

Changing Tides:

What to make of increased Indian international graduate students in the United States

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India's growth in applications and enrollments to graduate programs in the U.S. over the past two years, though partially a product of the COVID-19 rebound, is likely attributable to a new reality in Indian nationals' capacities and willingness to attend graduate institutions in the U.S.

Three possible forces coalesce to generate more graduate-ready students in India: 1) a robust in-country education received before application to graduate programs that makes Indian nationals competitive for U.S. institutions, 2) a steady growth in the number of Indian nationals that can afford to study abroad, and 3) increased access to information and resources necessary to better shape future graduate school endeavors and to be more savvy consumers of higher education.

Key Takeaways

- In the past two years, Indian nationals have surpassed Chinese nationals in applications and first-time enrollment to graduate programs in the United States
- Close to 60% of the Indian first-time enrollees over 2021 and 2022 are not directly attributable to a COVID-rebound since most Indian first-time enrollees admitted in 2021 and 2022 were not deferrals from the height of the pandemic in 2020
- India's development trajectory has created a potential pool of graduate-ready adults who have both the will and the financial capacity now to apply and carry out graduate education in the United States
- Future trends holding, there is the possibility that India's education and poverty alleviation efforts over the last few decades will generate more Indian applicants and first-time enrollees

Overview

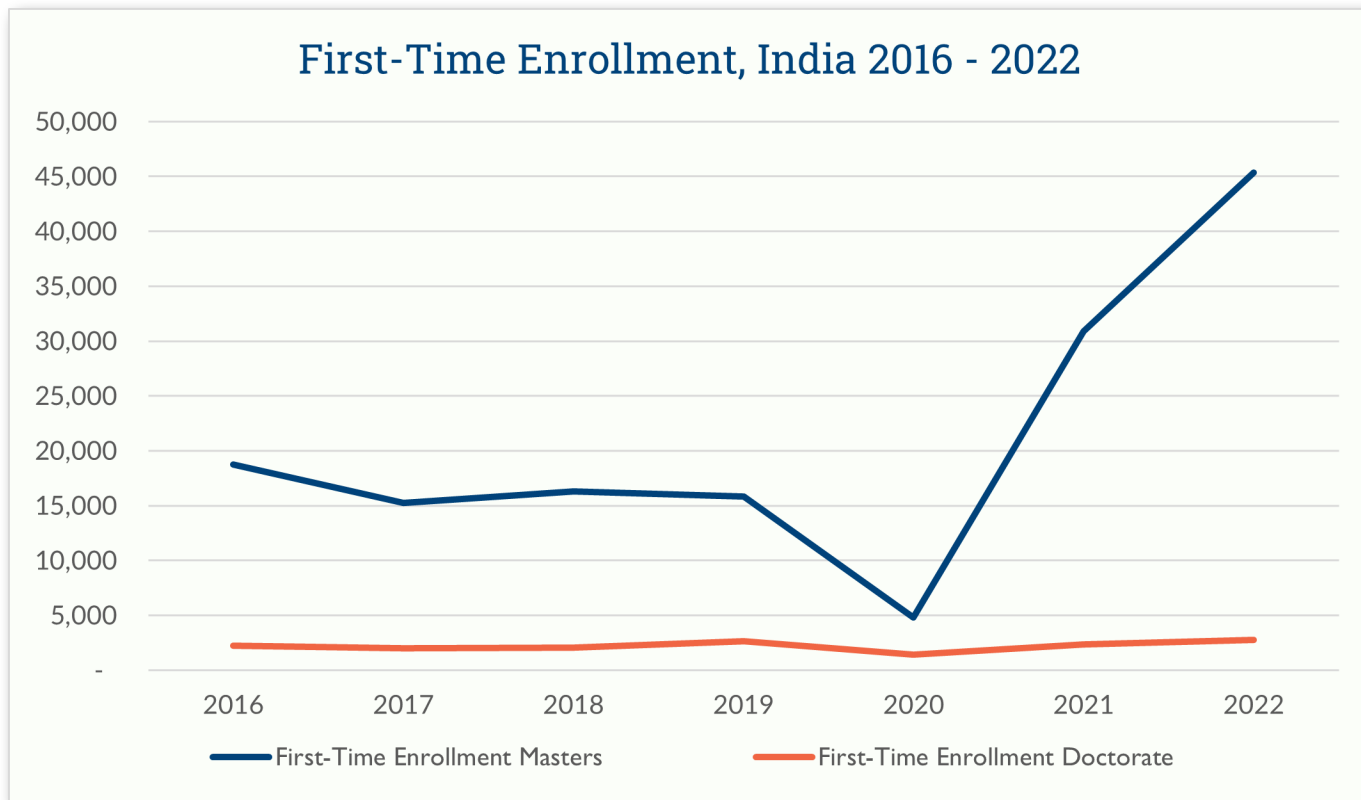
Over the last decade, international graduate applications and first-time enrollment to U.S. universities were primarily Chinese nationals. This boom of incoming international students from China has been a great source of intercultural exchange for graduate education in the U.S. as well as a reliable font of high-quality future researchers, entrepreneurs, artists, and innovators. In the past two years, however, Chinese graduate students no longer hold the top spot as the primary sending country.

Ongoing research from the Council of Graduate Schools shows that India has, for two years in a row now, sent far more Master's and Certificates students to U.S. universities than any other country. Indian applications increased by 58% in 2022 compared to 2021, as opposed to applications from China which decreased by 16%. This upswing sparks many questions about patterns of Indian international graduate education, but the most important is: "What conditions have led to this increase?"

Indian Enrollment in American Graduate Institutions

Increased graduate activity from Indian nationals was a key story in the 2022 CGS International Graduate Applications and Enrollment Report. The increases of Indian nationals and their applications and enrollments to American institutions was a two-fold revelation. Firstly, it showed a large rebound after the COVID-19 pandemic forced many international students to delay or reconsider a graduate education in the U.S. Secondly, it showed India continuing to be the largest sending country to U.S. institutions, surpassing China. China had been the largest sender of international graduate students from at least 2014 until 2020.

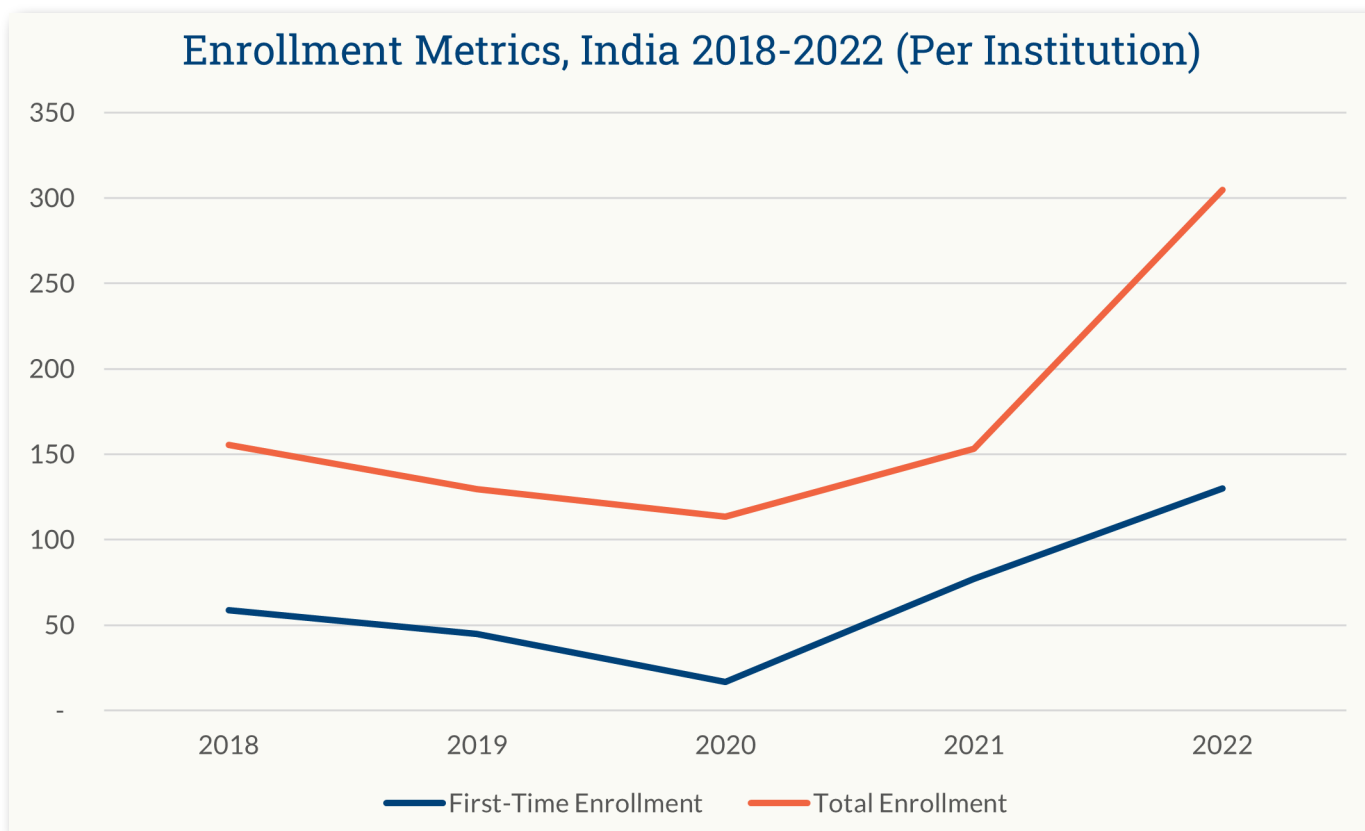
The last two years of determined growth in Indian applications and enrollment demonstrates a change in the country's previous patterns for those same metrics. In 2022 alone, India sent 44,500 first-time enrollees and had over 90,000 nationals enrolled in U.S. graduate programs. These numbers are rather large increases over what has been, for almost the last decade, an otherwise flat pattern of Master's and Certificates first-time enrollment from India.



Source: *International Graduate Applications & Enrollment: Fall 2022*, Council of Graduate Schools

The COVID-19 pandemic clearly impacted enrollment in 2020, but the rebound years in 2021 and 2022 do not mirror the first-time enrollment growth rate between 2016 and 2019, where the trend instead seems to be downward. In short, in the two years since the pandemic began, Indian first-time enrollment has experienced a stronger growth pattern than in the five years before the pandemic. Why this may be the case has been in the past explained by the deferments that prospective Indian graduate students made in 2020.

This assumption may account for some of the first-time Indian enrollees in 2021 and 2022, but it cannot mathematically account for all 70,000-plus that enrolled in the last two years. Between 2019 and 2020, there was a difference of just over 12,000 Indian first-time enrollees. If one were to assume that Indian first-time enrollment would follow the older trendline in green above, then one would expect those 12,000 students to appear in 2021's total alone, but the difference between 2019 and 2021's first-time enrollments was larger, at just over 19,000 students. 2022's continued growth (adding over 10,000 new students) also cannot be entirely accounted for by the 12,000-student gap from 2020.



Source: *International Graduate Applications & Enrollment: Fall 2022*, Council of Graduate Schools.

As the graph above shows, Indian enrollment at the graduate level has been on a steady and robust increase ever since 2000, reaching over 300 total enrolled Indians on average in 2022. This has been buoyed primarily by Master's-level enrollment, traditionally India's largest sending category of graduate students. Before that, both first-time enrollment and total enrollment for international graduate students from India had been decreasing for the average American graduate program. It becomes clear that the previous question of what conditions led to this increase in Indian graduate students should be amended to "What conditions led to the increase in Indian graduate students **within the last three years?**"

Indian Development

A portion of the answer may lie in India's recent development history. India's status as a developing country has been under review for nearly a decade now as it starts to transition towards the status of a moderately developed country.¹ In 2022, the country's President, Narendra Modi, announced his goal to turn India into a developed country over the next 25 years.² One of India's greatest development achievements has been its strides in education, while its poverty alleviation efforts, though at times criticized, have generated more affluence for its citizens. These two facets are interesting markers for contextualizing the large number of Indian nationals in American institutions of graduate education.

India has improved its ability to prepare its citizens for higher educational achievement over the last five decades. In 1974, India reported a primary education completion rate of 41.47%. Over the last 15 years, that same metric has not dropped below 90%.³ India has consistently generated more formally educated individuals over the last fifty years. The table below shows how in 1976, India enrolled less than 5% of its population in tertiary or university-level education. In 2020, that number was almost 30% and climbing.⁴ For reference, the National Center for Education Statistics reports that in 2021, "the overall college enrollment rate for 18- to 24-year-olds ... [in America was] 38%".⁵ These two statistics are only two of India's many achievements in developing its education sector.⁶

| | Primary Enrollment (% Gross) | Tertiary Enrollment (% Gross) |
|------|------------------------------|-------------------------------|
| 1975 | 82% | <5% |
| 2000 | 94% | 9.5% |
| 2020 | 99% | 29% |

Source: World Bank Group

Studies have shown that early interventions in a child's education can have numerous benefits for that future adult's higher education and earnings.⁷ Even adjusting for the structural differences that may exist between India's and the rest of the world's pedagogical emphases, it is widely accepted that early education intervention is an important goal for all countries to focus on.⁸ India's past growth in primary enrollment in this metric, over the past two to three decades, likely contributed to the generation of a large pool of then-future graduate students. India's current tertiary education

enrollment levels, meanwhile, indicate that its population currently holds an ever-growing number of graduate-level-ready individuals. Their current enrollment in Indian institutions of higher education generates a pool of potential consumers of graduate-level education abroad.

¹ ET Online. "How Long before India Becomes a Developed Country?" The Economic Times, Economic Times, 16 Aug. 2022, economictimes.indiatimes.com/news/india/how-long-before-india-becomes-a-developed-country/articleshow/93589480.cms.

² Sharma, Ashok. 2022. "PM Modi Pledges to Make India Developed Country in 25 Years." AP News. AP News. August 15, 2022. <https://apnews.com/article/india-poverty-new-delhi-government-and-politics-cc4f7dff4d17b347b81f72a15ba5642>.

³ World Bank Group, "Mobile Cellular Subscriptions (per 100 People) - India," World Bank Open Data, 2023, <https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=IN>.

⁴ World Bank Group, "School Enrollment, Tertiary (% Gross) - India," World Bank Open Data, 2022, <https://data.worldbank.org/indicator/SE.TER.ENRR?locations=IN>.

⁵ National Center for Education Statistics. 2023. "Condition of Education." College Enrollment Rates. U.S. Department of Education, Institute of Education Sciences. <https://nces.ed.gov/programs/coe/indicator/cpb>.

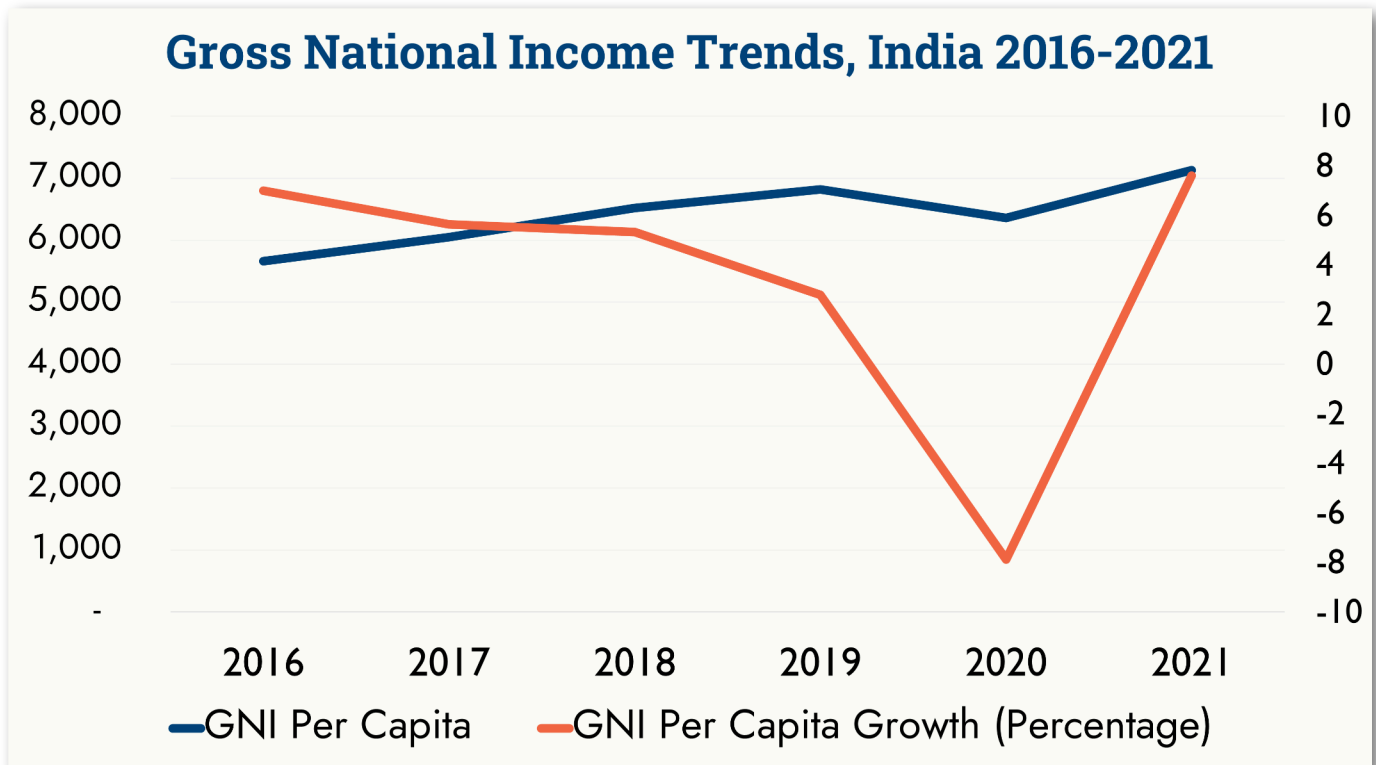
⁶ UNICEF. 2019. "Education - India Page." [unicef.org](https://www.unicef.org/india/what-we-do/education). 2019. <https://www.unicef.org/india/what-we-do/education>.

⁷ Moreno, Megan A. 2018. "Preschool and Early Education Experiences." *JAMA Pediatrics* 172 (3): 303–3. <https://doi.org/10.1001/jamapediatrics.2017.5277>. And B. Gardner, Meloy. 2022. "Untangling the Evidence on Preschool Effectiveness: Insights for Policymakers." Learning Policy Institute. May 3, 2022. <https://learningpolicyinstitute.org/product/untangling-evidence-preschool-effectiveness-report>.

⁸ Nirmala Rao et al., "Fostering Equitable Access to Quality Preschool Education in India: Challenges and Opportunities," *International Journal of Child Care and Education Policy* 15, no. 1 (August 10, 2021), <https://doi.org/10.1186/s40723-021-00086-6>.

Attaining higher levels of in-country education creates that pool of potential current and future applicants. Understanding how these patterns of both early and late education interact with application and enrollment trends requires a more thorough analysis, but current trends do not show signs of sluggishness. They instead show signs of sustained growth to keep replenishing this pool of potential consumers of U.S. graduate education.

India's poverty alleviation efforts have also been significant as the country continues to open paths for its citizens to escape scarcity. Looking at Gross National Income (GNI) per capita growth, a robust and standardized measure of average wage growth across countries, India's overall affluence has grown steadily over the last two decades. The graph below shows that India's GNI per capita from a little over \$2,000 in 2000 to over \$7,000 in 2021 (measured on the left-hand axis).¹ The consistency in this increase is reflected in the annual growth of GNI per capita (measured on the right-hand axis). Apart from 2020 when India's economy was gashed due to the COVID-19 pandemic, India has consistently experienced annual growth rates in their GNI per capita between .5% and 7%.²



Source: World Bank Group

¹ World Bank Group, "GNI per Capita, PPP (Current International \$) - India," World Bank Open Data, 2017, <https://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD?locations=IN>.

² World Bank Group, "GNI per Capita Growth (Annual %) - India," World Bank Open Data, 2015, <https://data.worldbank.org/indicator/NY.GNP.PCAP.KD.ZG?locations=IN>.

Regardless of the size of the overall pool of potential graduate students from any country, their ability to pay for an American graduate education remains a large hurdle for both their applications and their eventual enrollment. In most cases, a year of American public graduate tuition costs almost twice as much as the average yearly wage in India, for private institutions the ratio is closer to three times greater than an average Indian's yearly wage.¹ Still, the steady growth in Indian affluence, marked not only by the rise in average income but also by the propensity for Indians to purchase more high-priced goods, likely has a positive impact on the number of Indian nationals who want to pursue an American graduate education and can also afford it.

Of course, the calculation that any individual seeking international graduate education makes, regardless of country of origin and country of study, when it comes to whether to invest in their education is more nuanced than simply being able to pay for tuition. International students contemplate a whole suite of financial considerations when thinking about whether to go abroad for their education; whether they expect to return home after graduation, whether they must care for their families, whether they need to send remittances, whether they can be competitive to be hired in the country in which they are educated. However, none of these questions need to be answered if applicants cannot afford the application fee. In recent times, institutions have begun waiving these fees or not requiring standardized tests which make the process more affordable, but initial upfront costs will also differ widely from individual to individual.

This increased affluence has allowed more Indians to access more resources than before, resulting in Indians consuming more every year. The table below shows two key areas of consumer demand in India, individuals with internet access and the number of individuals per 100 people that have mobile cellular subscriptions:

| | Individuals Using the Internet (% of Population) | Mobile Cellular Subscriptions (per 100 people) |
|------|--|--|
| 2005 | 2.3% | 7.8 |
| 2010 | 8% | 60.6 |
| 2020 | 43% | 82.6 |

Source: World Bank Group

In the early 2000's internet usage rates in India barely crossed the 5% mark. Now, over 40% of the population has steady access to the internet, with very large increases of over 9% each year happening in the last two years.² Indians have also increased the number of individuals per 100 people who have mobile phone plans, going from less than 10 individuals in 2005 to over 80 in 2020.³ Indians are also purchasing higher-priced goods at higher rates than before. According to India's National Family Health Survey, car ownership in India has increased from less than 1% of all Indian households in 1992 to more than 8% in 2022.⁴ Luxury brands are also starting to turn their attention to the Indian market, which is seen as a growth space for consumer goods at one time reserved for more affluent countries.⁵

¹ National Center for Education Statistics. 2020. "Digest of Education Statistics, 2021." Ed.gov. National Center for Education Statistics. 2020. https://nces.ed.gov/programs/digest/d21/tables/dt21_330.50.asp?current=yes.

² World Bank Group, "Individuals Using the Internet (% of Population) - India," World Bank Open Data, 2023, <https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=IN>.

³ World Bank Group, "Mobile Cellular Subscriptions (per 100 People) - India," World Bank Open Data, 2023, <https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=IN>.

⁴ Nikhil Rampal. 2022. "Only 8% Indian Families Own Cars, NFHS Finds. Over 50% Still Use Bicycles, Bikes & Scooters." ThePrint. theprint. May 27, 2022. <https://theprint.in/india/only-8-indian-families-own-cars-nfhs-finds-over-50-still-use-bicycles-bikes-scooters/971413/>.

⁵ Ganapathy, Nirmala. 2023. "India's Growing Economy Attracts Western Luxury Brands." The Straits Times. May 7, 2023. <https://www.straitstimes.com/asia/south-asia/india-s-growing-economy-attracts-western-luxury-brands>.

Like any other facet of modern life, being able to tap into the great font of resources that is the internet helps individuals achieve much more than they could without that tool at their disposal. India's growth in internet access, the number of internet-ready devices, and connectivity to the rest of the world make it easier for prospective graduate students to be better applicants. This could potentially make a small difference at the initial stages of Indian nationals considering studying in the U.S.; for instance, allowing Indian nationals to view more detailed information about schools and programs they are applying to. Internet connectivity may even make a difference for prospective applicants; for example, a stable Internet connection may be the difference between effective and ineffective tutoring that makes the candidate more competitive.

Implications for Graduate Education Policy

It seems plausible that India's development has positively impacted the capacity of its citizens to apply and enroll in American graduate programs and graduate education professionals should take note. The combination of being better prepared for higher education as well as being able to afford it abroad may have reached an equilibrium point that generated the last two years of large growth among Indian applications and enrollments. Beyond that, Indian patterns of mass communication consumption may indicate that prospective Indian graduate students are better prepared to undergo the life-changing experience of attaining an international graduate education. Graduate programs may very well consider hosting their webpages in one or more of India's many official languages or create content specifically curated for the questions and concerns about the bureaucracy associated with being an international student from India.

Regardless of whether this trend continues, there is ample evidence that country-specific factors unique to India could be driving these changes. India's National Education Program, the NEP, has set lofty goals for India's baccalaureate programs, all in the hopes of propelling India into a superpower role on the global stage.¹ NEP guidelines dictate a significant overhaul in India's education system, including slowing down dropout rates, improving pedagogical systems, and updating how higher education is regulated. This potential relationship requires that education professionals closely monitor India's development indicators relative to graduate education trends in the U.S. Moreover, that graduate programs aim their research departments at macro and micro-level Indian development trends to test their projections of incoming Indian graduate students.

¹[NIC, Laxminarayan Prajapati, "About National Education Policy | Government of India, Ministry of Education," Education.gov.in, 2024, <https://www.education.gov.in/nep/about-nep>.



Works Cited

- B. Gardner, Meloy. "Untangling the Evidence on Preschool Effectiveness: Insights for Policymakers." Learning Policy Institute, May 3, 2022. <https://learningpolicyinstitute.org/product/untangling-evidence-preschool-effectiveness-report>.
- ET Online. "How Long before India Becomes a Developed Country?" The Economic Times. Economic Times, August 16, 2022. <https://economictimes.indiatimes.com/news/india/how-long-before-india-becomes-a-developed-country/articleshow/93589480.cms>.
- Ganapathy, Nirmala. "India's Growing Economy Attracts Western Luxury Brands." The Straits Times, May 7, 2023. <https://www.straitstimes.com/asia/south-asia/india-s-growing-economy-attracts-western-luxury-brands>.
- Moreno, Megan A. "Preschool and Early Education Experiences." JAMA Pediatrics 172, no. 3 (March 1, 2018): 303–3. <https://doi.org/10.1001/jamapediatrics.2017.5277>.
- National Center for Education Statistics. "Condition of Education." College Enrollment Rates. U.S. Department of Education, Institute of Education Sciences, 2023. <https://nces.ed.gov/programs/coe/indicator/cpb>.
- . "Digest of Education Statistics, 2021." Ed.gov. National Center for Education Statistics, 2020. https://nces.ed.gov/programs/digest/d21/tables/dt21_330.50.asp?current=yes.
- NIC, Laxminarayan Prajapati. "About National Education Policy | Government of India, Ministry of Education." Education.gov.in, 2024. <https://www.education.gov.in/nep/about-nep>.
- Nikhil Rampal. "Only 8% Indian Families Own Cars, NFHS Finds. Over 50% Still Use Bicycles, Bikes & Scooters." ThePrint. theprint, May 27, 2022. <https://theprint.in/india/only-8-indian-families-own-cars-nfhs-finds-over-50-still-use-bicycles-bikes-scooters/971413/>.
- Rao, Nirmala, Namita Ranganathan, Ravneet Kaur, and Rashi Mukhopadhyay. "Fostering Equitable Access to Quality Preschool Education in India: Challenges and Opportunities." International Journal of Child Care and Education Policy 15, no. 1 (August 10, 2021). <https://doi.org/10.1186/s40723-021-00086-6>.
- Sharma, Ashok. "PM Modi Pledges to Make India Developed Country in 25 Years." AP News. AP News, August 15, 2022. <https://apnews.com/article/india-poverty-new-delhi-government-and-politics-cc4f7dff4d17b347b81f7f2a15ba5642>.
- UNICEF. "Education - India Page." Unicef.org, 2019. <https://www.unicef.org/india/what-we-do/education>.
- World Bank Group. "GNI per Capita Growth (Annual %) - India." World Bank Open Data, 2015. <https://data.worldbank.org/indicator/NY.GNP.PCAP.KD.ZG?locations=IN>.
- . "GNI per Capita, PPP (Current International \$) - India." World Bank Open Data, 2017. <https://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD?locations=IN>.
- . "Individuals Using the Internet (% of Population) - India." World Bank Open Data, 2023. <https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=IN>.
- . "Mobile Cellular Subscriptions (per 100 People) - India." World Bank Open Data, 2023. <https://data.worldbank.org/indicator/IT.CEL.SETS.P2?locations=IN>.
- . "School Enrollment, Primary (% Gross) - India." World Bank Open Data, 2022. <https://data.worldbank.org/indicator/SE.PRM.ENRR?locations=IN>.
- . "School Enrollment, Tertiary (% Gross) - India." World Bank Open Data, 2022. <https://data.worldbank.org/indicator/SE.TER.ENRR?locations=IN>.
- Zhou, Enyu, and Alessandro Regio. "International Graduate Applications & Enrollment: Fall 2022." Washington D.C.: Council of Graduate Schools, June 2023. <https://cgsnet.org/wp-content/uploads/2023/06/International-Report-2023.pdf>.