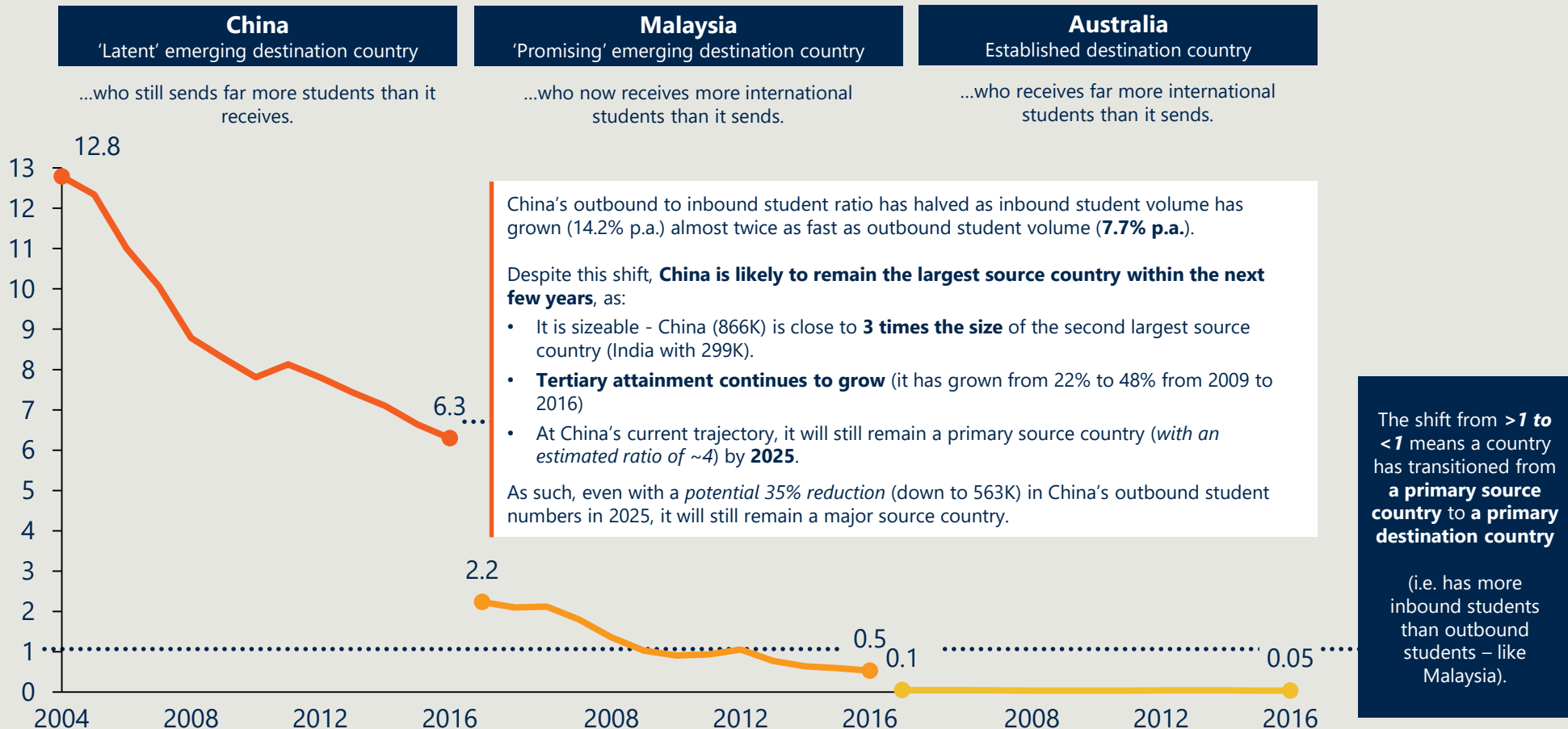
A destination like Canada has primarily experienced growth through established source countries, while in contrast Russia's growth in student numbers has primarily come from 'close' students. Malaysia is a balance of established and other source countries.



Major source countries (like China and Malaysia) are at different stages of maturity in their transition from a source country to a destination country

Using the 'outbound-to-inbound student ratio' the progression of emerging destination countries can be tracked over a period of time. While emerging as a destination country, China is still a long way away from receiving more international students than it sends.

'Outbound-to-inbound international student ratio', net-international tertiary student flow, by country, 2014 to 2016



Institution quality does not necessarily correlate to increased enrolments for emerging countries

University rankings and net change in inbound student numbers are not directly correlated, suggesting other factors are significant in driving inbound student flows.

Top ten destination countries' changes in education rankings and change in share of international tertiary students (2011-16)

Destination country	Country category	Quality indicator	Improvement in quality indicator		Growth indicator
		Number of top 400 universities (2011)	Change in universities in top 400 (2011-16)	Net change in top 200 rankings (2011-16)	Destination country change in share of all international students (2011-16)
1 USA	Established	113	-4	-793	+3.0 p.p.
2 UK	Established	52	-1	-65	+0.2 p.p.
3 Australia	Established	21	+2	209	+0.8 p.p.
4 Germany	'Latent' emerging	22	+15	506	+0.8 p.p.
5 France	Mature	8	+11	-97	-0.3 p.p.
6 Russia	'Latent' emerging	2	+1	0	+0.9 p.p.
7 Canada	'Next Wave' emerging	18	-1	-85	+0.8 p.p.
8 Japan	Mature	16	-8	-48	-0.1 p.p.
9 China	'Latent' emerging	10	-3	95	+0.6 p.p.
10 Malaysia	'Next Wave' emerging	0	n/a	n/a	+0.7 p.p.

Australia performed well in both measures, and experienced an increase in student volume.

In comparison, **USA** outperformed Australia despite poor performance in both measures.

Malaysia is a top ten destination country despite having no universities in the top 400.

Legend: ■ Negative ■ Positive

Section 3 – Competitor implications for Australia

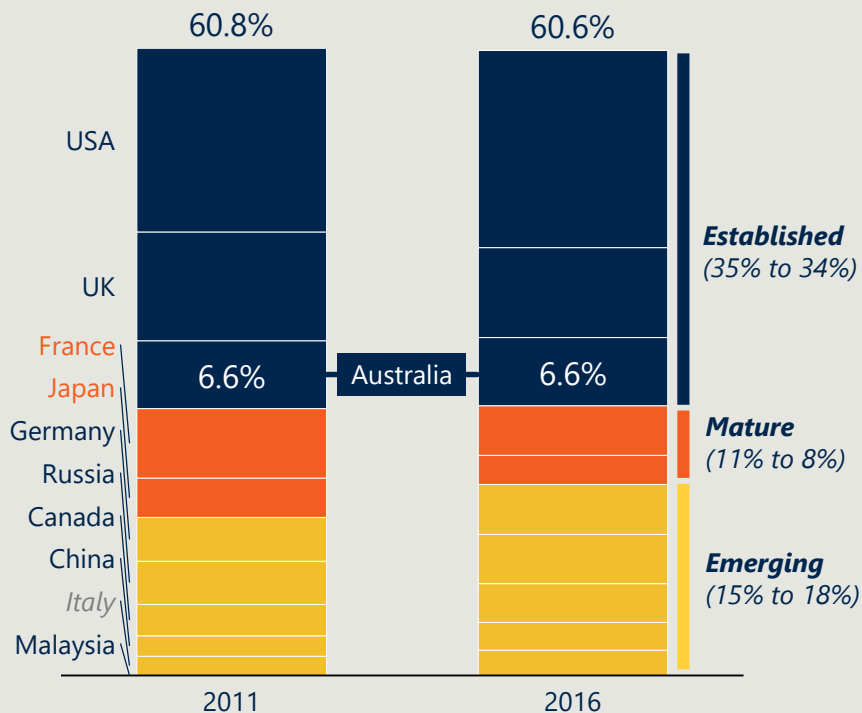
This section focuses on understanding how the proportion of international students studying in Australia changed between 2011 to 2016, and whether emerging destination countries have or will become key competitors to Australia.

Australia will increasingly be competing with both established and select emerging destination countries for share of students studying overseas

Sizeable emerging destination countries have gained market share globally, as well as in Australia's top three source countries.

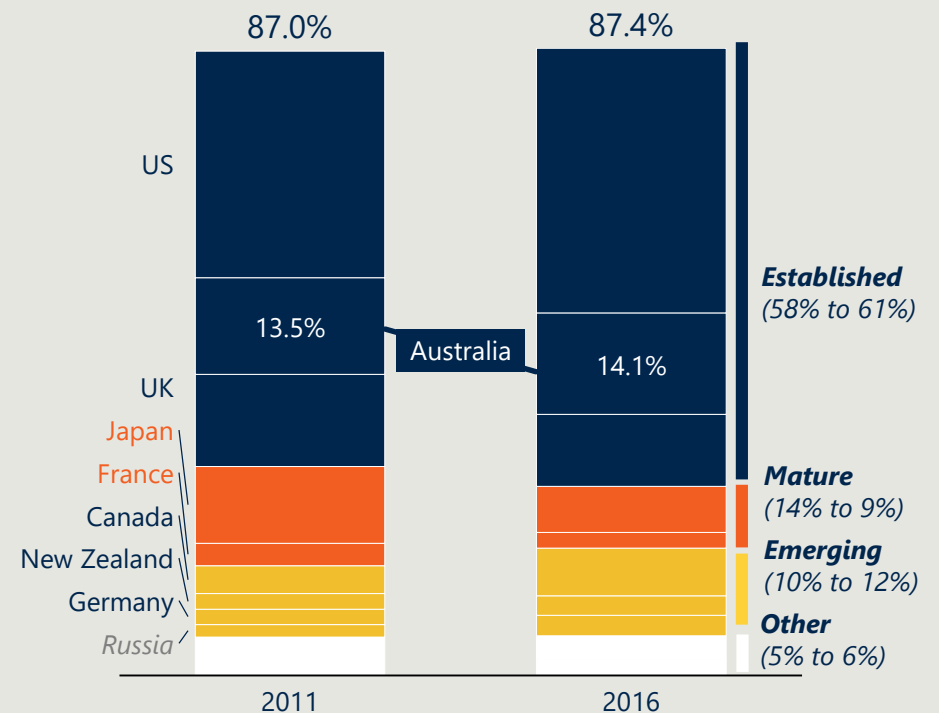
In the global market, **emerging** destination countries that are in the top ten destinations globally, have increased its share of all international students (**by +3%**).

Global top ten destination countries' share of international tertiary students (2011–2016)



Focusing on Australia's top three source countries (China, India and Malaysia), **emerging** and **established** destination countries within the top ten have increased by the a similar margin (**+2 and +3%**).

China, India and Malaysia's top ten destination countries' share of international tertiary students (2011–2016)

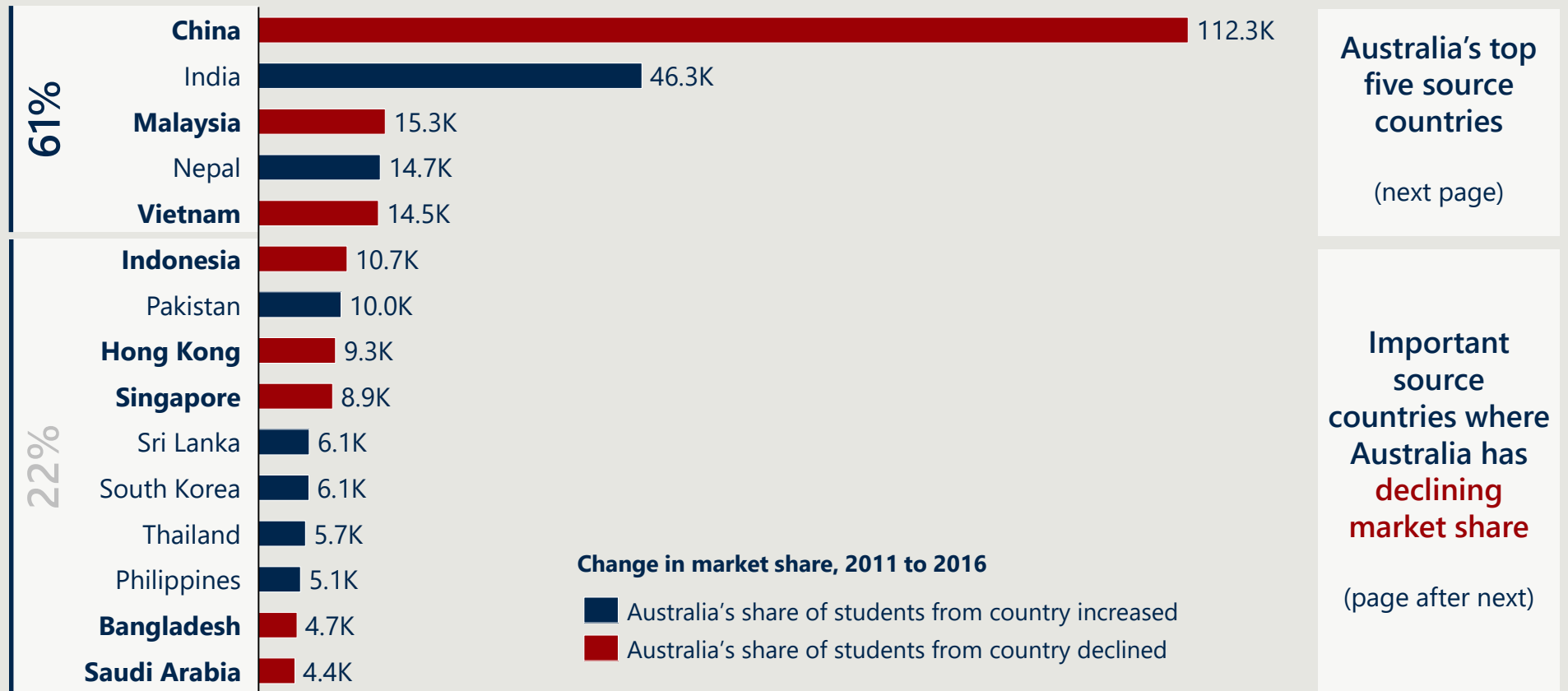


Note: **Emerging** includes 'Next Wave', 'Latent' and 'Promising' emerging destination countries. **Australia's top three source countries make up 52%** of Australia's total inbound student numbers. Italy (and Russia) was in the global top ten (and China, India Malaysia's top ten) in 2011 but not 2016. The **Other** category consisted of South Korea and Hong Kong.

The comparative performance of competitors for Australia's key source countries enables an assessment of the impact of emerging destination countries on key Australian markets

Analysis is presented on the pages that follow for Australia's top five source countries by student numbers and important source countries where Australia had a declining market share from 2011 to 2016.

Australia's top 15 source countries' by volume of inbound international tertiary students (2016)



Note: Market share is the percentage of all international students (from each source country) who come to Australia instead of another destination. Change in market share do not necessarily mirror change in enrolments because China's international student cohort increased from 648K to 866K (+34%) from 2011 to 2016. Australia's **top five source countries makes up of 61%** of Australia's total inbound student numbers.

In key destination markets for Australia, some identified emerging markets are beginning to make significant inroads

While 'Established' destination countries – the USA and UK – remain major competitors emerging source countries have gained share across Australia's 'top five'. 'Next Wave' countries, including New Zealand and Canada, have performed very well.

Net change in share of students from Australia's top five source countries, Australia and other destination country groups, 2011 to 2016

	Australia	'Next Wave' emerging	'Latent' emerging	'Promising' emerging	Established (US and UK)	Mature	Details
1 China ▲	-1.0%	+3.3%	+0.1%	+0.6%	+8.3%	-7.0%	Australia lost China market share primarily to the United States (+8.1%) and 'Next Wave' emerging Canada (+3.0%). Collectively 'latent' and 'promising' destinations also made ground on Australia.
2 India ▲	+8.5%	+4.0%	+2.0%	+1.5%	-18.3%	0.0%	Australia performed well, but 'emerging' has also gained share – including 'Next Wave' Canada (+2.6%), 'latent' Germany (+1.9%) and 'promising' UAE (+1.2%).
3 Malaysia ▼	-7.5%	-1.2%	-1.6%	+0.8%	+7.6%	-0.9%	Australia lost significant share, but this has been to established destination countries (UK, +5.9%) rather than emerging destinations.
4 Nepal ▲	+8.3%	+0.6%	-0.3%	+0.5%	-17.9%	+11.0%	Australia's increase in share of Nepalese students has been greater than both established and emerging competitors . Whereas 'mature' Japan increased (+11.1%).
5 Vietnam ▲	-2.9%	+0.5%	-3.1%	-0.2%	-2.5%	+9.9%	Australia lost share in Vietnam, but most other key destinations (emerging and established) have also . Whereas 'mature' Japan increased.

Legend: **Negative**  **Positive**

Source: Nous global student flow integrated dataset Layer 1, based on modelled UNESCO student mobility data. Note: 'Latent' emerging does not include China's market share due to UNESCO data constraints (China did not report country to country flows). Based on a cross-check of 'Latent' China's Project Atlas data, Malaysia and Nepal are not included in China's top ten source countries, **Vietnamese student enrolments reduced, while Indian student enrolments increased**. The percentages would not sum up to 0% as the sixth category ('Smaller') has been excluded.

Largely the big declines that Australia has experienced in recent years has been due to established rather than new emerging competitors

Emerging destination countries have gained varied market share in Australia's declining source countries, with particular growth in select source countries.

Net change in share of students from other destination country, Australia and other destination country groups, 2011 to 2016

	Australia	'Next Wave' emerging	'Latent' emerging	'Promising' emerging	Established (US and UK)	Mature	Details
6 Indonesia ▼	-3.2%	+0.8%	-0.2%	-0.7%	+5.4%	+0.8%	Australia lost share to both established destinations (UK, +3.6%), but also 'promising' emerging destinations (Saudi Arabia, +2.6%).
8 Hong Kong ▼	-10.1%	+0.6%	0.0%	+0.2%	+7.9%	+0.0%	Australia has lost share of outbound students from both Hong Kong and Singapore to the United Kingdom as an established destination market (+11.9% and +9.3% respectively).
9 Singapore ▼	-10.9%	+0.6%	0.0%	+0.1%	+7.3%	-0.1%	
14 Bangladesh ▲	-6.0%	-2.6%	-0.5%	+50.6%	-15.1%	-5.9%	Share of Bangladeshi students lost by Australia and other established destination countries, has been to Malaysia as a 'Promising' emerging country (+50.6%).
15 Saudi Arabia ▲	-6.9%	-0.6%	0.0%	-1.1%	+0.7%	+0.1%	Australia's declining share of students from these countries has primarily been to established destination countries (UK and USA).

Legend: **Negative**  **Positive**

Source: Nous global student flow integrated dataset Layer 1, based on modelled UNESCO student mobility data. Note: As mentioned previously, as a 'Next Wave' destination country, **Malaysia's** sizeable increase in Bangladeshi market share may be partially driven by **human trafficking**.

Section 4 – Drivers of growth for select emerging destinations

This section will focus on understanding the key factors that have driven the growth for the largest emerging destinations countries – namely the 'latent' destination markets of China and Russia, and the 'Next Wave' destination countries of Canada, and New Zealand and the largest 'promising' destination country – Malaysia. This includes an assessment of whether this emergence has represented shifting preferences of traditional outbound markets or emerging new outbound markets. Where possible information is presented on which products, providers and/or regional trends that are driving this growth.

Assessment of the identified five key 'emerging destination countries' indicates significant variation in the drivers of growth for emerging destinations

Source countries, product/provider preferences, drivers of growth and the competitiveness with traditionally strong destination countries all vary considerably.

Country category	Country	Tertiary students (2016)	Key source countries	Drivers of growth	Threats to Australia
'Latent' emerging destination countries	Russia	230,200	Local neighbours: <ul style="list-style-type: none"> • Kazakhstan • Ukraine • Uzbekistan 	<ul style="list-style-type: none"> • Growth driven by increased UG enrolments. • Health, and Engineering have experienced strong increases. 	Very low - Growth has been driven by low 'Pulling Power' neighbours and limited overlap on key source countries.
	China	137,000	Mixed: <ul style="list-style-type: none"> • South Korea • United States • Thailand 	<ul style="list-style-type: none"> • While UG is larger than PG, most international students in China are study abroad in Humanities. 	Medium – Strong recent growth, regional proximity and shared source countries means China is likely increasingly be a competitor.
'Next Wave' emerging destination countries	Canada	181,000	Traditional: <ul style="list-style-type: none"> • China • India • France 	<ul style="list-style-type: none"> • Toronto and Vancouver are the primary international education destinations. • Limited insight into product or level drivers for recent high growth. 	High – similar source countries and better performance than Australia in key markets means Canada is already a competitor.
	New Zealand	54,000	Traditional: <ul style="list-style-type: none"> • China • India • Australia 	<ul style="list-style-type: none"> • Higher Education growth has been concentrated in increased numbers of students in Auckland. • Field of study is relatively mixed, but net growth has come from Mgmt. & Commerce. 	High – New Zealand has similar source countries and has high 'Pulling Power' despite being a smaller destination country.
'Promising' emerging destination country	Malaysia	124,000	Developing: <ul style="list-style-type: none"> • Bangladesh • Nigeria • China 	<ul style="list-style-type: none"> • Strong increased student numbers from Bangladesh (work visa-oriented) and Nigeria have been to growth. • Product preferences are unclear. 	Medium – Malaysia is likely to be an emerging competitor for Australia, particularly in non-traditional markets.

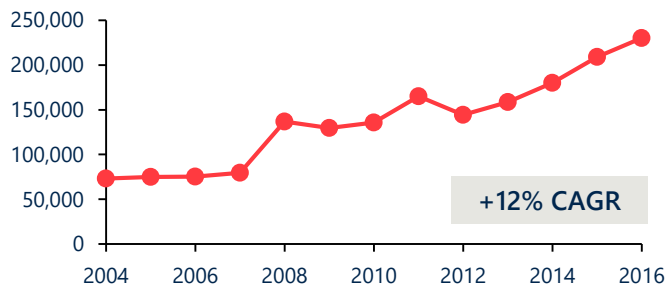
Further information on each source country is presented in the section that follows.

Russia has become a key destination country, but this has primarily been driven by low 'Pulling Power' neighbouring countries in specialist discipline areas

Russia has experienced strong growth as a destination country driven by low 'Pulling Power' markets...

How many students are studying in Russia?

Number of tertiary students studying in Russia, 2004 to 2016



Share of students %

2.3%

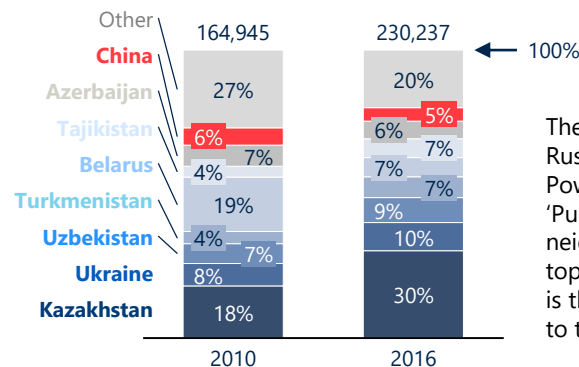
5.4%

3.4%

4.7%

What countries do students in Russia come from?

Key source countries by tertiary students (top 8), 2010 and 2016



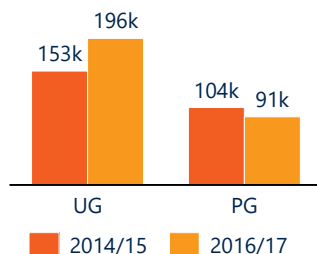
The key markets for Russian high 'Pulling Power' study are low 'Pulling Power' neighbours. Of the top countries, China is the only exception to this.

...recent growth over the past few years has been driven by an increasing in UG international students particularly in Health and Engineering.

What are the key product preferences for Russia as a destination?

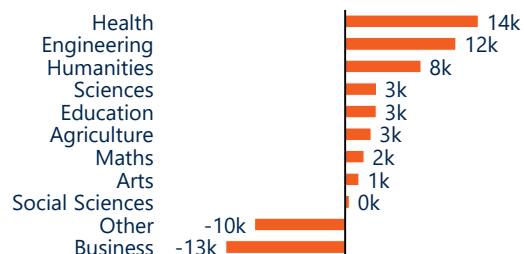
UG is larger and growing, PG numbers have declined...

HE students by level, 2014/15 to 2016/17



...with growth driven by two specialist areas – Engineering and Health.

Net change by field, 2014/15 to 2016/17



What are the key trends?

- Russia is a large destination country, with **medium growth** (8%) and **low 'Pulling Power'**. It attracts students from **other developing countries**.
- It is a **similar destination country to China and Germany** based on size, growth and 'Pulling Power'.
- International students primarily study across **four key fields**, with Engineering, Business, Health and Humanities making up 75% of all students.
- Growth in these fields has been **driven by different source countries**. For example, Health by Indian students (44% net increase) and Engineering by Kazakhstani students (40%).

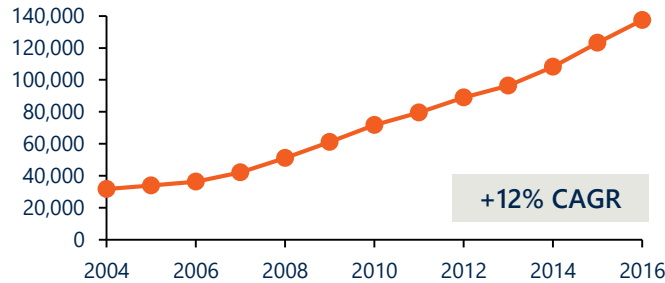
Russia is not a key emerging competitor for Australia with distinct source country and product offerings

China is an emerging market that has experienced high growth driven by a range of source countries

China has experienced unparalleled growth in recent years through a diverse number of source countries...

How many students are studying in China?

Number of tertiary students studying in China, 2004 to 2016



Share of students %

1.3%

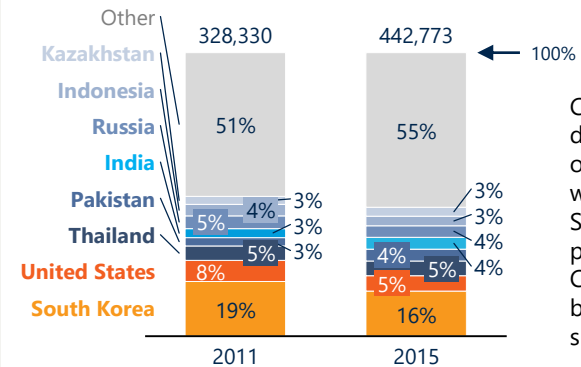
1.7%

2.4%

2.8%

What countries do students in China come from?

Key source countries by tertiary students (top 8), 2010 and 2016



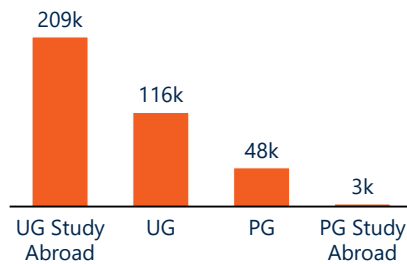
China is relatively diversified in terms of source countries with the top eight. South Korea is the primary market for China but it has been declining as a share of the total.

...however it appears that until recently study abroad has been a more popular product than qualification study.

What are the key product preferences for China as a destination?

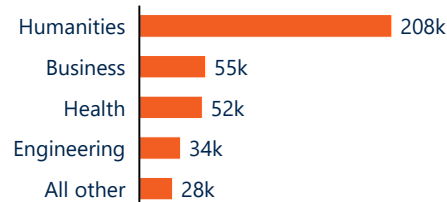
Most recent data (2013/14) indicates China was primarily a study abroad destination...

HE students by type of study, 2013/14



...with the majority of students studying general Humanities programs.

HE students by field of study, 2013/14



Note: this includes qualification programs and study abroad programs.

What are the key trends?

- China is an **emerging destination country** with around 140,000 students and **strong recent growth**. It attracts students from a relatively diverse set of source countries.*
- China has **grown faster** than all other destination countries that are larger than it, from 2010 to 2016.
- It should be noted that **limited recent information appears to be available** on international students studying in China by field, level of study or destination of study (region or university).

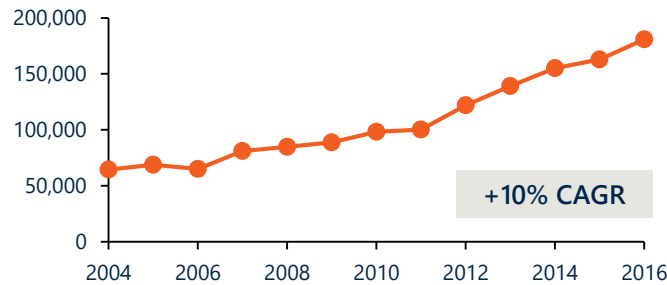
China may become a key competitor to Australia in upcoming years based on growth and similar source countries.

Canada is an international education destination that has experienced rapid growth in recent years driven by India and China

Canada has experienced greater growth than other 'Western' destinations driven by Indian and Chinese students...

How many students are studying in Canada?

Number of tertiary students studying in Canada, 2003 to 2016



Share of students %

2.6%

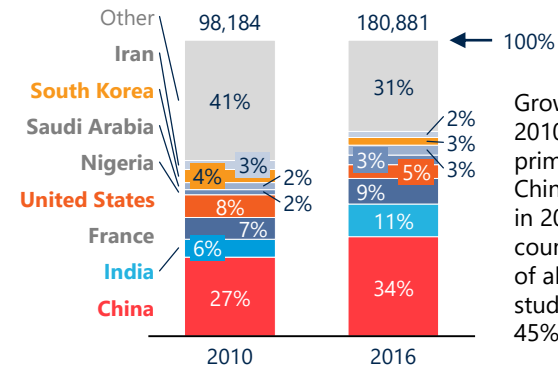
2.8%

3.3%

3.7%

What countries do students in Canada come from?

Key source countries by tertiary students (top 8), 2010 and 2016



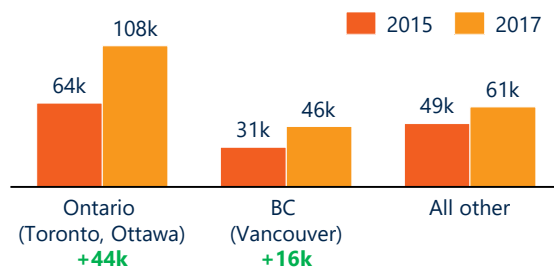
Growth in Canada in 2010 and 2016 has primarily been driven by China and India. Whereas in 2010 these two countries made up 33% of all high 'pulling power' students, they made up 45% six years later.

...with Toronto and Vancouver the two key destinations that are driving growth.

What are the key regional preferences for Canada as a destination?

Around half of students study in Ontario, which has also driven recent growth. The majority of these students are studying in Toronto, followed by Vancouver.

Commencing post secondary permit holders by province/territory



Note it is estimated that almost 60% of Ontario students study in Toronto and over 70% of British Columbia students study in Vancouver.

+44k

+16k

What are the key trends?

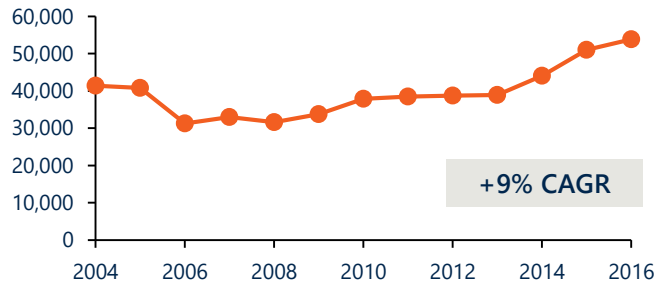
- Canada can be **grouped with NZ** as an **emerging Western market** with high 'Pulling Power', but is smaller in size than the other established countries.
- It has a **high 'Pulling Power' score** (77), but not as high as US, Australia or NZ. Generally, Canada attracts students from wealthier source countries than Australia or the United States.
- 60% of the net increase from 2010 to 2016 has come from **China and India**, making up 45% of international students – similar to Australia's 48%.
- Reported study permit holder data indicates **continued growth (>13% CAGR)** from 2015 to 2018, particularly in India which have overtaken China as the primary source country.

Canada is a current key competitor to Australia based on strong growth and aligned source countries.

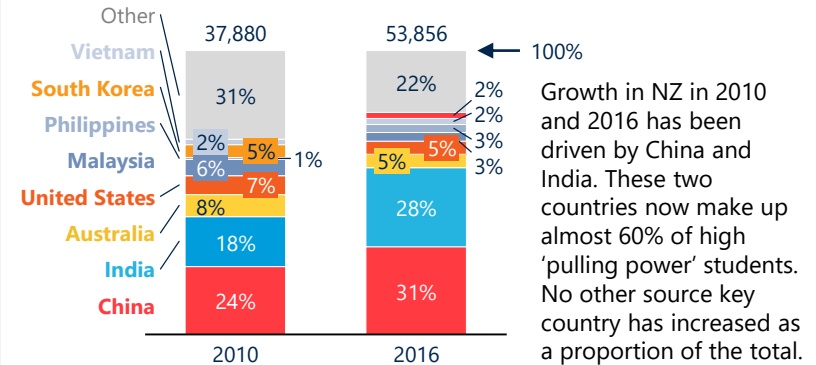
New Zealand is a small destination country, but has high 'Pulling Power' and has experienced growth in line with other major countries in recent years

New Zealand has recovered from a slowdown with an increase in students in the past five years driven by increased reliance on China and India...

How many students are studying in New Zealand?
Number of tertiary students studying in New Zealand, 2004 to 2016



How many students are studying in New Zealand?
Key source countries by tertiary students (top 8), 2010 and 2016



Growth in NZ in 2010 and 2016 has been driven by China and India. These two countries now make up almost 60% of high 'pulling power' students. No other source key country has increased as a proportion of the total.

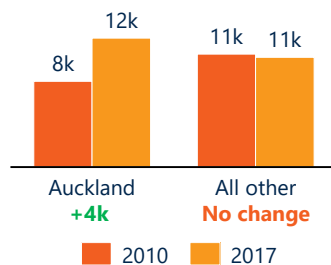
...Auckland has been key for growth with increase in student numbers in UG Mgmt. & Commerce university programs.

What are the key product preferences for New Zealand as a destination?

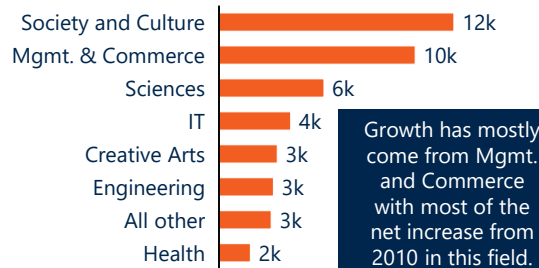
Auckland is as large as other destinations combined and has driven growth...

...students study a range of subject, but growth has been in Mgmt. & Commerce.

HE students by region, 2010 to 2017



HE students by field of study, 2017



Growth has mostly come from Mgmt. and Commerce with most of the net increase from 2010 in this field.

What are the key trends?

- While smaller than other 'Western' destinations, NZ has **higher 'Pulling Power'** than others and grown strongly. It can be classified with Canada as an **'emerging Western destination'**.
- India and China** were responsible for almost all the net increase from 2010 to 2016, and in 2016 make up 60% of international students – higher than Australia's 48%.
- Three-quarters of students study at UG level** which has not changed in the past four years (much higher than Australia – approx. 55%).

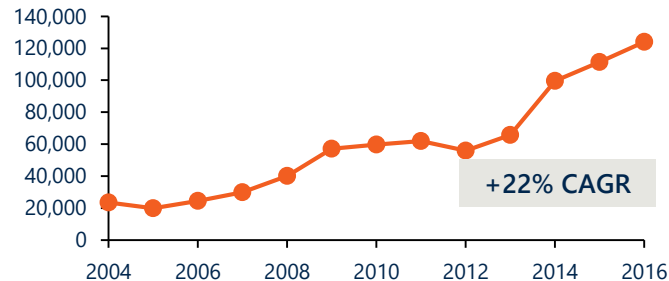
New Zealand is a clear competitor to Australia, while small it has high relative 'Pulling Power'.

Malaysia's experienced strong growth and has emerged as a key education destination due to increasing numbers of students from developing countries

Malaysia has grown to become a significant emerging destination in high 'pulling power' education...

How many students are studying in Malaysia?

Number of tertiary students studying in Malaysia, 2003 to 2016



Share of students %

0.9%

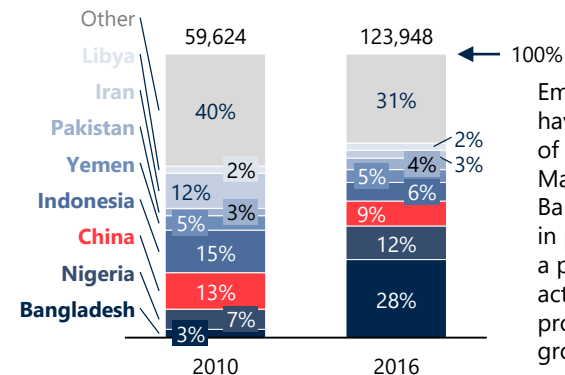
1.3%

1.5%

2.5%

How many students are studying in Malaysia?

Key source countries by tertiary students (top 8), 2010 and 2016



Emerging countries have driven the growth of students studying in Malaysia – with Bangladesh and Nigeria in particular growing as a proportion. China has actually declined as a proportion, though has grown as a number.

...its relative performance in key developing source countries has driven this.

What are the key trends?

- Malaysia has become a **large market** with 124,000 tertiary students, **based on high growth** (over 14% CAGR) and moderate 'Pulling Power'.
- Malaysia attracts tertiary **students primarily from other developing countries** and in this regard, is similar to another emerging market- Poland.
- Growth in Bangladesh and Nigeria** has been particularly significant, with Malaysia the first and second ranked (after the UK) for these markets respectively. Reported figures indicate that **half of Bangladeshi outbound students study in Malaysia**.
- Minimal information is available with regards to product preferences (level and field), or provider of study for international students studying in Malaysia.

Malaysia is an emerging competitor for Australia particularly for non-traditional markets.

Appendices

The appendices includes:

- A. Methodology considerations
- B. Summary of destination country 'Developing-developed matrix' scores
- C. Full summary of destination country groupings from cluster analysis.

Our approach to the research comprised four parts

Appendix B – Summary of destination country ‘Developing-developed matrix’ scores

Part 1 – Classify different destinations based on key characteristics	Part 2 – Explore critical considerations in the international education sector	Part 3 – Detailed level analysis on Australia’s emerging competitors	Part 4 – Detailed level analysis on key ‘emerging destinations’
Purpose: To understand the similarity and differences between destination countries.	Purpose: To test critical considerations that will influence Australia’s market position in the future.	Purpose: To provide in-depth analysis on how Australia performed against emerging countries.	Purpose: To understand what is driving growth in specific ‘emerging’ destinations.
Approach: Cluster analysis to group destination countries based on their size, growth and ‘Pulling Power’ – and identify which countries are ‘emerging’.	Approach: Identified three key hypothesis and conducted an assessment of each.	Approach: Analysis of how a destination countries share of students has changed over time and the destination countries that have most increased their share.	Approach: Presentation of inbound flows over time for ‘emerging’ destinations, and the source countries, product and region preferences driving this growth.
Section 1 – ‘Emerging’ destinations in international education	Section 2 – Testing drivers of international education mobility	Section 3 – Competitor implications for Australia	Section 4 – Drivers of growth for select emerging destinations

An alternate categorisation approach was also used based on country type

Appendix B – Summary of destination country ‘Developing-developed matrix’ scores

Under this approach destination countries were **classified based on the relative wealth** student’s countries...

What is it?

The ‘developing-developed matrix’ – a simple classification of destination countries based on the relative wealth of the students’ source country and the destination country itself.

Why are we using it?

The classification provides a valuable comparison for the types of students it attracts and whether those are typically from developing countries or from developed destination countries.

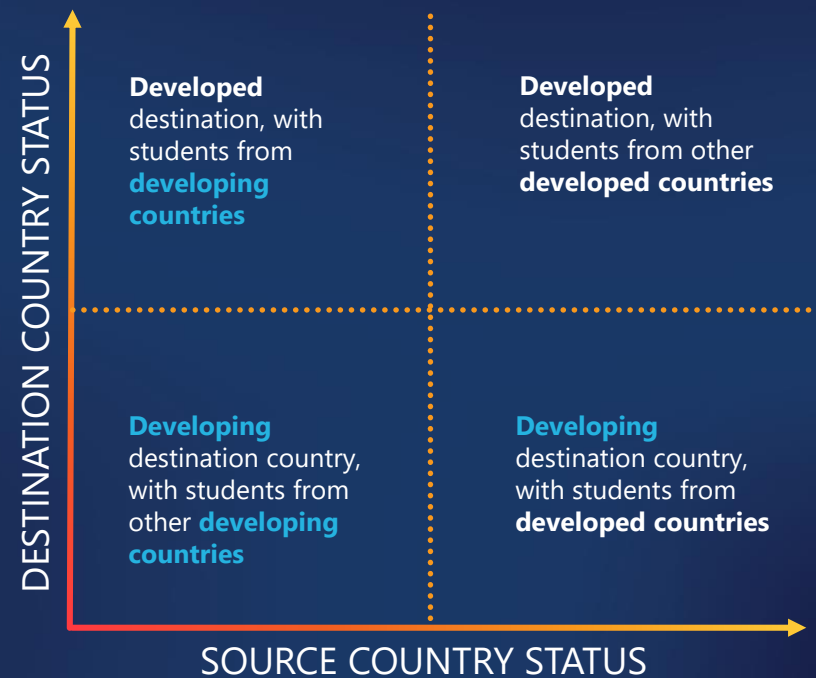
How does it work?

Countries are allocated a placement on the matrix based on

- the relative wealth of the destination country (GDP), and
- the weighted average for the source country GDP based on student flows into the country.

Change over time can also be assessed to identify ‘emerging’ destinations.

...this resulted in a **classification of destination country** types based on its wealth and where its students come from.

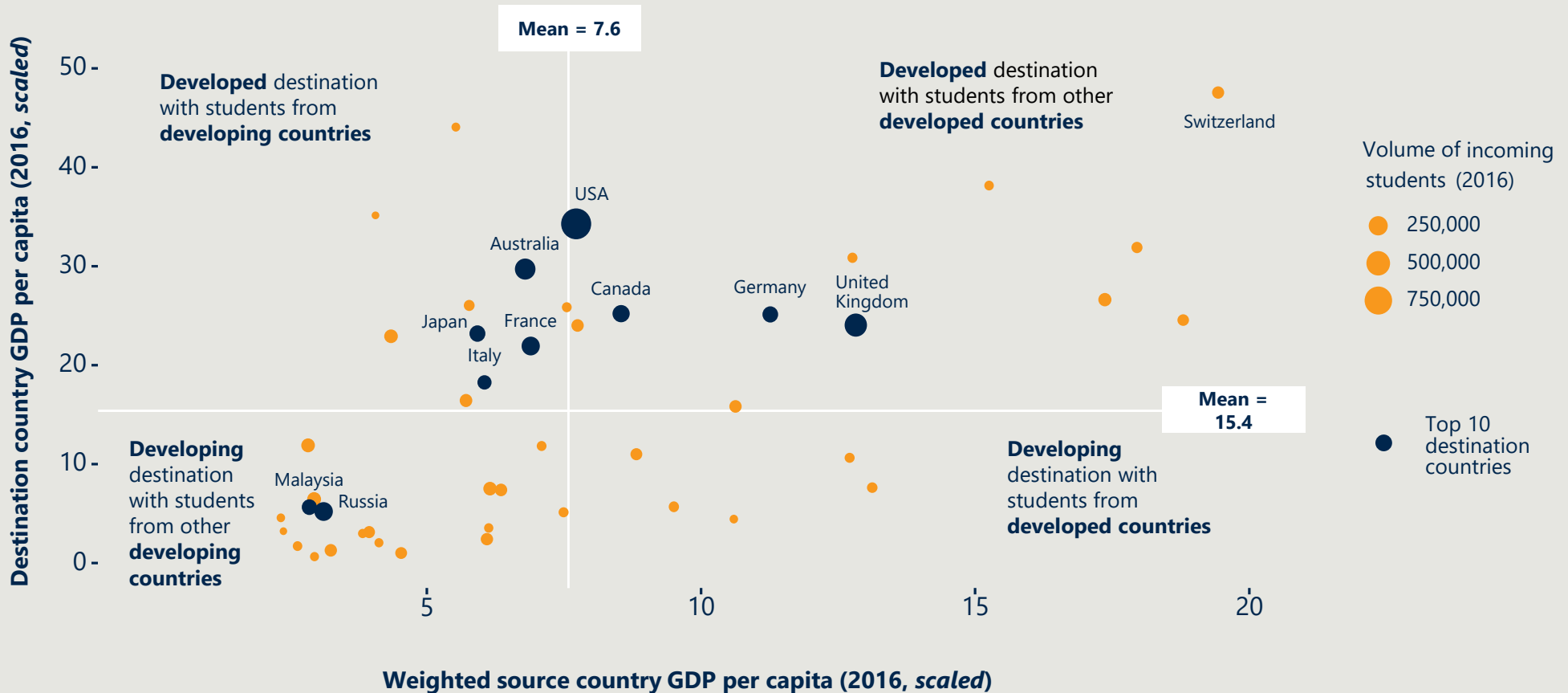


Information was presented on this in the country specific analysis of ‘latent’ and ‘Next Wave’ emerging destination countries in **Section 4 – Drivers of growth for key emerging destinations.**

The largest ten destinations globally fall across different quadrants of the 'developing-developed matrix' – indicating a diversity in countries large destinations attract students from

Appendix B – Summary of destination country 'Developing-developed matrix' scores

Relative wealth of destination countries and key markets, by destination country and weighted source countries, 2016



Source: Nous global student flow integrated dataset Layer 1, based on UNESCO student mobility data; World Bank absolute GDP data. Note: 'Developed' and 'Developing' are relative to the mean scaled GDP and have been developed solely for this project. Top ~50 countries are plotted. China, Singapore and UAE have been excluded from this chart as neither reports country to country flows. Countries in the bottom right segment includes – Hungary, Greece, Romania and Czechia. A full summary for all countries is provided on the following page.

Categorisation of each destination country into the four quadrants of the Developing-developed matrix' are outlined

Appendix B – Summary of destination country 'Developing-developed matrix' scores

Developed destination, with students from other developed countries				Developed destination, with students from developing countries				Developing destination country, with students from other developing countries				Developing destination, with students from developed countries			
Destination country	Volume	Destination country GDP per capita	Weighted origin country GDP per capita	Destination country	Volume	Destination country GDP per capita	Weighted origin country GDP per capita	Destination country	Volume	Destination country GDP per capita	Weighted origin country GDP per capita	Destination country	Volume	Destination country GDP per capita	Weighted origin country GDP per capita
USA	952,603	34.28	7.72	Australia	328,177	29.70	6.79	Russia	228,755	5.21	3.12	Hungary	26,152	7.63	13.12
UK	428,201	24.05	12.82	France	225,806	21.95	6.89	Malaysia	123,888	5.66	2.86	Greece	22,000	10.64	12.71
Canada	179,225	25.21	8.54	Japan	143,453	23.20	5.92	Turkey	84,743	6.47	2.94	Romania	25,807	5.69	9.51
Germany	140,276	25.14	11.26	Italy	92,108	18.25	6.05	Saudi Arabia	78,849	11.89	2.83	Czechia	42,714	11.00	8.82
Austria	68,715	26.62	17.37	UAE	77,049	22.93	4.35	Argentina	72,205	7.53	6.15				
NZ	53,856	24.01	7.75	South Korea	60,901	16.43	5.71	Poland	54,205	7.40	6.35				
Spain	53,197	15.84	10.63	Hong Kong	30,592	26.03	5.77	Ukraine	53,490	1.30	3.25				
Switzerland	49,307	47.54	19.43	Finland	19,133	25.85	7.55	Jordan	50,307	2.43	6.10				
Netherlands	40,964	27.16	20.23	Macao	13,549	44.05	5.53	India	44,027	1.02	4.53				
Belgium	40,073	24.56	18.80					South Africa	42,096	3.14	3.95				
Denmark	33,980	31.90	17.95					Brazil	19,958	5.14	7.49				
Sweden	21,741	30.86	12.76					Portugal	19,792	11.83	7.09				
Ireland	17,124	38.15	15.26					Iran	18,577	3.11	1.08				
								Morocco	17,029	1.72	2.64				
								Ghana	15,731	1.16	1.80				
								Thailand	15,649	3.56	6.13				
								Belarus	15,622	2.99	3.83				
								Egypt	15,472	2.07	4.13				
								Kyrgyzstan	14,740	0.67	2.95				
								Kazakhstan	12,531	4.59	2.34				

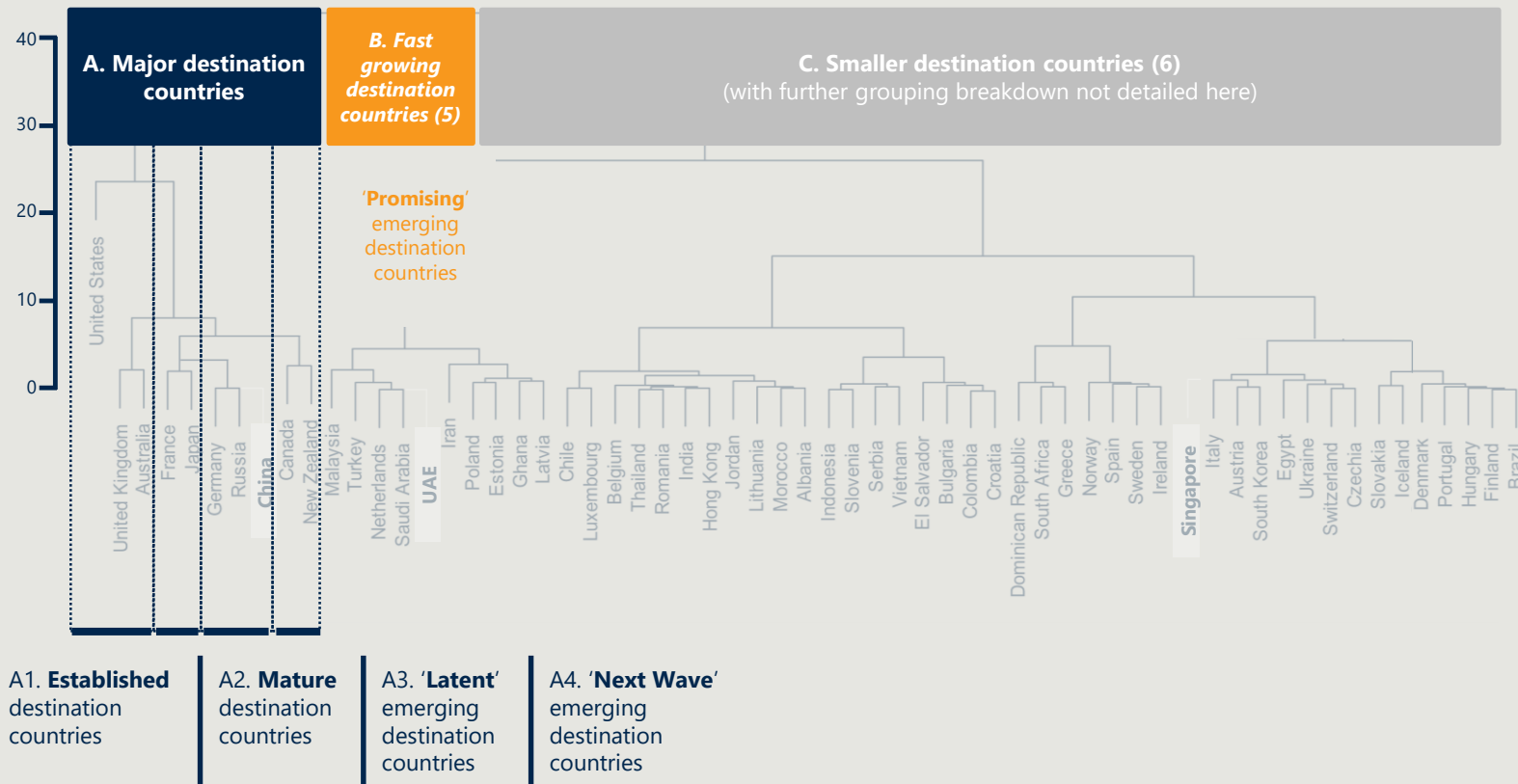
Note: All analysis is based on 2016 data from UNESCO and World Bank. 'Developed' and 'Developing' are relative to the mean scaled GDP and have been developed solely for this project.

Cluster analysis based on volume, growth and 'Pulling Power' clearly defines three destination country groups, which is further segmented into five categories

Appendix C – Summary of destination countries from cluster analysis.

Destination country clusters based on volume, growth (5-year CAGR) and 'Pulling Power'

Height (indicates how different or distinct two clusters are)



China, Singapore and UAE were initially excluded from the clustering due to data constraints (it did not report country to country flows)

The three countries have been manually added in due to their significant volume.

They are added in with comparable country groups. For example, **China was added in** with Japan and Malaysia as they reported **similar volume (138k) and growth (14% CAGR).**

Source: Nous global student flow integrated dataset Layer 1, based on modelled UNESCO student mobility data; Nous assessment of 'Pulling Power'. Note: To calculate the 'Pulling Power', geographic and cultural distance were scaled and weighted equally. A full summary of the groupings and the technical cluster analysis output – including a further breakdown of the 'Smaller destination countries' is presented in the following pages.

Comparison of the destination country clusters from 2011 to 2016 show key changes in the international education landscape

Appendix C – Summary of destination countries from cluster analysis.

In addition to categorising the current state markets, the cluster analysis approach enables us to identify when destination countries shift between different groupings over time. Two major changes have occurred during this period.

New Zealand has emerged as significant destination countries...

New Zealand's shift was driven by its **'Pulling Power' increase**, which increased from **86 to 93**.

- New Zealand has grown through existing source countries, but also has a more concentrated proportion of Indian students and Chinese students from 2011 to 2016.
- In 2011, New Zealand was grouped with Nordic countries.

New Zealand has been categorised as a **'Next Wave'** emerging destination countries, along with Canada.

While **Turkey, Netherlands, Saudi Arabia (and UAE)** aggregated in one sub-cluster.

- These four countries have clustered into their own category due to their **significant increase in volume for all countries** (to >80K).
- These countries also have similarly low 'Pulling Power' scores (~20). These countries also focused on growing their existing source countries.

For example, Turkey grew rapidly in the five years (with a CAGR of 23.1%) growing from 31K students in 2011 to 88K students in 2016. Turkey's major source countries including Syria, Turkmenistan and Azerbaijan.

These four countries have been classified in the fast-growing **'Promising'** emerging destinations category and join Malaysia in this category.

Full detail on the categorisation of major destination and fast growing destination clusters

Appendix C – Summary of destination countries from cluster analysis.

Cluster group	Country category	Description	#	Destination country	Student volume (2016)	CAGR (2011-16)	'Pulling Power'
Major destination cluster	Established destination countries	Developed destination with 'high 'pulling power"' students from mostly developed countries.	1	United States	Large 971 K	Medium 6.5%	High 92
			2	United Kingdom	Large 442 K	Low 1.0%	High 63
		Developed destination with 'high 'pulling power"' students from developing countries.	3	Australia	Large 336 K	Medium 5.0%	High 81
	Mature destination countries	Developed destination with students from developing countries.	5	France	Large 245 K	Negative -1.8%	Medium 37
			8	Japan	Large 143 K	Negative -1.1%	Medium 55
	'Latent' emerging destination countries	Developed destination with 'high 'pulling power"' students from a mix of developed and developing countries.	7	Canada	Large 189 K	Medium 9.4%	High 77
			21	New Zealand	Medium 54 K	Medium 5.7%	High 94
	'Next Wave' emerging destination countries	Developed destination with 'low 'pulling power"' students from nearby developed countries.	4	Germany	Large 245 K	Medium 7.5%	Low 29
			6	Russia	Large 244 K	Medium 8.0%	Low 22
		Developing destination country with 'low 'pulling power"' students from nearby developing countries.	9	China	Large 138 K	High 11.5%	Low n/a
Fast growing destination cluster	'Promising' emerging destination countries	Developed destination with 'high 'pulling power"' students from a mix of developed and developing countries.	10	Malaysia	Large 124 K	High 14.3%	Medium 44
		Developed destination with 'low 'pulling power"' students from nearby developed countries.	12	Netherlands	Medium 90 K	High 18.6%	Low 20
		Developing destination country with 'low 'pulling power"' students from nearby developing countries.	13	Turkey	Medium 88 K	High 23.1%	Low 18
			14	Saudi Arabia	Medium 80 K	High 18.0%	Low 24
		Developed destination with 'low 'pulling power"' students from nearby developing countries.	15	UAE	Medium 77 K	Medium 9.7%	Low n/a

Note: Classifications of High/Medium/Large have been based on a qualitative assessment of the relative values for each destination country. **China and UAE's** 'Pulling Power' were estimated based on Project Atlas data, which only report the top ten source countries. **'Latent'** emerging countries are sizeable and could become an immediate competitor should they diversify to target 'high 'pulling power"' source countries.

Further categorisation is also presented for destination countries that were not the primary focus of this case study (1/2)

Appendix C – Summary of destination countries from cluster analysis (ordered by size and pulling power).

Cluster group	Country category	Description	#	Destination country	Student volume (2016)	CAGR (2011-16)	'Pulling Power'
Smaller destination cluster	Growing destination countries with high pulling power	Developed destination with 'high 'pulling power'' students from a mix of developing and developed countries.	30	Denmark	Low 34 K	High 10.9%	Medium 55
			34	Hungary	Low 26 K	Medium 9.7%	Medium 47
			40	Portugal	Low 20 K	Medium 8.2%	Medium 55
			38	Finland	Low 23 K	Medium 8.1%	Medium 48
			39	Brazil	Low 20 K	Medium 6.7%	Medium 46
	Stagnating destination countries with high pulling power	Developed destination with 'high 'pulling power'' students from a mix of developed and developing countries.	11	Italy	Medium 93 K	Medium 4.7%	Medium 47
			23	Singapore	Medium 53 K	Low 0.1%	Medium n/a
			16	Austria	Medium 70 K	Low 0.0%	Medium 36
			17	South Korea	Medium 62 K	Negative -0.3%	Medium 44
			62	Slovakia	Low 10 K	Low 2.9%	Medium 43
			110	Iceland	Low 1 K	Low 2.8%	Medium 55
			Declining destination countries with high pulling power	Developed destination with 'high 'pulling power'' students from other developed countries.	22	Spain	Medium 53 K
	33	Sweden			Low 28 K	Negative -5.2%	Medium 48
	43	Ireland			Low 18 K	Negative -3.2%	Medium 56
	59	Norway			Low 11 K	Negative -8.1%	Medium 53
	Medium to low pulling power destinations	Developing destination with 'low 'pulling power'' students from nearby developing and developed countries.	20	Ukraine	Medium 54 K	Medium 6.9%	Low 29
			25	Egypt	Medium 51 K	Low 1.6%	Low 17
24			Switzerland	Medium 52 K	Medium 4.4%	Medium 34	
29			Czechia	Medium 43 K	Low 2.4%	Medium 37	
		Developing destination with 'high 'pulling power'' students from developed countries.					

Further categorisation is also presented for destination countries that were not the primary focus of this case study (2/2)

Appendix C – Summary of destination countries from cluster analysis (ordered by size and pulling power).

Cluster group	Country category	Description	#	Destination country	Student volume (2016)	CAGR (2011-16)	'Pulling Power'
Smaller destination cluster	Reasonably sized destination countries with low pulling power	Destinations with 'low PP' students from nearby developed and developing countries.	18	Belgium	Medium 61 K	High 10.0%	Low 19
			28	India	Medium 45 K	High 10.2%	Low 25
			31	Hong Kong	Low 32 K	High 12.2%	Low 25
			32	Thailand	Low 32 K	Medium 9.4%	Low 18
			36	Romania	Low 26 K	Medium 9.9%	Low 23
	Fast growing destination countries with low pulling power	Developing destination with students from a mix of developed and developing countries.	19	Poland	Low 55 K	High 21.5%	Medium 36
			42	Iran	Low 19 K	High 33.9%	Low 12
			46	Ghana	Low 16 K	High 23.0%	Low 19
			70	Latvia	Low 6 K	High 26.7%	Medium 37
	Growing destination countries with low pulling power	Developing destination with 'low 'pulling power'' students from nearby developed and developing countries.	26	Jordan	Medium 50 K	High 15.0%	Low 14
			44	Morocco	Low 17 K	High 13.5%	Low 16
		Destination with 'low 'pulling power'' students' from nearby countries.	74	Lithuania	Low 5 K	High 12.9%	Low 25
			91	Albania	Low 3 K	High 12.0%	Low 15
			77	Chile	Low 5 K	Medium 9.2%	Medium 32
	Declining destination countries with low pulling power	Developing destination with 'low 'pulling power'' students from nearby developed and developing countries.	88	Luxembourg	Low 3 K	Medium 6.8%	Medium 30
			27	South Africa	Low 45 K	Negative -8.5%	Low 22
			37	Greece	Low 24 K	Negative -6.3%	Low 17
	Minor destination countries	Developing destination with 'low 'pulling power'' students from nearby developing countries.	63	Dominican Rep.	Low 10 K	Negative -10.6%	Low 14
			61	Serbia	Low 11 K	Medium 5.3%	Low 5
			64	Indonesia	Low 9 K	Medium 5.2%	Low 14
73			Vietnam	Low 6 K	Medium 8.6%	Low 6	
Developing destination with 'low 'pulling power'' students from nearby developed and developing countries.		90	Slovenia	Low 3 K	Medium 6.2%	Low 17	
		54	Bulgaria	Low 12 K	Low 3.4%	Medium 31	
		81	Colombia	Low 4 K	Low 0.9%	Low 27	
			119	El Salvador	Low 1 K	Negative -1.9%	Low 19
			120	Croatia	Low 1 K	Low 0.1%	Low 28