Nonimmigrants Residing in the United States: Fiscal Year 2015

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This report presents estimates of the size and characteristics of the population of nonimmigrants residing in the United States in fiscal year 2015.^{1,2} Nonimmigrants are foreign nationals admitted into the United States for specific, temporary purposes. Examples of such temporary purposes include tourism, work, study, participation in an exchange program, representing a foreign government or international organization, and accompanying a principal nonimmigrant as an immediate family member or, in some cases, as a member of the principal nonimmigrant's staff. This report focuses exclusively on nonimmigrants admitted for purposes associated with residence, such as work and study, and excludes nonimmigrants admitted for non-residential purposes, such as tourism.³

The estimates presented here are derived from U.S. Department of Homeland Security (DHS) administrative records of nonimmigrant arrivals and departures. Data are not available to measure the resident nonimmigrant population directly, so this report uses a statistical model of nonimmigrant visit lengths and applies the model to the population of nonimmigrants entering since 2006 to estimate the current population. Details about the data and a description of the estimation method are available in the Appendix.

RESULTS

SUMMARY

About 2.0 million nonimmigrant workers, students, exchange visitors, and diplomats and other representatives resided in the United States in 2015 (Table 1), up from about 1.8 million in 2014.⁴ Although the number

of nonimmigrant residents increased, the demographic make-up and visit purposes remained largely unchanged. Nearly 55 percent of temporary residents in 2015 were citizens of Asian countries (mostly India and China), and about 15 percent each were from Europe and North America (mostly Mexico and Canada). About 45 percent were temporary workers, nearly 40 percent were students, 11 percent were exchange visitors, and the remaining 4 percent were diplomats and other representatives.⁵ Nearly 60 percent were male, about 30 percent were ages 18 to 24, and about 50 percent were ages 25 to 44. The stability is noteworthy because of the temporary nature of the population. Unlike native populations, in which change is largely driven by births and deaths and tends to occur very slowly, nonimmigrant populations have very high levels of entries and exits relative to the population size and have the potential to change relatively quickly.

Region and Country of Citizenship

More than half of the resident nonimmigrants were citizens of Asian countries (Figure 1), led by India (nearly 25 percent) and China (nearly 15 percent). Other than being the top two sending countries, the patterns were different for India and China (Figure 2). Seventy-five percent of Indian nationals were admitted as temporary workers, making up more than 35 percent of the temporary worker total, whereas about 75 percent of Chinese nationals were admitted as students, comprising about 30 percent of the student total. China also

⁴ See the 2014 edition of this report for details: https://www.dhs.gov/sites/default/files/publications/Nonimmigrant_Population%20Estimates_2014.pdf.



⁵ Each category should be read to include accompanying family members and staff.

¹ Hereafter, "year" will refer to the fiscal year unless otherwise specified. Fiscal year 2015 ran from Oct. 1, 2014 to September 30, 2015.

² This report responds to a U.S. Government Accountability Office (GAO) recommendation that the legacy Immigration and Naturalization Service take steps to improve data on immigration stocks and flows (GGD-98-164, p. 37, Row C). GAO recommended that the Department begin publishing a population estimate covering students, temporary workers and their families, and temporary visitors in the country for a year or more, along with estimates of the net change in this population and annual emigration (outflows from the United States) among this group. This report encompasses students, temporary workers and their families, and other nonimmigrants associated with long-term residence; but the report defines long-term residence to mean classes of admission characterized by visits lasting at least two months on average. In addition, the report does not explicitly address GAO's recommendation that the Department report on nonimmigrant emigration, though nonimmigrant departure data are used to estimate the number of nonimmigrants present in the United States.

³ A list of specific nonimmigrant classes of admission associated with residence and grouped by general visit purposes is provided in the Appendix.

Table 1.

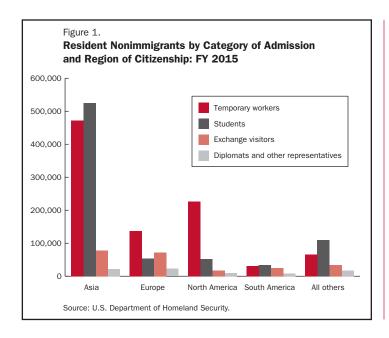
Resident Nonimmigrant Population Estimates by Category of Admission and Region and Top 10 Countries of Citizenship: FY 2015

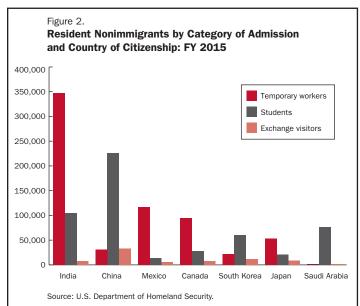
Region and country of	Total		Temporary workers		Students		Exchange visitors		Diplomats and other representatives	
citizenship	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
REGION										
Total	2,010,000	100%	930,000	100%	770,000	100%	230,000	100%	80,000	100%
Asia	1,100,000	54%	470,000	51%	520,000	68%	80,000	34%	20,000	28%
Europe	280,000	14%	140,000	15%	50,000	7%	70,000	32%	20,000	28%
North America .	310,000	15%	230,000	24%	50,000	7%	20,000	8%	10,000	12%
South America .	100,000	5%	30,000	3%	30,000	4%	30,000	11%	10,000	10%
Other	230,000	11%	70,000	7%	110,000	14%	30,000	15%	20,000	22%
COUNTRY										
Total	2,010,000	100%	930,000	100%	770,000	100%	230,000	100%	80,000	100%
India	460,000	23%	350,000	37%	100,000	14%	10,000	3%	_	-
China	290,000	14%	30,000	3%	230,000	29%	30,000	15%	_	_
Mexico	140,000	7%	120,000	13%	10,000	2%	10,000	2%	_	-
Canada	130,000	7%	90,000	10%	30,000	4%	10,000	3%	_	-
South Korea	100,000	5%	20,000	2%	60,000	8%	10,000	5%	_	-
Japan	80,000	4%	50,000	6%	20,000	3%	10,000	4%	_	-
Saudi Arabia	80,000	4%	_	_	80,000	10%	_	_	_	_
United Kingdom	60,000	3%	40,000	4%	10,000	1%	10,000	3%	_	-
Germany	50,000	2%	20,000	2%	10,000	1%	20,000	7%	_	-
France	40,000	2%	20,000	2%	10,000	1%	10,000	4%	_	-
All others	580,000	29%	190,000	20%	220,000	29%	120,000	52%	50,000	62%

Base number or percent rounds to zero.

Note: Detail may not sum to total due to rounding; percentages are column percentages; percentages and totals were calculated prior to rounding.

Source: U.S. Department of Homeland Security.





accounted for 15 percent of the exchange visitor total, compared to India's 3 percent.

The next leading countries were Mexico, Canada, South Korea, Japan, and Saudi Arabia. Mexico trended similarly to India, with nearly 85 percent admitted as temporary workers and only about 10 percent as students. Canada and Japan also favored temporary workers, but to a lesser extent, with about 60 to 70 percent workers and about 20 to 25 percent students. South Korea and Saudi Arabia were more like China, favoring students. Nearly 65 percent of South Korean nationals were students and almost 25 percent were temporary workers. Saudi Arabia was an extreme with more than 90 percent students and making up 10 percent of the student total despite comprising fewer than 5 percent of the overall total.

State of Destination

California was the leading destination state overall (350,000 persons, slightly more than 15 percent of the total) and the leading state for both temporary workers and students (15 to 20 percent

of the total numbers) (Table 2). The next leading states for temporary workers were Texas and New York, each of which accounted for slightly more than 10 percent of the total. The next leading states for students were New York and Massachusetts, with 13 percent and 7 percent of the total, respectively. California and New York were the leading states for exchange visitors, with nearly 30 percent of the total going to those two states. Nearly 25 percent of diplomats and other representatives of foreign governments and international organizations went to New York and nearly 20 percent went to Washington, D.C.

Most of the top ten destination states had higher concentrations of workers than students (Figure 3). The concentrations were especially rich in Texas and New Jersey, with 60 to 70 percent workers compared to about 45 percent nationally. Massachusetts and Pennsylvania were exceptions to this trend, with students comprising 50 to 55 percent of resident nonimmigrants in those two states, as compared to about 40 percent of the resident nonimmigrant population overall.

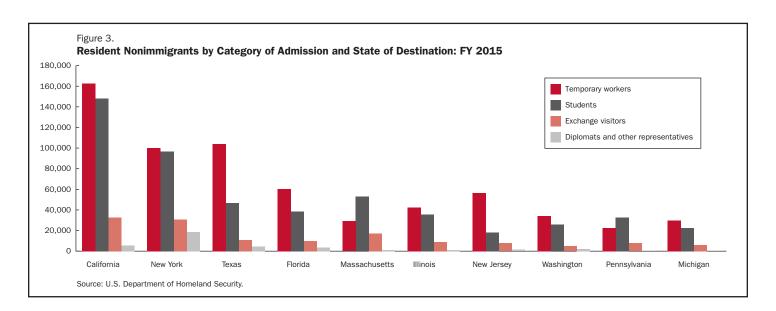
Table 2.

Resident Nonimmigrant Population Estimates by Category of Admission and State of Destination: FY 2015

	Total		Temporary workers		Students		Exchange visitors		Diplomats and other representatives	
State of destination	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	2,010,000	100%	930,000	100%	770,000	100%	230,000	100%	80,000	100%
California	350,000	17%	160,000	17%	150,000	19%	30,000	15%	10,000	7%
New York	250,000	12%	100,000	11%	100,000	13%	30,000	14%	20,000	23%
Texas	170,000	8%	100,000	11%	50,000	6%	10,000	5%	_	_
Florida	110,000	6%	60,000	6%	40,000	5%	10,000	4%	_	_
Massachusetts	100,000	5%	30,000	3%	50,000	7%	20,000	8%	_	_
Illinois	90,000	4%	40,000	5%	40,000	5%	10,000	4%	_	_
New Jersey	80,000	4%	60,000	6%	20,000	2%	10,000	3%	_	-
Washington	70,000	3%	30,000	4%	30,000	3%	_	_	_	_
Pennsylvania	60,000	3%	20,000	2%	30,000	4%	10,000	3%	_	-
Michigan	60,000	3%	30,000	3%	20,000	3%	10,000	3%	_	_
All others	680,000	34%	290,000	31%	260,000	33%	90,000	40%	40,000	52%

Base number or percent rounds to zero.

Note: Detail may not sum to total due to rounding; percentages are column percentages; percentages and totals were calculated prior to rounding. Source: U.S. Department of Homeland Security.



Age and Sex

About 80 percent of all resident nonimmigrants were ages 18 to 44 and nearly 60 percent were male (Table 3). Temporary workers tended to be slightly older than average, with nearly 70 percent ages 25 to 44 (Figure 4). Students were younger, with 60 percent ages 18 to 24 and 85 percent ages 18 to 34. Exchange visitors, many of whom are also students, resembled the student population with slightly more than 70 percent ages 18 to 34. Diplomats tended to be older, with nearly 25 percent ages 45 to 54 and nearly 15 percent ages 55 or older. The proportions were generally similar for males and females for each category of admission, though female diplomats and other representatives trended younger than the males. Slightly more than 60 percent of temporary workers and diplomats were male, about 55 percent of students were male, and slightly more than 50 percent of exchange visitors were female.

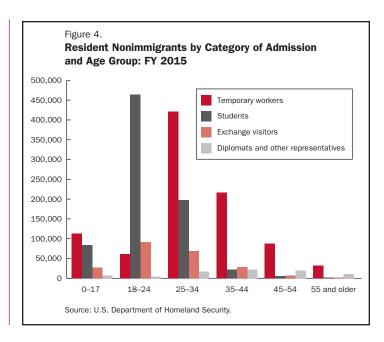


Table 3.

Resident Nonimmigrant Population Estimates by Category of Admission, Age, and Sex: FY 2015

	Total		Temporary workers		Students		Exchange visitors		Diplomats and other representatives	
Characteristic	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Age group										
Total	2,010,000	100%	930,000	100%	770,000	100%	230,000	100%	80,000	100%
0–17	230,000	12%	110,000	12%	80,000	11%	30,000	12%	10,000	9%
18–24	620,000	31%	60,000	7%	460,000	60%	90,000	41%	_	_
25–34	710,000	35%	420,000	45%	200,000	26%	70,000	31%	20,000	21%
35–44	290,000	14%	220,000	23%	20,000	3%	30,000	12%	20,000	28%
45–54	120,000	6%	90,000	9%	10,000	1%	10,000	3%	20,000	24%
55 and older	50,000	2%	30,000	3%	_	_	_	_	10,000	13%
Sex and age group										
Total	2,010,000		930,000		770,000		230,000		80,000	
Male	1,160,000	100%	580,000	100%	430,000	100%	110,000	100%	50,000	100%
0–17	120,000	10%	60,000	10%	50,000	11%	10,000	11%	_	_
18–24	340,000	29%	40,000	7%	260,000	60%	40,000	36%	_	_
25–34	400,000	34%	240,000	42%	110,000	26%	40,000	33%	10,000	20%
35–44	190,000	16%	150,000	26%	10,000	3%	20,000	14%	10,000	29%
45–54	80,000	7%	60,000	11%	_	_	_	_	10,000	25%
55 and older	30,000	3%	20,000	4%	_	_	_	_	10,000	14%
Female	850,000	100%	360,000	100%	340,000	100%	120,000	100%	30,000	100%
0–17	110,000	13%	60,000	16%	40,000	11%	10,000	13%	_	_
18–24	280,000	33%	20,000	6%	210,000	60%	50,000	45%	_	_
25–34	310,000	36%	180,000	50%	90,000	25%	30,000	29%	10,000	23%
35–44	100,000	12%	70,000	19%	10,000	3%	10,000	10%	10,000	27%
45–54	40,000	4%	20,000	7%	-	_	_	_	10,000	21%
55 and older	10,000	1%	10,000	2%	-	_	_	_	_	_

Base number or percent rounds to zero.

Note: Detail may not sum to total due to rounding; percentages are column percentages; percentages and totals were calculated prior to rounding. Source: U.S. Department of Homeland Security.

APPENDIX I—NONIMMIGRANT CLASSES ASSOCIATED WITH RESIDENCE

Table A1.

Resident Nonimmigrant Classes of Admission

Class	Description						
Temporary worke	ers and families						
	rkers and trainees						
H1B	Workers in specialty occupations						
H1B1							
H1C	Registered nurses participating in the Nursing Relief for Disadvantaged Areas						
H2A							
H2B							
H2R	Returning H2B workers						
НЗ							
H4							
01	Workers with extraordinary ability or achievement						
02							
03							
P1	Internationally recognized athletes or entertainers and their essential support personnel						
P2	Artists or entertainers in reciprocal exchange programs and their essential support personnel						
P3	Artists or entertainers in culturally unique programs and their essential support personnel						
P4	Spouses and children of P1, P2, or P3						
Q1	Participants in international cultural exchange programs						
R1	Workers in religious vocations or occupations						
R2	Spouses and children of R1						
TN	North American Free Trade Agreement (NAFTA) professional workers						
TD	Spouses and children of TN						
Intracompany	transferees						
L1	Intracompany transferees						
L2	Spouses and children of L1						
Treaty traders	and investors						
E1	Treaty traders and their spouses and children						
E2	Treaty investors and their spouses and children						
E3	Australian Free Trade Agreement principals, spouses and children						
Representativ	es of foreign information media						
l1	Representatives of foreign information media and spouses and children						
Students							
F1	Academic students						
F2	Spouses and children of F1						
M1	Vocational students						
M2	Spouses and children of M1						
Exchange visitors							
J1							
J2							
Diplomats and o	ther representatives						
A1	Ambassadors, public ministers, career diplomatic or consular officers and their families						
A2	Other foreign government officials or employees and immediate family						
A3	Attendants, servants, or personal employees of A1 and A2 and immediate family						
G1	Principals of recognized foreign governments and immediate family						
G2	Other representatives of recognized foreign governments and immediate family						
G3	Representatives of nonrecognized or nonmember foreign governments and immediate family						
G4	International organization officers or employees and immediate family						
G5	Attendants, servants, or personal employees of representatives and immediate family						
N1 to N7	North Atlantic Treaty Organization (NATO) officials, immediate family, and dependents						
	nent of Homeland Security.						

Source: U.S. Department of Homeland Security.

APPENDIX II—DATA AND METHOD

Data are not available to measure the resident nonimmigrant population directly, so this report develops a statistical model of nonimmigrant visit lengths and applies the model to the population of nonimmigrants entering since 2006 to estimate the current population.

Data

Within DHS, nonimmigrant arrival and departure records are collected and maintained by U.S. Customs and Border Protection (CBP). CBP creates an electronic DHS Form I-94 Nonimmigrant Arrival/ Departure Record for each admission of a resident nonimmigrant into the United States as part of the inspection process at a port of entry.^{6,7} Corresponding departure forms are created whenever CBP records the departure of a nonimmigrant, but departure records are somewhat incomplete because the United States does not have strict departure control. The vast majority of departure records are derived from commercial air and sea carrier departure manifests. Other sources of nonimmigrant departure records include the submission of a paper version of the I-94 form by the nonimmigrant after departure, border crossing records collected by Canada on entries into Canada from the United States by third-country nationals, and CBP pulse and surge operations to collect information from certain travelers departing through southwest border ports of entry.

Although the vast majority of departures by resident nonimmigrants are recorded by the means described above, the absence of a departure record does not provide clear evidence that a nonimmigrant remains in the United States. In particular, an arrival record without a corresponding departure record also may reflect an unrecorded departure or a recorded departure that could not be matched to its corresponding arrival. The cumulative impact of unrecorded departures and unmatched records over a period of years is too large to allow for a direct measurement of the nonimmigrant population based solely on arrival and departure records.

In addition, no nationally representative surveys exist that are immediately useful for estimating or measuring the resident non-immigrant population. Although several representative surveys distinguish between native- and foreign-born persons, no large, national surveys distinguish between (temporary) nonimmigrants and (permanent) immigrants.

Because these "first choice" possibilities (direct measurement and survey estimation) are ruled out or not readily available, this report uses a three-step statistical model to estimate the resident nonimmigrant population. The first step is to construct visit length frequency tables by matching departures in 2015 back to their associated arrival data, incorporating arrival records from 2006–2015. Frequency tables were constructed for each class of admission and country of citizenship. Second, these frequency

⁶ Certain nonimmigrants, including most Mexican and Canadian visitors for business or pleasure arriving at land ports of entry are exempted from the I-94 form; but these B-1/B-2 visitors are not included in the resident nonimmigrant population and are outside the scope of this report. tables were used to construct probability models describing the probability that a nonimmigrant would stay for at least a given number of days based on the person's nationality and visa class of admission. For example, based on historical patterns, what is the probability that a Mexican national with an H-2A visa will depart the United States on or before the 100th day of his or her visit? Third, the probability model was deployed for each day of the year and for every nonimmigrant who arrived in the United States since 2006, based on the nonimmigrant's nationality, visa class of admission, and date of admission into the United States. These estimates were added up to produce a total estimated number of days nonimmigrants were present during 2015, and the total was divided by 365 to yield the average population size for the year.

Equation 1.

$$\sum_{x \in \chi} \sum_{d \in D(x)} \frac{P(l \ge d - A(x) \mid f(x), g(x))}{365}$$

Where X is the set of all admissions of resident immigrants in 2006–2015, D(x) is the set of all dates in 2015 that occurred on or after A(x), the admission date for x, L is a random variable representing the length of the nonimmigrant visit in days, and f(x) and g(x) are the country of citizenship and class of admission of x.

Analysis was restricted to resident nonimmigrant classes of admission, i.e., classes characterized by visits lasting 2 months or longer on average. The 2-month duration was chosen in order to be consistent with the residence definitions used in the U.S. Census Bureau's American Community Survey and DHS estimates of the size and characteristics of the unauthorized immigrant population (Baker, forthcoming). Because admission under a residence class does not always indicate residence in the United States, data were further restricted by omitting records for persons exhibiting likely commuter behavior (defined here as arriving in the United States 7 or more times per year).

LIMITATIONS

The accuracy and precision of the population estimates depend on how well the visit-length probability models derived from FY 2015 departure cohorts represent the visit-length probabilities for all visits, the choice of classification variables, and the veracity of the assumptions. Some important limitations are covered below.

Assumptions underlying the probability models

The use of visit length frequency tables to construct probability models requires the assumptions that no correlation exists between visit length and the failure to record a departure or the inability to match a departure to a prior arrival. The first assumption is likely unproblematic: an airline's failure to submit a departure manifest for a flight, for example, should not be related to the visit length of the people on board the flight. The second assumption is somewhat flawed, however, as relatively long visits are more likely to have an arrival that occurred prior to the advent of electronic I-94 forms, and matching to user-submitted, handwritten forms is not as accurate as matching to electronic forms that were automatically generated based on travel documents (e.g., a machine-readable

⁷ The creation of the I-94 form was largely automated in 2014; in the event of an admission for which an I-94 form was not created electronically, the nonimmigrant applicant would be required to complete and submit a paper version of the form which would later be transcribed into electronic form at a CBP processing center.

⁸ Prior analysis found corresponding departure records for approximately 85% of all resident nonimmigrant arrival records over a 4-year period; the remaining 15 percent had not departed, departed without record, or departed without generating a matchable record.

⁹ See Appendix I for a list of resident nonimmigrant classes of admission.

passport). Nonetheless, changes in the match rate over time should have a minimal impact on the model because about 96 percent of departure records used to build the frequency tables were successfully matched back to their prior arrivals.

Adjustment to LPR status

Departure data were not available for persons who were admitted as nonimmigrants, but who subsequently adjusted to lawful permanent resident status. To the extent that people who adjust status tend to have shorter or longer stays than people who do not adjust status, the estimates may be biased downward or upward. The impact, if any, would likely be concentrated among visa classes and countries with higher adjustment rates. For example, the ratios of adjustments to admissions in FY 2010 were 1 to 5 for H4 dependents, 1 to 9 for H-1B workers, and only 1 to 60 for seasonal workers. Results are presented only for broad categories of admission classes, instead of for individual classes of admission, to smooth over or wash out the potential bias arising from status adjustments within any single class of admission.

Increasing arrival volume

The observed visit-length distributions are based on completed visits with an arrival between Oct. 1, 2005 and September 30, 2015 and a departure recorded between October 1, 2014 and September 30, 2015. Because arrival flow tends to increase slightly each year, departures in the most recent year disproportionately reflect more recent arrivals. Therefore the visit-length distributions, and the resulting population estimates, are likely to be slightly biased downwards.

Stability of visit length across time

The estimation methodology implicitly assumes that the visitlength distribution is constant across time. Although the visit-length distributions are not exactly the same each year, they are relatively stable for the classes of admission and countries of citizenship with the largest contributions to the total.

Missing Characteristics

The age, sex, state, or country fields were missing from some records¹⁰ and were assumed to be missing completely at random. When missing, age, sex, and state were imputed based on the age, sex, and state distributions of nonimmigrants with the same class of admission and country of citizenship. Country was imputed based on the country of citizenship of persons with the same class of admission.

APPENDIX III—OTHER SOURCES OF DATA ON STUDENTS AND EXCHANGE VISITORS

DHS Immigration and Customs Enforcement (ICE) and the Institute of International Education (IIE) also count or estimate the number of foreign students studying in the United States, but with key differences. ICE counts F-1 (academic) and M-1 (vocational) students listed as "active" in the ICE Student and Exchange Visitor Information System (SEVIS) on the date of the query. IIE counts F-1 and J-1 (exchange visitor) enrollments at accredited

State was missing from about 6 percent of the records. Country, age, or sex was missing from less than 0.5 percent. institutions of higher education or in optional practical training after completing a degree program. These counts of active students or enrollments provide information on program participation, but do not measure or estimate the average number of foreign students living in the United States during the course of the year.

The Student and Exchange Visitor Program, managed by DHS Immigration and Customs Enforcement, reported that there were 1.2 million nonimmigrants "studying in the United States" on student visas and 201,800 exchange visitors "in the United States" in November of 2015 (ICE, 2015). ICE also reported 157,265 student and exchange visitor dependents, but did not distinguish between the principal classes for those dependents. As the numbers reported by ICE are more than 60 percent higher than the numbers reported here, it is important to note that the numbers reported by ICE are counts of persons with "active status" at a particular point in time, which is different from counting the number of persons residing within the United States and different from an annual average. For example, students may retain active status while abroad between semesters, may be in the United States for a period of study lasting only a few weeks, or may travel abroad too often to be considered residents. Further, "active status" may not terminate until sometime after the nonimmigrant departs from the United States. Lastly, "active status" for dependents is derived from the status of the principal nonimmigrant, regardless of whether or not the dependents ever travel to the United States.

The numbers reported by IIE¹¹ are survey estimates of academic enrollments at accredited institutions of higher learning by non-immigrants with academic student (F) or exchange visitor (J) visas. ¹² The IIE enrollment counts are expected to exceed DHS student population estimates because an enrolled student may be outside the United States for most or part of the year and because DHS does not include exchange visitors in its student estimates. ¹³ Further, not all exchange visitors are students, so a clear comparison is not possible. IIE reported about 975,000 million enrollments in the 2014/2015 academic year, ¹⁴ compared to a DHS population estimate of about 775,000 students and 1,000,000 students and exchange visitors, combined.

REFERENCES

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¹¹ See the IIE Open Doors web publication: https://www.iie.org/Research-and-Insights/Open-Doors.

¹² The IIE estimates also include persons engaged in optional practical training (OPT).

¹³ DHS student estimates include some types of students that IIE estimates do not (vocational students and secondary school students), but the numbers are very small in comparison.

¹⁴ Including about 120,000 former students engaged in OPT.