2018 Overseas Citizen Population Analysis Report

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INTRODUCTION

The Overseas Citizen Population Analysis (OCPA) is an effort sponsored by the Federal Voting Assistance Program (FVAP) to learn more about the U.S. overseas citizen population and the ways in which they navigate the voting process.[1] FVAP is statutorily mandated to report on the registration and voting activities of the populations it serves—including U.S. citizens living overseas—after each general election. A four-step process is used to better understand this population:

1. estimate the participation rate of the Overseas Citizen Voting Age Population (OCVAP) in the 2018 General Election;
2. compare the level of participation to that of the voting age population living in the United States;
3. determine to what degree that estimated difference in participation between the two populations is due to voting obstacles unique to the OCVAP; and
4. assess the extent to which policies designed to mitigate these obstacles are successful.

Overseas Citizen Citizens of the United States who are living or located in another country.

Overseas Citizen Voting Age Population (OCVAP) The subset of overseas citizens who are at least 18 years of age. This constitutes the voting-eligible population for the purposes of this study.

Citizen Voting Age Population (CVAP) The corresponding population of voting age individuals living within the United States. This group serves as a comparison point for the OCVAP.

Participation Rate The fraction of the voting age population that submitted a ballot and had a vote recorded within state vote history records.

Estimating the voting participation rate of the OCVAP is difficult because the nature of living abroad makes it hard to know how many overseas citizens there are, where they are located, and the number that are eligible to vote. Estimates produced by host country statistical agencies for the total number of U.S. born or U.S. citizen population are available from some countries for some years, but comprehensive estimates for any given election year are generally unavailable and information on the more relevant subpopulation of U.S. citizens who are voting age is even harder to obtain. The OCPA addresses this problem by using a statistical model averaging methodology to estimate both the number of OCVAP individuals as well as their distribution across countries.

Using this method results in a 2018 estimate of approximately 2.9 million voting age citizens living abroad. At the same time there were an estimated 135,507 votes attributed to individuals with non-U.S. addresses identified in state and local government absentee ballot records. This yields an

1 The OCPA was first conducted for the 2014 General Election and was released in February 2016. The report can be found here: https://www.fvap.gov/uploads/FVAP/Reports/FVAP-OCPA_201609_final.pdf

The report for the 2016 General Election, released September 2018, can be found at: https://www.fvap.gov/uploads/FVAP/Reports/FVAP-2016-OCPA-FINAL-Report.pdf

estimated 2018 OCVAP voting rate of 4.7%, as compared to a 2018 General Election voting rate of approximately 65% for the CVAP—implying a substantial difference in participation between the overseas and CVAPs.

To what degree is this voting gap due to systemic obstacles to voting unique to the OCVAP as opposed to individual factors such as differences in motivation? The answer lies, in part, in country-specific population estimates and vote totals derived from state and local absentee ballot request and voter files. In particular, by comparing the OCVAP voting rates between countries with different levels of international mailing-related obstacles to voting, the relationship between these obstacles and voting rates were estimated at the country level. These estimated relationships were used to generate a prediction for what the voting rate would have been without the OCVAP-specific obstacles for each country. These estimates are combined to create a predicted, obstacle-free OCVAP estimated participation rate of approximately 31.7%. The difference between the estimated predicted participation rate and the estimated actual OCVAP participation rate (27.0%) implies that over half of the estimated 60 percentage point voting gap between overseas and CVAP is due to obstacles to voting specific to OCVAP.

The OCPA also relies heavily on data from the Overseas Citizen Population Survey (OCPS) to gain insight into how overseas citizens mitigate these obstacles—and thus how policy changes might help this group. The OCPS is conducted as a part of FVAP's analysis of the overseas citizen population and is distributed to overseas citizens who requested an absentee ballot for the 2018 General Election. The OCPS asks respondents to share the means by which they requested and returned their absentee ballots. Data from the OCPS is analyzed in conjunction with overseas population estimations to reveal geographic patterns in obstacles to voting and to help better understand how various policies can affect voting from around the world. Survey results are discussed below, and full cross-tabulations can be found in Volume 2.

Analysis of the OCPS data reveals that absentee ballot requesters located in countries where mail or geography make receiving a physical ballot a challenge are more likely to receive and return their absentee ballot electronically. These findings suggest that policies permitting electronic ballot receipt and return are able to overcome issues of international mailing reliability. And yet, this does not reflect the majority of overseas voters' experiences; many absentee ballot requesters did not receive their ballot electronically, and only a minority of voters with the option to return their ballot electronically actually did so. This suggests that knowledge about electronic modes of absentee voting may be imperfect, and points to a potentially significant role that FVAP can play in reducing the voting gap.

Volume 1: Population and Participation Estimates and Features of Overseas Ballot Requesters

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OVERSEAS CITIZEN POPULATION ESTIMATES

The estimates for the size of the OCVAP are derived using a model averaging approach based on[2]

- Foreign Government Estimates (FGEs), or total counts of U.S. citizens living in non-U.S. countries produced by the country's government, typically available in 5- or 10-year increments for the period 2000–2018; and
- U.S. administrative records and other data sources on subpopulations of U.S. citizens overseas.

These FGEs are modeled as functions of different features of the country or FGE, including:

- which population was counted (e.g., U.S.-born versus U.S. citizens);
- how the population was counted (e.g., a census or a migrant registry);
- counts of particular subpopulations of U.S. citizens residing in the country (e.g., those who have declared foreign income to the Internal Revenue Service [IRS] or receive social security benefits); and
- multiple sets of predictors of the size of the migrant population derived from the academic literature on migration (e.g., distance between the country and the United States and the country or trade between the United States and the country).

These models are used to generate predictions of the number of U.S. citizens (including individuals with dual citizenship) that a foreign government would have counted in 2018 had it used a census.

For each region, predictions across models are averaged for each country to arrive at the final estimate of the size of the population of U.S. citizens residing in the country. A similar methodology is used to generate estimates of the fraction of the total population that is of voting age. Summing the resulting estimates of the CVAP for each country produces an estimated total 2018 OCVAP.[3]

The Total Overseas Citizen Population

There were an estimated 4.8 million U.S. citizens living overseas in 2018. This represents an increase of slightly less than 1 million (23%) since 2010.[4] These citizens are distributed across 186 countries, with the largest populations in Europe and the Western Hemisphere, including Canada. The greatest population growth since 2010 has been in Oceania, which had an estimated U.S. citizen population increase of 39% from 2010 to 2018. The U.S. citizen population in Europe also increased substantially, with the 2018 population estimated to be about 27% larger than 2010.

2 Modeled estimates are used instead of government census and registry estimates because (1) the latter are not available for every country in 2018; (2) the latter may count U.S. born rather than U.S. citizens; and (3) among those which do count U.S. citizens, it is unclear whether they count dual citizens. See Chapter 1 of OCPA Volume 3 for more information about modeling methodology.

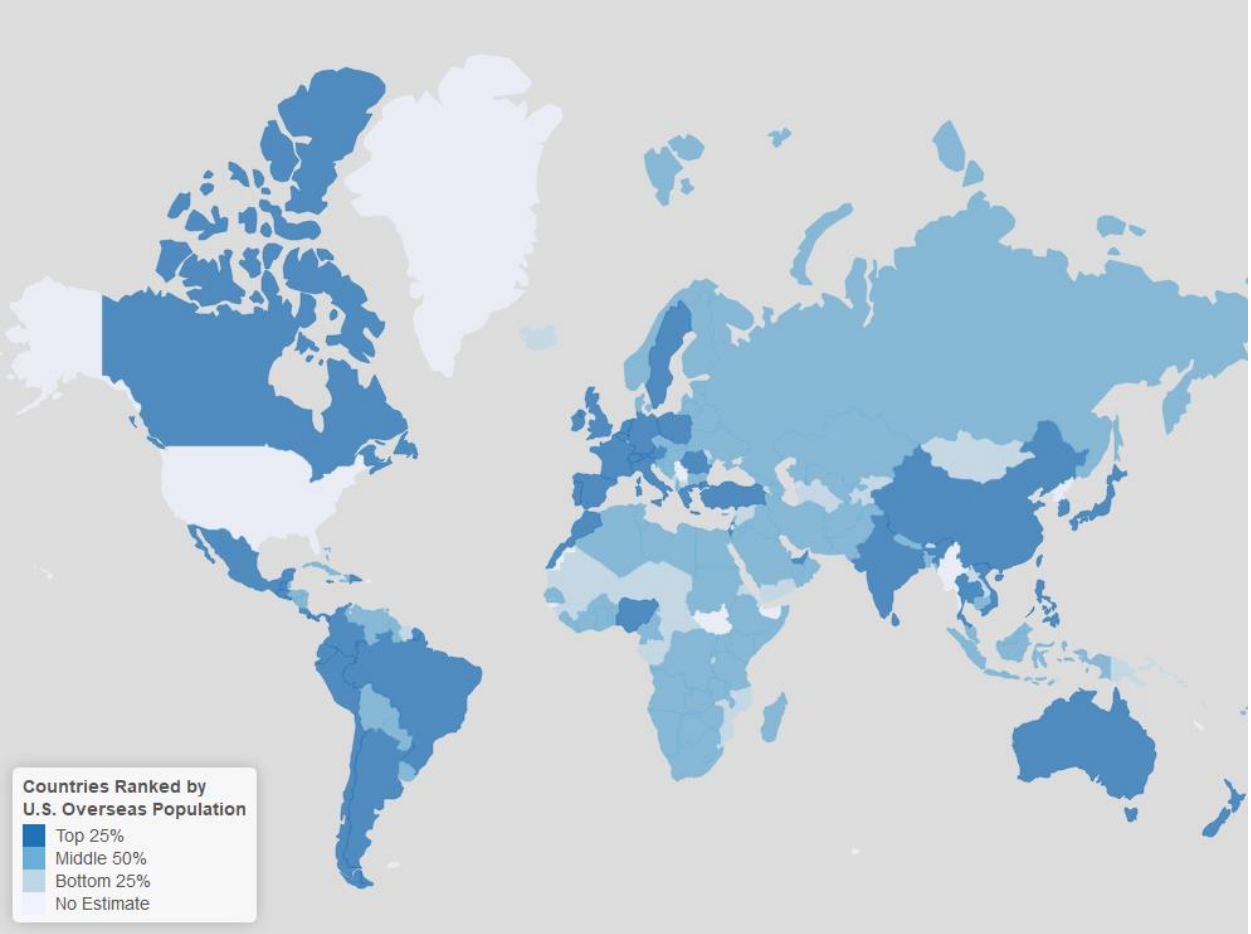
3 More detailed information about the methodology used to produce this estimate, as well as validation of the estimate, is presented in Chapter 1 of Volume 3. See Chapter 2 of OCPA Volume 3 for comparisons to World Bank and State Department population estimates.

4 Totals from 2010-2016 will differ from those reported in previous OCPA reports due to (1) estimates having been generated for more countries (186 in 2018 versus 170 in 2016) and (2) lower average estimates, a result of differences in data used to fit the model. See Chapter 2 in OCPA Volume 3 for more information about differences between the 2014, 2016, and 2018 estimates.

Table 1. Total Overseas Citizen Population, by Region						
Region	2010	2012	2014	2016	2018	% Change, 2010–2018
North America	1,195,770	1,251,683	1,284,478	1,395,053	1,447,712	21%
South/Central America / Caribbean	530,000	567,893	583,375	570,422	590,187	11%
Europe	1,042,781	1,104,502	1,173,681	1,237,040	1,322,113	27%
Sub-Saharan Africa	91,406	100,379	99,416	102,432	113,747	24%
Middle East / North Africa	286,936	306,028	322,139	332,925	362,531	26%
North/Central/South Asia	116,270	117,961	119,439	125,279	123,653	6%
East Asia	368,401	413,410	430,522	447,725	466,212	27%
South East Asia	120,737	128,759	134,292	143,789	149,402	24%
Oceania	147,348	164,914	175,156	188,549	204,372	39%
Total	**3,899,649**	**4,155,529**	**4,322,498**	**4,543,214**	**4,779,929**	**23%**

Figure 1 shows the estimated 2018 overseas population by country. Mexico, Canada, the United Kingdom, France, and Israel have the largest total populations of overseas citizens. By far the largest populations were in countries that share a border with the United States—Canada had an estimated population of more than 861,000 U.S. citizens in 2018, followed by Mexico, with an overseas citizen population of about 587,000. The next largest population was found in the United Kingdom, which was estimated to have about 391,000 U.S. citizens in 2018. France and Israel had estimated populations of about 248,000 and 205,000 U.S. citizens, respectively.

Figure 1. Total Overseas Citizen Population Estimates by Country, 2018



The OCVAP

Not every individual in the overseas citizen population is 18 years of age or older and thus old enough to vote. Of the estimated 4.8 million overseas citizens in 2018, about 2.9 million were of voting age. Table 2 shows the estimated OCVAP from 2010 to 2018.

Table 2. Total OCVAP by Region

Region	2010	2012	2014	2016	2018	% Change, 2010–2018
North America	528,927	573,973	597,458	568,448	597,196	13%
South/Central America / Caribbean	242,729	266,444	269,779	251,777	262,858	8%
Europe	789,661	840,581	897,147	940,834	1,018,514	29%
Sub-Saharan Africa	52,885	60,740	62,404	64,624	72,500	37%
Middle East / North Africa	230,103	248,013	263,261	272,069	299,251	30%
North/Central/South Asia	54,000	53,819	52,635	55,311	52,120	-3%
East Asia	229,175	261,034	277,113	287,264	306,193	34%
South East Asia	60,751	67,893	72,263	77,828	82,127	35%
Oceania	121,651	137,305	148,345	160,026	174,829	44%
Total	**2,309,882**	**2,509,802**	**2,640,406**	**2,678,181**	**2,865,590**	**24%**

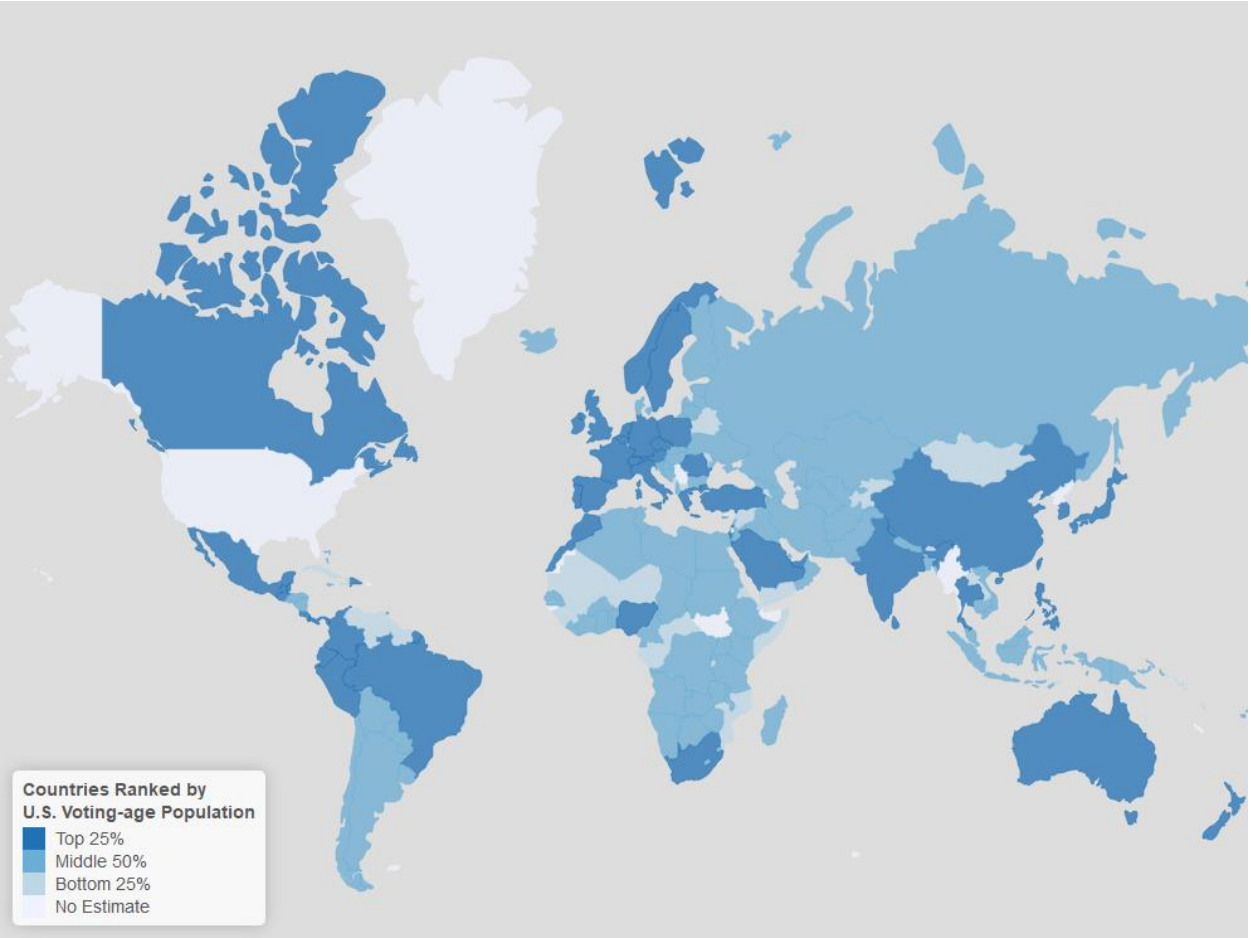
Demographic Characteristics of the OCVAP in 2018

- **Education:** The OCVAP is estimated to be highly educated compared to its domestic counterpart—67% of OCVAP have obtained a Bachelor's degree, compared to 32% of the CVAP.
- **Age:** The OCVAP skews younger than the CVAP. Nine percent are of retirement age (65+), compared to 21% domestically. The proportion who are working age (25–65) is 75%, compared to 68% of the CVAP.
- **Sex:** The overseas voting age population is more male (67%), compared to 49% of CVAP.

The OCVAP grew at a similar rate to the total U.S. population in recent years; the total overseas citizen population grew by 23% between 2010 and 2018 and the OCVAP grew 24% over the same period. However, the age distribution of the overseas citizen population is not uniform across countries. Only about 42% of the estimated 124,000 U.S. citizens living in North/Central/South Asia are of voting age, as compared to nearly 86% of U.S. citizens in the Oceania region. Europe, the region with one of the largest total overseas citizen populations, has an estimated OCVAP of just over one million. This translates to about 77% of the overseas citizen population in Europe being of voting age. By contrast, only about 41% of the U.S. citizens living in North America, the region with the highest overseas citizen population, are of voting age.

Figure 2 shows the distribution of the estimated OCVAP in each country. Overall, the countries with the largest estimated overseas citizen populations are also among those with the largest estimated OCVAP. Despite having a relatively young overseas citizen population, Mexico is still among the countries with the largest OCVAP, with about 81,000 U.S. citizens 18 years or older.

Figure 2. Total OCVAP Estimates by Country, 2018



Knowing both the total population as well as its geographic distribution is important to policy assessments of federal laws like the *Uniformed and Overseas Citizens Absentee Voting Act* (*UOCAVA*) and the *Military and Overseas Voter Empowerment (MOVE) Act*, which were designed to assist these voters. Not only do overseas citizens face challenges when trying to cast their ballots, but these challenges are likely to vary with respect to geographic location, with individuals located in certain areas experiencing greater challenges than others. As seen in the next section, assessing the overseas ballot request and voting rates, particularly in comparison to CVAP participation rates, can help better identify where in the voting process challenges might occur.

2018 OVERSEAS CITIZEN BALLOT REQUEST AND VOTING RATES

In 2018, a total of 289,838 overseas citizens requested an official ballot from their local election officials (LEOs), as indicated by unique absentee ballot requests with an overseas address identified in administrative records (see Volume 3 for technical details). This represents an overall absentee ballot request rate of 10% among OCVAP across the 186 countries for which population estimates were available. In total, an estimated 135,507 votes were cast by overseas citizens in the 2018 General Election, equivalent to an OCVAP voting rate of 4.7% worldwide. For comparison, Table 3 below highlights the trends in the OCVAP participation rate since 2014 by region.

Table 3. OCVAP Participation Rate by Region[5]

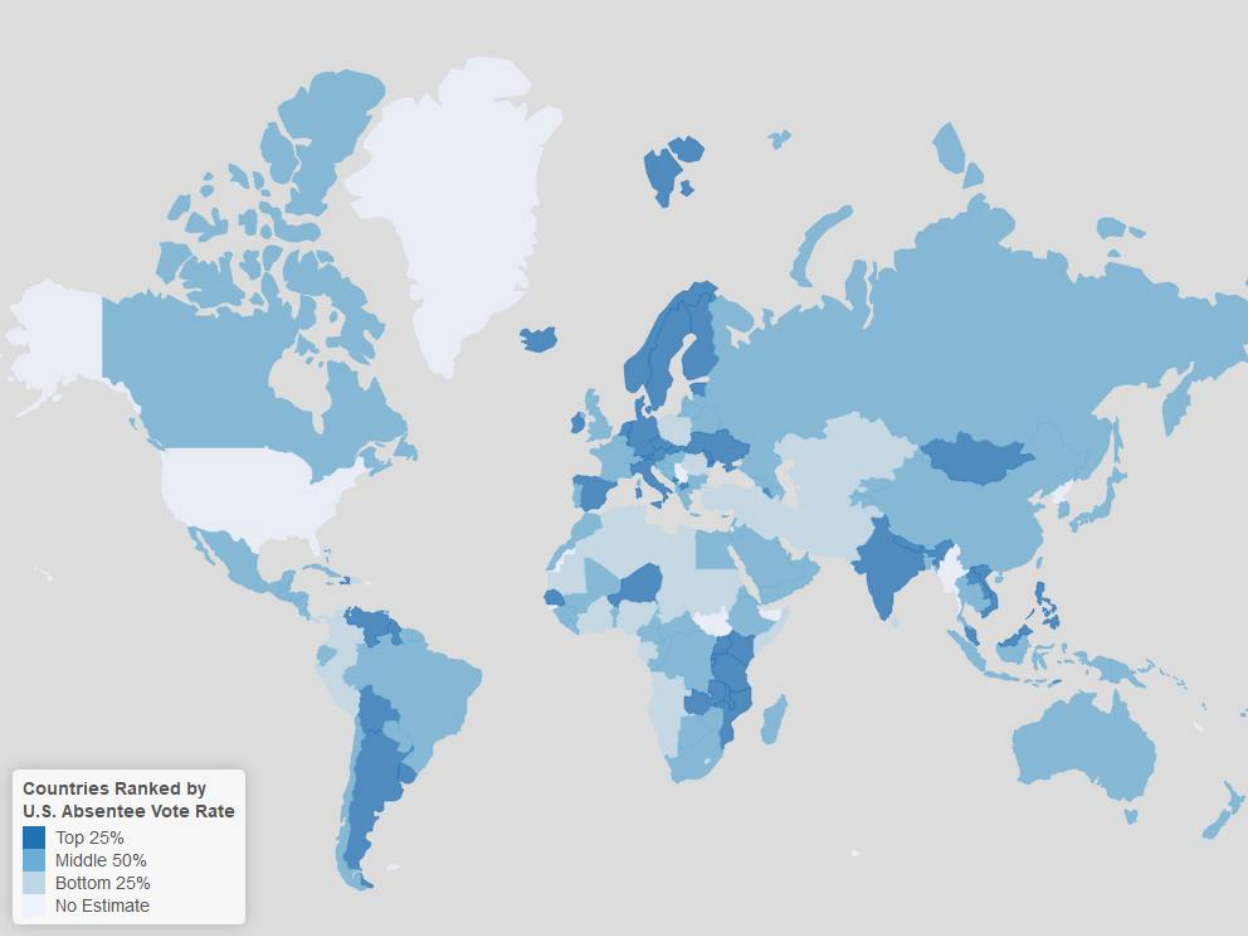
Region	2014	2016	2018	% Change, 2014–2018
North America	3.0%	6.6%	4.5%	47.4%
South/Central America / Caribbean	2.1%	4.4%	2.4%	14.9%
Europe	5.1%	10.8%	6.8%	34.4%
Sub-Saharan Africa	2.7%	6.3%	3.1%	15.6%
Middle East / North Africa	2.2%	4.8%	1.9%	-10.1%
North/Central/South Asia	2.6%	6.4%	2.9%	10.2%
East Asia	2.4%	5.2%	3.1%	31.3%
South East Asia	5.7%	10.4%	5.9%	3.5%
Oceania	3.8%	8.9%	5.1%	33.1%
Global	**3.6%**	**7.8%**	**4.7%**	**32.1%**

The overseas ballot request rate was highest in South East Asia, where an estimated 14% of the OCVAP requested an absentee ballot. South East Asia had the second highest voting rate among regions, with about 6% of the OCVAP living in this region returning an absentee ballot for the 2018 General Election. The highest regional voting rate was in Europe, where about 6.8% of the estimated one million U.S. citizens of voting age who were living in these countries voted, according to administrative records. In 2018, the lowest ballot request and voting rates were among overseas U.S. citizens in the Middle East and North Africa. In these countries, about 6.3% of OCVAP requested an absentee ballot and just 1.9% voted in the 2018 General Election.

5 These estimates incorporate updates to the size of the OCVAP in 2014 and 2016, and thus will not be consistent with 2014 and 2016 rates reported in prior OCPA reports.

Table 4. Overseas Absentee Ballot Request and Voting Rates, Overall and by Region					
Region	Ballot Requesters	Ballot Request Rate	Votes Recorded	Voting Rate	CVAP Voting Rate Gap
North America	52,477	8.8%	20,393	4.5%	60.5%
South/Central America / Caribbean	18,254	6.9%	6,355	2.4%	62.5%
Europe	137,698	13.5%	69,623	6.8%	58.1%
Sub-Saharan Africa	5,564	7.7%	2,277	3.1%	61.8%
Middle East / North Africa	18,948	6.3%	5,828	1.9%	63.0%
North/Central/South Asia	4,676	9.0%	1,495	2.9%	62.0%
East Asia	20,892	6.8%	9,519	3.1%	61.8%
South East Asia	11,507	14.0%	4,878	5.9%	59.0%
Oceania	19,822	11.3%	8,911	5.1%	59.8%
Total	**289,838**	**10.1%**	**135,507**	**4.7%**	**60.2%**

Figure 3. Voting Rate Estimates by Country, 2018



By comparison, the voting rate among the CVAP was approximately 64.9% in the 2018 General Election.[6] The 60 percentage point voting rate gap between the OCVAP and CVAP suggests that a citizen living within the United States is more than 13 times more likely to vote than a U.S. citizen abroad.[7] The sizable voting rate gap suggests that living overseas has a negative effect on the

6 Note that the CVAP voting rate is calculated in a different manner here than in other reports, for comparability with the overseas citizen population in this study. To obtain an estimate of the participation rate for the CVAP, this report uses data from the November supplement of the Census Bureau's current population survey (CPS), a monthly in-person survey of approximately 56,000 households. Although primarily intended as a survey about employment status, a subset of individuals who are voting age and U.S. Citizens were asked additional questions about voting behavior in the days following the 2018 General Election (November 13–19). Specifically, respondents were asked, "in any election, some people are not able to vote because they are sick or busy or have some other reason, and others do not want to vote. Did (you/name) vote in the election held on Tuesday, November 8, 2018?" Including only respondents who answered "yes" or "no" to this question produces an implied CVAP participation rate of approximately 64.9%. This differs from the Census Bureau estimated participation rate of 53.4%, which counts those answering "don't know," refusals, and nonresponses as non-voters. For comparability with the overseas citizen population, and because it is unknown whether individuals who refused this question voted or not, these responses are excluded in the CVAP voting rate used in this report. Description of the CPS data collection methodology and instrument can be found at: https://www2.census.gov/programs-surveys/cps/techdocs/cpsnov16.pdf.

7 It should be noted that although the CVAP voting rate is a survey-based estimate using self-reported voting, the OCVAP voting rate is an administrative measure of voting. Survey-based measures of voting turnout are typically higher than those based on administrative records (see: http://www.pewresearch.org/2018/02/15/political-data-in-voter-files/). As a result, comparison of these estimates will tend to produce a larger voting rate gap than might be found using alternative measures. In addition, CPS does not include institutionalized individuals as part of the survey, but similarly ineligible voting age overseas citizens are included in OCVAP voting rate estimates. Some absentee ballot request records that did not include an address may have originated from overseas, but these were not

likelihood of voting, either because there are obstacles that make voting more difficult or because an individual is less motivated to do it.[8]

Table 5. Registration and Voting in Countries with the 10 Largest Estimated Overseas Citizen and Voting Age Citizen Populations

	Overseas Citizen Population		OCVAP		Ballot Request Rate	Voting Rate
	Total	Rank	Total	Rank		
Canada	860,783	1	516,309	1	8.7%	4.6%
Mexico	586,929	2	80,887	8	9.4%	3.8%
United Kingdom	391,141	3	327,245	2	12.8%	6.4%
France	248,168	4	181,393	4	9.1%	4.9%
Israel	204,542	5	183,499	3	6.7%	1.8%
Australia	146,889	6	126,703	5	11.2%	4.9%
China	120,982	7	43,470	15	9.5%	3.9%
Japan	105,275	8	92,879	6	8.5%	4.6%
Switzerland	98,008	9	87,705	7	8.3%	4.3%
Hong Kong	95,086	10	64,809	10	5.8%	2.3%
Germany	89,679	11	75,142	9	26.5%	13.9%

EXAMINING THE CVAP–OCVAP VOTING GAP

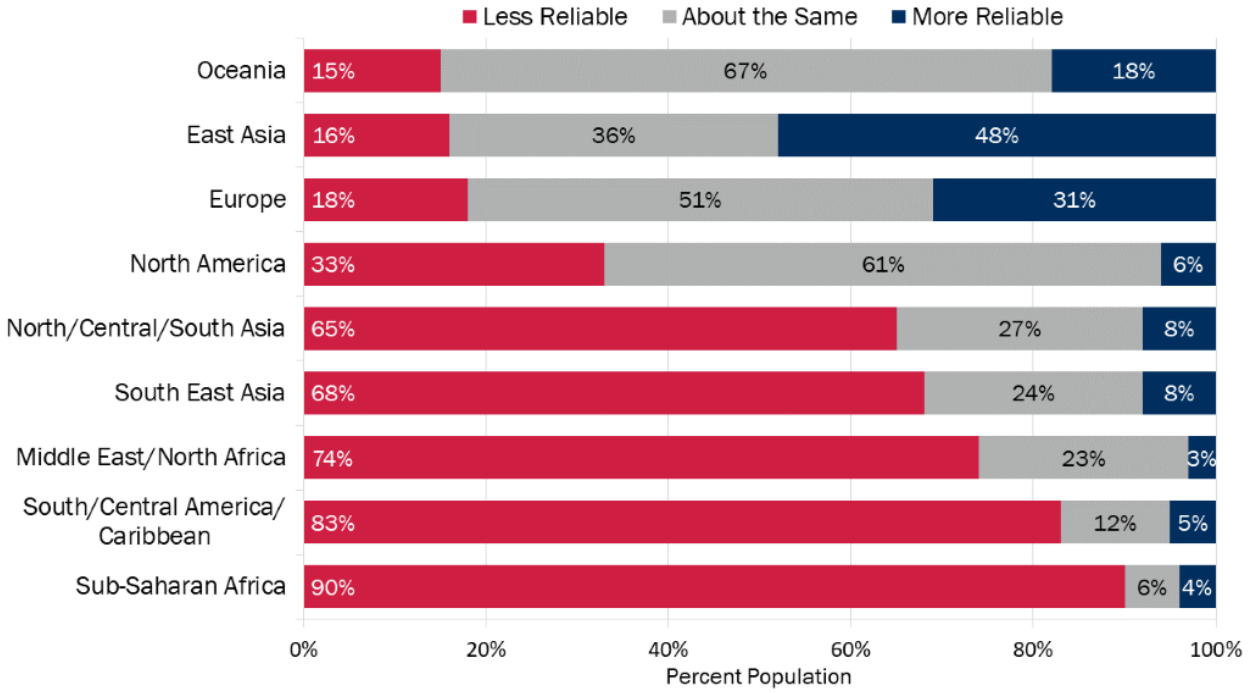
Opportunity, *motivation*, and *ability* are key factors determining whether an individual will vote, and can help conceptualize the potential drivers of the CVAP–OCVAP voting gap. In 1986, the *UOCAVA* created the legal basis for the voting rights of U.S. citizens living overseas, guaranteeing that these citizens have the *opportunity* to vote in all federal elections. However, the uniqueness of overseas citizens' social environments and the absentee voting process may limit the *ability* of overseas citizens to exercise this right, even if they are *motivated* to do so. FVAP provides information, tools, and resources to help overcome these challenges and ensure that overseas citizens are able to exercise their right to vote wherever they are.

The social context in which one lives strongly affects one's likelihood of voting (McClurg, 2003). Social connections can create sense of shared community interest and civic responsibility, and serve as a source of procedural information about when, where, and how to vote (Putnam, 2000; Stoker & Jennings, 1995; Gerber, Green, and Larimer, 2008; Verba, Schlozman, & Brady, 1995).

included as part of the overseas vote count. In Appendix F, the sensitivity of the voting gap to the use of different measures of the overseas participation rate and an administrative CVAP participation rate is examined. Generally, the voting gap remains large regardless of which sets of overseas and domestic participation rates are used. Results for the decomposition analysis using this administrative voting proxy can be found in Appendix D.

8 A part of the residual gap may be due to differences in motivation that are in turn due to differences in the demographic composition between the overseas and CVAP. To understand what part of the residual gap would exist absent this difference in composition, voting rates for individual age-sex-education strata of the CVAP were derived from the CPS, and weighted average of these strata calculated, where the weights were determined by the fractions of the OCVAP in each strata. The result is an estimate of the voting rate of the CVAP population that is identical to the OCVAP with respect to observable demographic characteristics. This adjusted CVAP participation rate is 73%, implying a voting gap of 68 percentage points and a residual gap of 41 percentage points.

Figure 4. Perceived Postal Reliability Relative to the U.S. Postal Service by Region



In Figure 4 above, results from the 2018 OCPS[9] demonstrate a common challenge that overseas citizens encounter when voting: mailing systems outside of the U.S. are often perceived as unreliable. About one-third of respondents to the 2018 OCPS reported that the postal system in their country was less reliable than that of the United States. This percentage may even underestimate mail-related obstacles facing OCVAP given that even mail systems that are otherwise reliable may be unreliable with respect to international mail due to a variety of geographic and logistical factors. However, there are clear regional differences in perceived mail reliability, with respondents in Europe, East Asia, and Oceania more likely to respond that their local mailing system is at least as reliable as that of the U.S. than other regions. In the next section, it is shown that these regional differences are associated with differences with respect to mailing times to the United States and the level of development of the country, factors that one would expect to be associated with obstacles to returning a completed absentee ballot to the United States.

Though differences in *motivation* may explain some of the gap in the voting rate between CVAP and OCVAP, regional patterns in the voting gap suggest that overseas citizens face obstacles that hinder their ability to vote, and that these obstacles are greater for those in countries and regions than in others. To what extent is the voting rate gap between CVAP and OCVAP attributable to obstacles versus differences in motivation?

Defining the CVAP–OCVAP Voting Gap

To better understand the factors contributing to the difference in CVAP and OCVAP voting rates, the CVAP–OCVAP voting gap can be broken down into two component parts: the obstacles gap and the residual overseas gap. The obstacles gap is the portion of the voting gap that can be attributed to country-level infrastructure obstacles that hinder citizens' ability to vote from overseas. The

9 The survey reflects only a subset of the overseas citizen population.

residual overseas gap accounts for other factors—such as motivational differences, election salience, or connection to U.S. politics—that contribute to the difference in voting rates. There are several federal statutes that were created to help overseas citizens overcome the obstacles associated with overseas voting. These statutes make special provisions for U.S. citizens voting from overseas, and FVAP works to educate overseas citizens on these special provisions and the resources available to them to help them vote in the face of increased obstacles. Examining the obstacles gap and how it varies across countries will help FVAP understand where obstacles to voting are greatest, and more importantly, where obstacles are having the largest impact on voters' ability to vote.

Voting Gap = Obstacles Gap + Residual Overseas Gap

Obstacles Gap: the part of the difference between the OCVAP and CVAP voting rates that is attributable to differences in ability to vote due to infrastructural obstacles[10] encountered when voting from overseas versus voting domestically.

Residual Overseas Gap: the remaining difference between the OCVAP and CVAP voting rates that is due to other motivational and internal differences between overseas and domestic voting age populations.

One major problem for overseas citizens attempting to vote in U.S. elections is the time it takes for election materials to travel between an overseas voter and their LEO. An overseas citizen must first send registration and ballot request forms to the LEO. The LEO then sends the voter a blank ballot, which must be completed and returned to the LEO by the statutory deadline for absentee ballot receipt to be counted. If each step is conducted by mail, this can become a lengthy process because of the ballot transit time involved. Over the last two decades, a number of federal laws and regulations have attempted to address the election materials transit time problem and make it easier for overseas citizens to cast ballots in U.S. elections.

Among the key provisions of *UOCAVA* are the creation of the Federal Post Card Application (FPCA) and the Federal Write-In Absentee Ballot (FWAB). The FPCA is accepted in all states and allows a citizen covered under *UOCAVA* to register to vote and request an absentee ballot using a single form. By standardizing this process, *UOCAVA* sought to reduce the barriers to voting caused by complex and inconsistent procedures across states and local jurisdictions. The FWAB is a back-up ballot that citizens covered by *UOCAVA* may use to vote in any federal election if they do not receive their regular absentee ballot in time to return before statutory deadlines.

In 2009, Congress again acted to address the ballot transit time problem by passing the *MOVE Act*. This law requires States to send absentee ballots to *UOCAVA* voters no later than 45 days before a federal election if the voter has submitted a valid ballot request by that date. Further, the *MOVE Act* requires U.S. states to offer an electronic method of receiving blank ballots. This is important, especially for those in countries with unreliable mail systems. Research showed that, before the *MOVE Act*, *UOCAVA* voters in 25 U.S. states and the District of Columbia did not have enough time to cast ballots because these jurisdictions sent ballots out to voters too close to Election Day. The 45-day voting period was intended to address this problem by providing a lengthy period for voting, ensuring enough time for ballot transit between the voter and LEO.

10 The obstacles gap is calculated by comparing voting rates in countries with differing levels of mailing times and levels of infrastructure to the U.S. Due to lack of data, it does not reflect differences in obstacles due to the demographics of OCVAP in the country or absentee voting policies of the states of legal residence of OCVAP in the country. See Appendix C for more information.

The Obstacles Gap

To assess the extent to which overseas citizens vote at lower rates due to the obstacles associated with being overseas, the baseline voting gap is broken down into the part that is due to the obstacles, particularly those that affect one's ability to transmit and receive election related materials in a timely manner, versus the part attributable to motivation or other internal factors. To frame it another way, the obstacles gap is the difference between the actual participation rate of the OCVAP and the participation rate expected if obstacles were similar to those faced by domestic voters.

The obstacles to voting encountered by the OCVAP are not consistent across the entire population. Utilizing cross-country variation in OCVAP voting rates and observable indicators of obstacles to voting that are specific to the OCVAP, the impact of obstacles is assessed by (1) estimating the effect of these obstacles on voting rates, and then (2) predicting what the participation rate would be in a hypothetical country if these obstacles were removed. The full methodology and model can be found in Appendix C.

Impact of Voting Obstacles in 2018

The estimated OCVAP voting rate in 2018 was 4.7%. As seen in Figure 5, if obstacles to voting from overseas were removed, the expected OCVAP voting rate would have been 31.7%, an increase of 27.0 percentage points, as is reflected in the obstacles gap. Absent obstacles, a substantial voting gap would still exist in the overall voting rate gap between CVAP and OCVAP, but the size of the gap would be reduced from 60.2 percentage points to 33.2 percentage points. In other words, elimination of obstacles to voting reduces the voting gap by almost half.

Figure 5. Decomposition of the Voting Gap

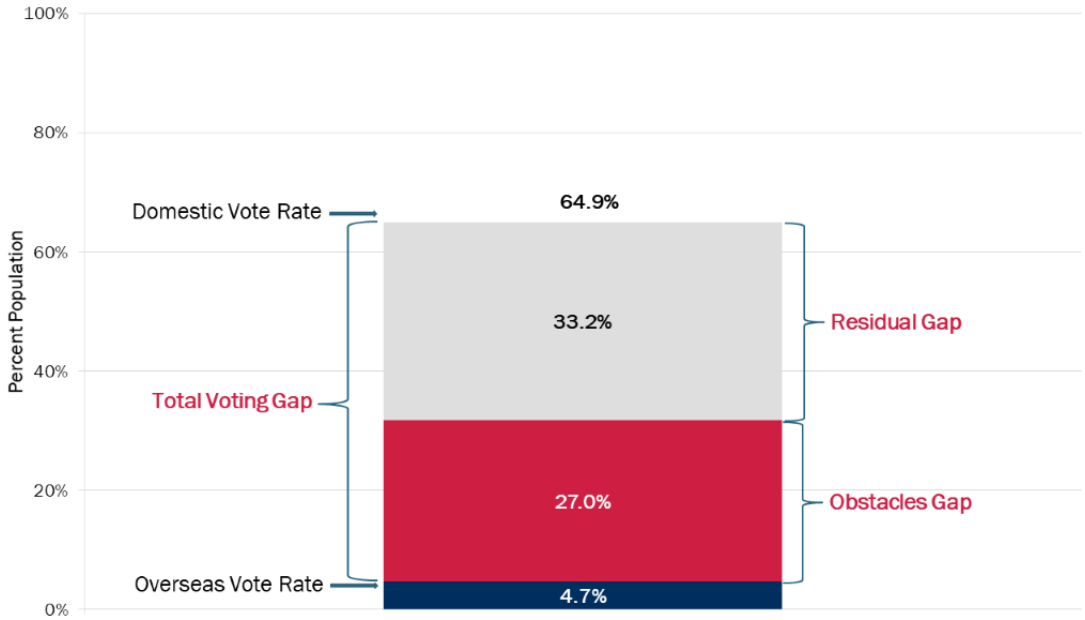
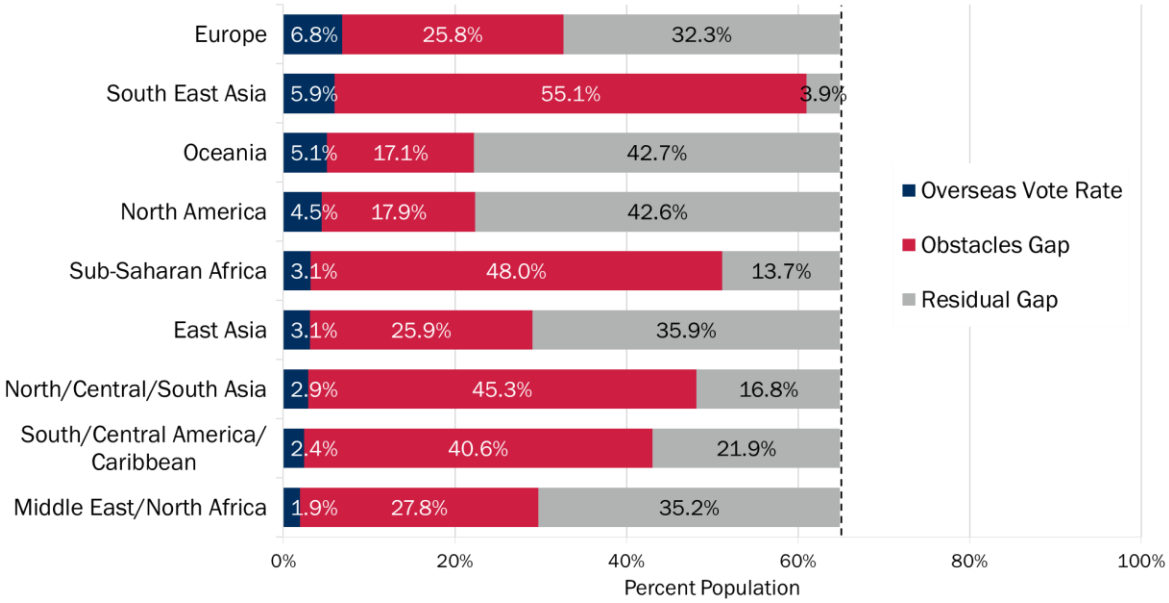


Figure 6 implies that obstacles to voting explain a relatively large fraction of the voting gap between OCVAP residing in Sub Saharan Africa, North/Central/South Asia, and South East Asia and the CVAP, while differences in the residual gap play more of a role in explaining the voting gap in North America and Oceania.

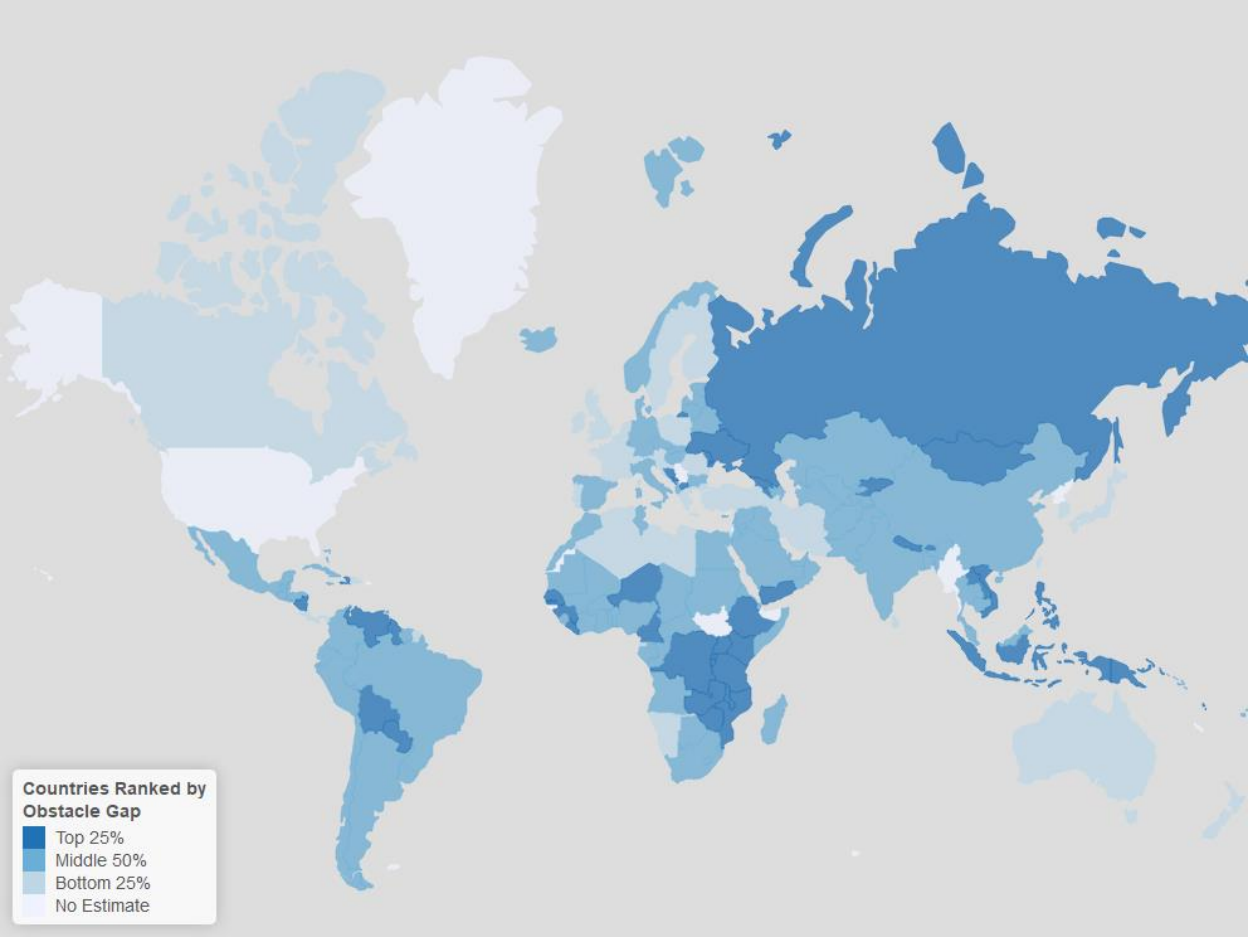
Figure 6. Decomposition of the Voting Gap by Region[11]



Country-specific obstacles gaps can be calculated by taking the differences in the observed voting rates by country and the estimated voting rate if obstacles were removed by country. As shown in Figure 7, high-obstacle countries are concentrated in Eastern Europe / Asia, Latin America, and Africa, regions generally associated with low levels of development.

11 Note that there is variance within world regions regarding the obstacles associated with each country. World regions are organized according to the geographic proximity and conventional groups—not by voting variables. In particular, although the obstacles gaps appear to be high overall in Sub-Saharan Africa and South and Central Asia regions, some countries—such as Algeria, Australia, and New Zealand—have much lower obstacles gaps than most other countries in their region. Additionally, some Sub-Saharan African and South and Central Asian countries have very small sample sizes of overseas citizens.

Figure 7. Obstacles Gap as Percentage of OCVAP by Country



Countries with similar obstacles may have substantially different obstacles gaps because obstacles only prevent individuals who would have otherwise voted from doing so. In other words, larger obstacles gaps may reflect differences in propensity to vote rather than differences in obstacles to vote between countries. To control for differences in propensity across regions, the regional obstacles gaps can be divided by the total fraction of OCVAP in the region that the model predicts would have voted absent obstacles. Using this adjusted obstacles gap reveals that overseas citizens in Central/South America / Caribbean are most negatively affected by those obstacles, with obstacles preventing 94.4% of those who would have otherwise voted from doing so. However, even in Oceania—the region with the lowest adjusted obstacles gap—over half (77.0%) of OCVAP who are inclined to vote do not due to obstacles. Figure 8 presents the country-level estimates of this adjusted obstacles gap. These country-level estimates imply that participation rates by OCVAP residing in the Middle East and North Africa, North/Central/South Asia, and West Africa who otherwise would have voted are particularly negatively affected by OCVAP-specific obstacles to voting.

Figure 8. Number of Voters Impacted by Obstacle Effect

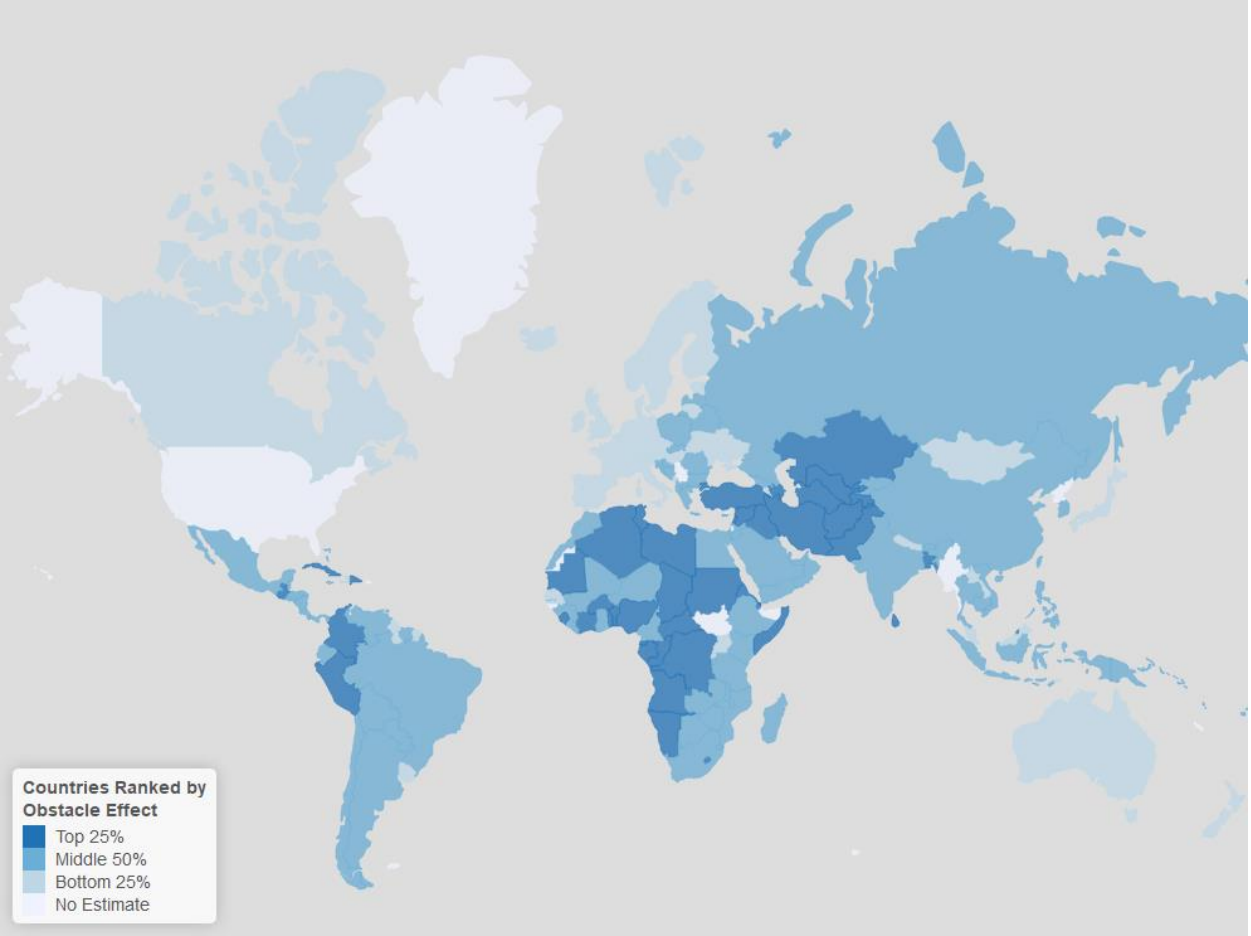
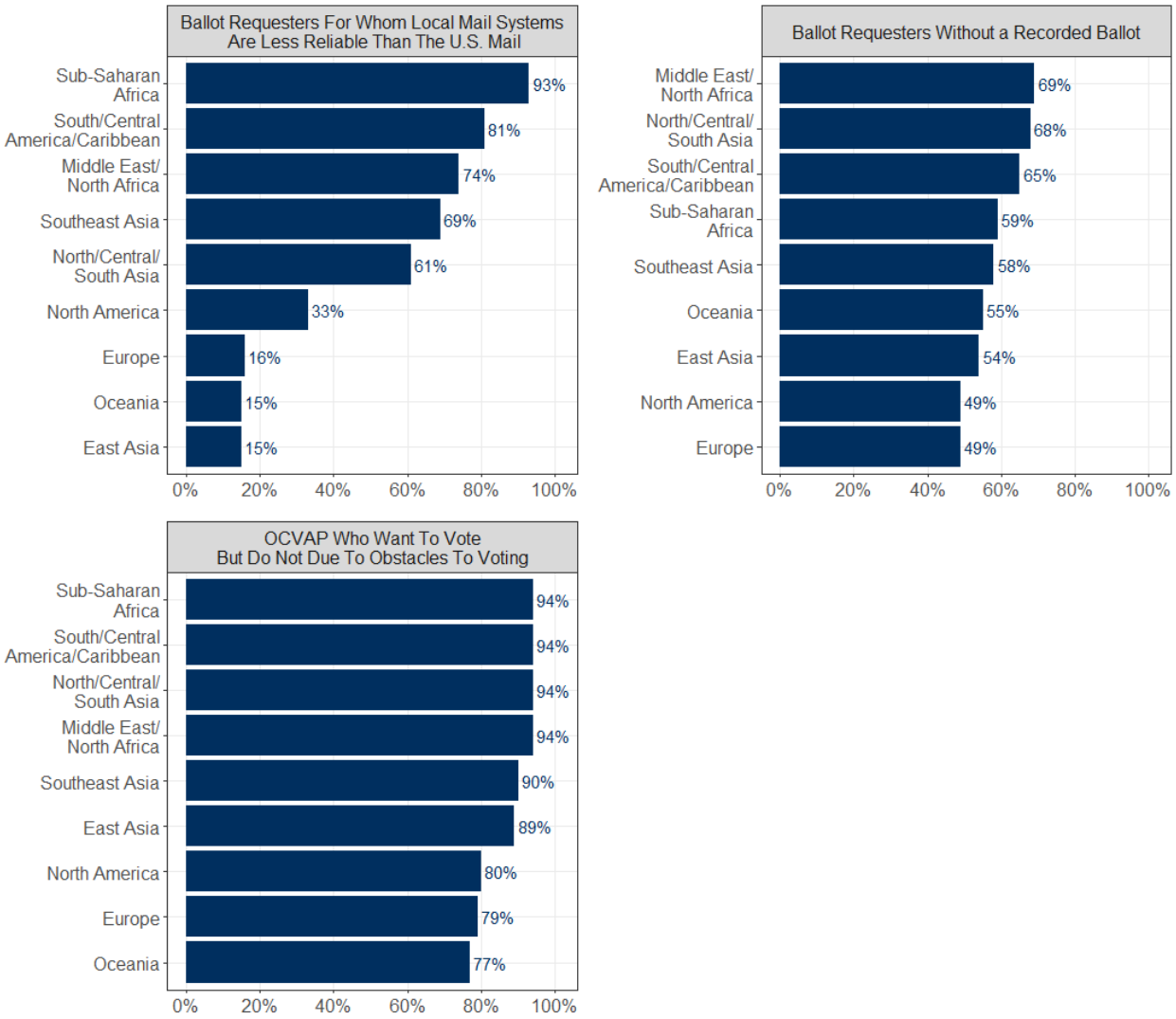


Figure 9 presents the obstacles gap as a percentage of likely OCVAP voters by region along with two other measures that may reflect obstacles to voting: the percentage of transmitted absentee ballots for which a vote is not recorded and the fraction of OCPS respondents who reported that the local mail system was "unreliable." It is apparent that regions where it is estimated that a relatively large fraction of likely voters do not vote due to obstacles to voting (South/Central America, Sub Saharan Africa, the Middle East / North Africa, and Central Asia) are also regions where a relatively large fraction of transmitted ballots are not returned and/or where a relatively large fraction of OCPS respondents perceive their local mailing systems to be "unreliable." Although these other measures suffer from significant limitations,[12] this provides reassurance that the obstacles gap reflects actual obstacles to voting.

12 Specifically, because not every "likely" voter will request a ballot due to obstacles to ballot request and obstacles to voting more generally, the ballot non-return rate underestimates the fraction of individuals who do not vote due to obstacles to voting, and this underestimation is likely to vary across regions based on obstacles to voting.

The fraction of OCPS respondents who report their mail is unreliable does not necessarily reflect the unreliability of mail sent and received from the US. And because OCPS respondents are also absentee ballot requesters, they may have more reliable mail service than the OCVAP in their respective countries/regions more generally.

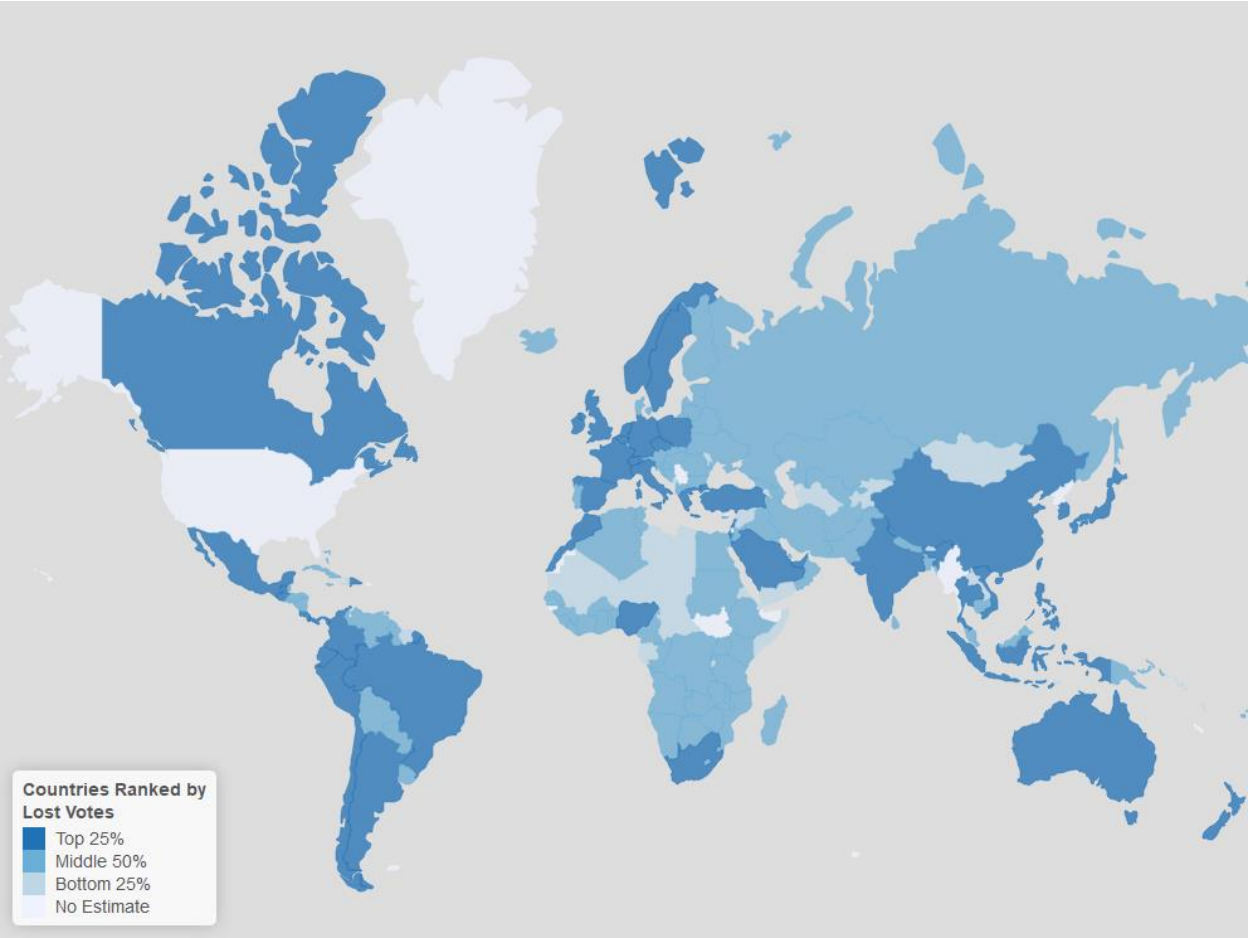
Figure 9. Obstacles Gap as Percentage of Likely OCVAP Voters by Region



What implications does this have for the impact of obstacles on the overall number of votes coming from overseas citizens? A simple, more concrete way to conceptualize the impact of the obstacles gap is to calculate the number of votes "lost" from overseas citizens as a result of these obstacles to voting. Note that this does not refer to ballots actually being physically missing—rather, it is a way to conceptualize the number of votes that would have existed absent the obstacles to overseas voting that have been discussed.

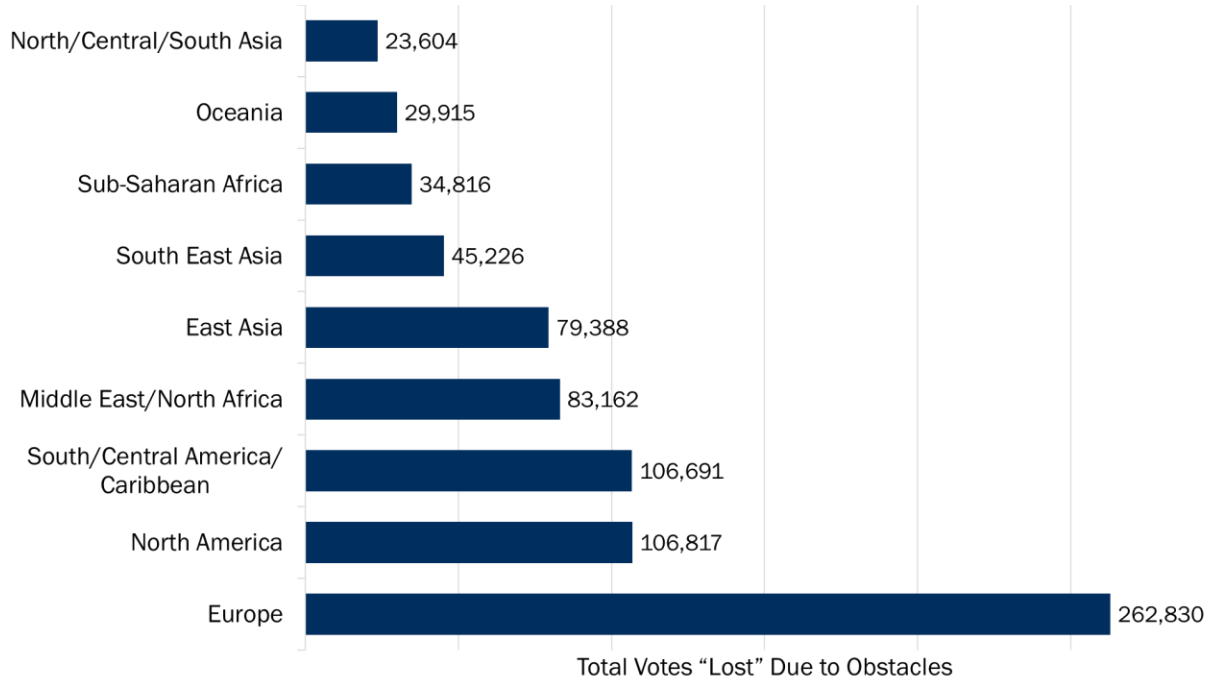
Estimated "lost" votes: The total number of votes that would have existed if obstacles to overseas voting were removed. This is a way of conceptualizing the magnitude of impact that obstacles to voting have on the overseas citizen vote count.

Figure 10. Estimated Total "Lost" Votes by Country



Multiplying the number of eligible OCVAP in a country by its obstacles gap gives the estimated number of votes "lost." Although figures 6, 7, and 8 demonstrate that obstacles to voting are generally greatest in less developed areas, Figures 10 and 11 show that the magnitude of their impact is lower there because of the smaller eligible populations. Though they are less prone to obstacles than less developed regions, Europe and North America have large numbers of lost votes due to their substantially larger voting age populations. This again underscores the importance of addressing obstacles to voting even in more developed countries.

Figure 11. Estimated "Lost" Votes Due to Obstacles by Region



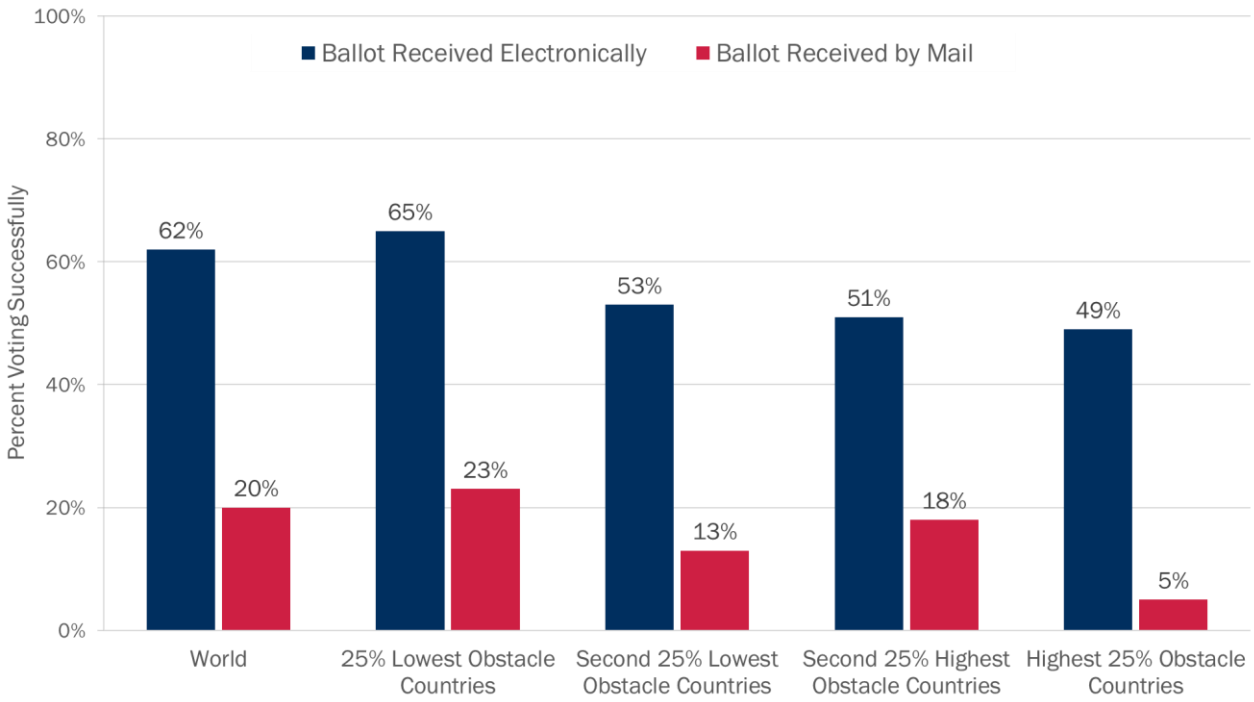
IMPACT OF CHANGES IN BALLOT DELIVERY AND RETURN MODES

Obstacles associated with sending and receiving voting materials still preclude substantial numbers of overseas citizens from exercising their right to vote. However, provisions in the *MOVE Act* requiring each state to offer at least one electronic mode of ballot transmission were intended to mitigate these mailing obstacles by allowing overseas citizens to bypass the international mailing system and cut the overall transit time in half. Further, for potential overseas voters from some states, the availability of additional non-mail based modes of return may further mitigate the impact of mailing-related obstacles, but further analysis is required to determine how effective these options are for increasing voting rates.

For those confronting greater voting obstacles in their country, the mode through which one receives an absentee ballot is related to the likelihood that one votes successfully. Overall, there is a large difference observed in the rate of successful voting among those reporting electronic versus mail receipt of an absentee ballot, with those who received their ballots electronically more than three times as likely to have had a vote recorded as those who received their ballot by mail. The advantage of electronic mail return varies based on a country's obstacle level. In the lowest obstacle countries, those who received their ballots electronically were up to three times as likely to have had a vote recorded than those who received their ballot by mail.[13] In the highest obstacle countries, those who received electronic ballots were close to ten times as likely to have had a vote recorded than those who received mail ballots.

13 Here we define level of obstacles as the obstacles gap divided by the fraction of "likely" voters.

Figure 12. Ballot Receipt Mode and Voting Success by Obstacles to Voting

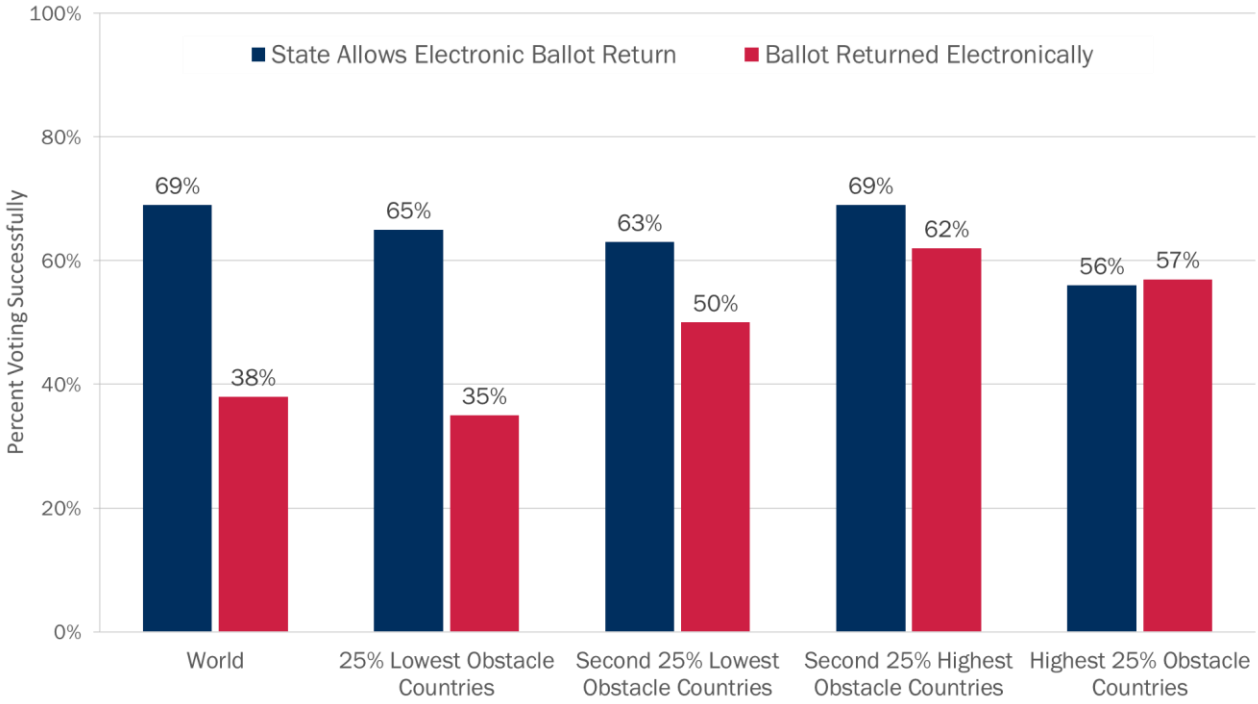


While the *UOCAVA* requires that all states offer some form of electronic blank ballot transmission to voters, some states also allow overseas voters to return their ballots electronically. In 24 states and the District of Columbia, overseas voters are permitted to return their voted absentee ballot electronically—that is, through email, fax, or an online portal system.[14]

Evidence from this study supports that electronic ballot return minimized the effects of obstacles to voting in 2018. If electronic return mitigated obstacles to voting, one would expect to observe not only higher volume of absentee ballots returned, but also a disproportionate number of absentee ballot requests originating in states that allowed electronic ballot return. This is because electronic return is hypothesized to increase the probability that a ballot is returned successfully, and thus individuals who can return electronically are more likely to perceive requesting an absentee ballot as worth the burdens associated with request. Thus, holding the distribution of *UOCAVA* voters in a country across states of legal residence constant, one would expect a positive association between electronic ballot request and obstacles to voting. Overall, about 69% of ballot requestors who responded to the survey were from states that had electronic ballot return options available. There is little evidence that this fraction increases with obstacles to voting. Only 38% of ballot returners from states that allow electronic ballot return actually return their ballot electronically. The percentage of those using electronic return options, when voting in states where these options are available, increases as obstacles increase. In the lowest obstacle countries, only about one-third (35%) take advantage of electronic return options available in their state. In countries with the highest voting obstacles, more than half (57%) use electronic return options allowed by their state.

14 Federal Voting Assistance Program (2017). "2018-2019 Voting Assistance Guide."

Figure 13. State Ballot Return Policy and Electronic Return Use by Level of Obstacles to Voting

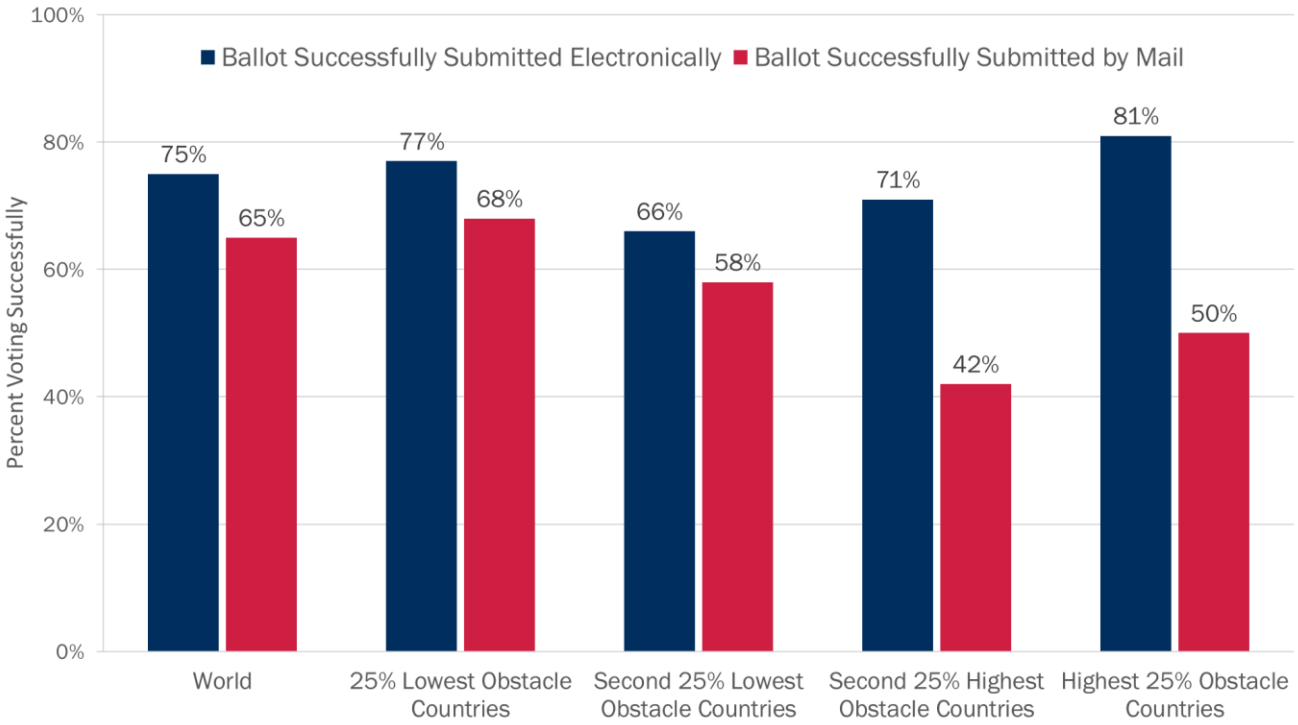


A key question is whether the ability to vote successfully relates to the voting options an individual has available. Prior FVAP research utilizing transaction-level absentee voting data has found that many electronic ballots are returned later than mail ballots.[15] This could reflect later receipt of absentee ballots by the ballot requester, and thus higher obstacles to voting faced by electronic ballot requesters. On the other hand, it could simply reflect electronic ballot requesters simply waiting longer to return their ballot because mail times are less of a concern, and thus the mode would have little effect on the probability that a vote was returned.

Globally, OCPS results indicate that those who report returning their absentee ballot by mail were less likely to have a vote recorded than those who report using an electronic method of ballot return. This is consistent with electronic return increasing the probability of having a vote recorded.

15 Federal Voting Assistance Program (2018). "Data Standardization and the Impact of Ballot Transmission timing and Mode on *UOCAVA* Voting." Available at https://www.fvap.gov/uploads/FVAP/Reports/609-ResearchNote11_DataStd_FINAL.pdf

Figure 14. Ballot Return Mode and Success by Level of Obstacles to Voting



The degree to which electronic ballot submission increased the probability of voting varied based on whether the respondent was in a high- or low-obstacle country. For OCPS respondents in the countries with the highest obstacles, the use of electronic return options is associated with a 60% higher probability of success, though the difference in voting rates are not statistically significant, perhaps due to the low number of respondents who returned a ballot from high-obstacle countries. By contrast, for those in countries where obstacles to voting are relatively low, electronic return options were associated with only a (statistically significant) 15% higher probability of success.

It is notable that even among those OCVAP who returned a ballot and for whom the option to return their ballot electronically was available, less than half choose to do so. This may imply that many *UOCAVA* voters, even those who are inclined to vote, are not aware of their options when it comes to modes of ballot return or may have other views on the relative success associated with electronic return. At a minimum, this research implies that procedural information is critical. Voters need to know what options are available and understand the obstacles that they face in the country they reside in and how they can best be overcome. Further exploring this phenomenon requires transactional data showing the dates and modes of ballot request and return, like the data collected as part of the FVAP data standardization project, which examines customer interactions with local election offices more directly using administrative records.[16]

16 Federal Voting Assistance Program (2018). "Data Standardization and the Impact of Ballot Transmission timing and Mode on *UOCAVA* Voting." Available at https://www.fvap.gov/uploads/FVAP/Reports/609-ResearchNote11_DataStd_FINAL.pdf

CONCLUSION AND IMPLICATIONS

This report analyzes the size and level of participation in the 2018 General Election of the population of non-military voting age U.S. citizens living abroad. FVAP is statutorily mandated to report on the overseas citizen absentee registration and voting rates, which has historically been difficult due to a lack of data on the size of the overseas voting population. This project is an effort to improve FVAP's mandatory reporting abilities and conduct additional, more detailed analysis of the OCVAP.

This study found that the OCVAP was approximately 2.9 million in 2018, of whom approximately 4.7% voted in the 2018 election versus approximately 65% of the CVAP. Based on the estimated relationship between proxies for mail reliability and OCVAP voting rates across countries, approximately 32% of the OCVAP would have voted if it were not for these obstacles to voting. This in turn implies that approximately half of the voting gap is due to OCVAP-specific obstacles to voting.

This report also found that absentee voters who returned their ballots electronically were disproportionately concentrated in high-obstacle countries, consistent with the theory that electronic modes of ballot return mitigate the effect of mailing related obstacles to voting. However, only a minority of voters who had the option to return their ballot electronically actually did so, with most still opting to return their ballot by mail. This speaks to a potential lack of awareness among absentee ballot returners concerning options for electronic modes of return—or larger concerns about electronic return. To the degree that those who lack awareness of effective modes of absent ballot request and return are less likely to even request an absentee ballot, a lack of procedural information among the broader OCVAP may explain at least part of the voting gap attributed to obstacles to voting. FVAP marketing efforts that target the broader OCVAP with information concerning options for modes of absentee ballot request, transmission, and return may mitigate this voting gap.

Next Steps

Given the findings from this study, the following research and outreach activities are recommended as next steps:

1. **Ensure that overseas citizens are aware of all voting mode options available to them.** Obstacles associated with differences in postal system infrastructure around the world can create barriers to voting from overseas. For the subset of overseas voters who are aware of and make use of electronic voting options, these policies may help them overcome the obstacles. However, many overseas voters may not be aware of the availability of electronic options for navigating the absentee voting process and how these might offer particular benefits to this at-risk population. FVAP and other elections stakeholders should ensure that overseas citizens are aware not only of their right to vote, but also of all the voting options available to *UOCAVA* voters in the state that they vote in.
2. **Promote use of the FPCA by overseas citizens as a means of registration and ballot request.** Awareness and use of the FPCA by *UOCAVA* voters can help guarantee that overseas citizens are granted full *UOCAVA* protections. Use of the FPCA ensures that *UOCAVA* ballots are transmitted to voters no later than 45 days before an election, allowing overseas citizens more time to navigate the voting process regardless of the voting mode they use. Additionally, use of the FPCA allows overseas voters to select from all available ballot delivery methods, reinforcing the first step.

3. **Assess overseas citizens' use of the FPCA versus state or other registration forms.** States differ in terms of the prerequisites for conveying *UOCAVA* protections. The extent to which states consistently classify overseas voters as *UOCAVA* voters if they use the state form to register instead of the FPCA has not been studied in detail. Future research should examine these processes and the types of forms overseas citizens are using to register in order to determine the impact that states' practices are having on the overseas vote to ensure the broadest level of awareness of benefits enacted since the passage of the *MOVE Act* of 2009.

FEATURES OF OVERSEAS BALLOT REQUESTERS: EVIDENCE FROM THE OVERSEAS CITIZEN POPULATION SURVEY

Introduction

Since 2014, the Federal Voting Assistance Program (FVAP) has fielded the Overseas Citizen Population Survey (OCPS) after every federal general election, seeking to describe the voting experiences of registered U.S. citizens who live abroad and requested an absentee ballot.

The OCPS consisted of 64 open- and close-ended questions asking respondents (1) the country in which they were located, (2) the length of time they resided outside of the U.S., (3) their absentee voting experiences and behavior leading up to the 2018 General Election, and (4) other relevant demographic information. FVAP uses this survey to collect specific, accurate information on voting-relevant demographic variables to make comparisons between the overseas, domestic, and active duty military (ADM) populations that are important to FVAP's mission. The OCPS provides important information on voting-related behaviors that can help FVAP better understand one of the populations it serves and explain different voting patterns among individuals covered by the *Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA),* observed across and within other countries. The survey instrument was designed to parallel FVAP's Post-Election Voting Survey of ADM (PEVS-ADM) and the Census Bureau's Current Population Survey (CPS), facilitating FVAP's ability to compare the registration and voting behavior of the overseas U.S. citizen civilian population, Citizen Voting Age Population (CVAP), and ADM.

The 2018 iteration differed slightly from previous years. While the 2014 instrument was a multi-mode (i.e., print and web) survey and the 2016 web-only iteration had a "treatment" and a "control" version of the instrument, the 2018 OCPS was a web-only survey with no treatment conditions. Like previous years, the 2018 OCPS was administered to a sample of 45,000 potential respondents.

Sample members received an initial mail contact directing them to a secure website to complete the online survey. Sample members who did not respond to the online survey were then sent up to 10 reminders, including emails, postcards sent to their international address, and a postcard sent to their domestic address on file. This was implemented to increase the overall response rate, as the sample included individuals who had been overseas during the 2018 General Election but had since moved back to the U.S. Reminder communications were sent approximately every two weeks. Those who had already completed the survey or who indicated they needed to be removed from the mailing list were cut from the mailing file before the third and fourth reminders were mailed. Table 6 provides a schedule of the OCPS communications plan and mailing dates.

Table 6. OCPS Communications Schedule

9/28/19	10/9/19	10/28/19	11/25/19	12/16/19	12/23/19	1/6/2020	1/20/2020
Invitation	Postcard/ Email	Postcard/ Email	Letter	Domestic Postcard	Postcard/ Email	Email	Email

Of the total sample of 45,000 individuals, 13,352 had a jurisdiction-provided email address. This subset of the sample was assigned to a mail-and-email contact mode, where two email reminders

replaced two of the international mail reminders. An additional 3,237 sample members without jurisdiction-provided email addresses had valid, commercially sourced email addresses on record. Of these, 1,648 were assigned to the above mail-and-email contact mode, while the remainder were assigned to the mail-only contact mode. Email communications used similar wording and design choices to their corresponding postal mail reminders. Sample members whose email communications bounced back were added back to postal mail files for subsequent reminder communications. This mixed-mode design[17] has significant benefits over soliciting potential respondents by email, as email-only contact can increase the potential for higher nonresponse bias and lower response rates. A mixed-mode design ensures that all registered U.S. civilians living overseas have a known probability of being contacted and have the potential to participate, rather than just those with a listed email address. For more information on survey sampling and weighting, see Volume 3.

Who are Overseas Ballot Requestors?

The OCPS included a series of demographics items (e.g., age, sex, race/ethnicity, and education) intended to describe the sample of 45,000 overseas citizens and for use in descriptive cross-tabulations. For a full breakdown of survey items by respondent demographics, see Volume 2.

Demographics

Survey results indicated that respondents were most commonly between the ages of 25 and 34 or 65 and up, married, employed, and highly educated. The next largest age group was individuals between 35 and 44 (18%). Individuals between the ages of 18 and 24 were the smallest proportion of the sample (9%). Over half (61%) of respondents were married, 28% had never been married, and 11% were either widowed, separated, or divorced. Almost half (46%) of respondents reported having a degree higher than a bachelor's degree, with a further 36% having obtained a bachelor's degree and 18% having less than a bachelor's degree.

Employed or retired individuals comprised over three quarters of all respondents; 64% reported working either full- or part-time jobs, and 18% were retired. Smaller proportions of respondents reported that they did not work due to caretaker responsibilities, disability, or being unable to work. A further 11% did not work for another unspecified reason. Of respondents who reported their income, 15% earned $19,999 or less, 41% earned between $20,000 and $74,999, and almost half (43%) earned over $75,000. Table 7 below provides a full demographic breakdown by region.

Table 7. Key Demographic Characteristics by World Region (N = 6,923)

	Overall	North America	South/Central America and Caribbean	Europe	Sub-Saharan Africa	Middle East / North Africa	North/Central / South Asia	East Asia	South East Asia	Oceania
Respondents	100%	18%	7%	47%	2%	6%	2%	7%	5%	7%
Age										
Age 18 to 24	9%	7%	8%	11%	12%	7%	11%	6%	3%	5%
Age 25 to 34	21%	18%	20%	22%	29%	14%	14%	27%	16%	21%

17 Lonna Rae Atkeson, Alex N. Adams, and R. Michael Alvarez, Nonresponse and Mode Effects in Self- and Interviewer-Administered Surveys, Political Analysis, published online May 28, 2014, doi: 10.1093/pan/mpt049.

Table 7. Key Demographic Characteristics by World Region (N = 6,923)										
	Overall	North America	South/Central America and Caribbean	Europe	Sub-Saharan Africa	Middle East / North Africa	North/Central / South Asia	East Asia	South East Asia	Oceania
Respondents	100%	18%	7%	47%	2%	6%	2%	7%	5%	7%
Age 35 to 44	18%	13%	12%	20%	21%	16%	21%	24%	16%	16%
Age 45 to 54	17%	13%	12%	19%	14%	19%	29%	19%	17%	15%
Age 55 to 64	16%	17%	18%	15%	8%	16%	11%	13%	20%	16%
Age 65 and up	20%	31%	29%	14%	16%	28%	14%	10%	27%	27%
Sex										
Male	45%	44%	47%	40%	38%	51%	53%	63%	62%	41%
Female	55%	56%	53%	60%	62%	49%	47%	37%	38%	59%
Income										
$0–$19,999	15%	10%	32%	15%	28%	16%	21%	11%	23%	5%
$20,000–$74,999	41%	35%	41%	42%	41%	45%	41%	51%	44%	36%
$75,000+	43%	56%	27%	42%	31%	40%	38%	38%	33%	59%
Race										
White	80%	85%	57%	85%	81%	92%	31%	66%	62%	87%
Black	2%	1%	8%	2%	10%	2%	0%	0%	1%	1%
Hispanic	7%	8%	32%	6%	2%	2%	1%	3%	3%	3%
Other Race	10%	6%	4%	7%	7%	4%	68%	30%	34%	9%
Education										
Less Than Bachelor's	18%	23%	23%	17%	11%	18%	9%	7%	21%	21%
Bachelor's Degree	36%	34%	38%	34%	38%	31%	32%	45%	44%	38%
More Than Bachelor's	46%	43%	39%	49%	51%	51%	59%	48%	35%	41%
Marital Status										
Married	61%	63%	54%	59%	52%	69%	63%	56%	67%	69%
Never Married	28%	23%	27%	31%	39%	20%	29%	38%	24%	20%
Other	11%	15%	19%	10%	9%	11%	8%	6%	9%	11%
Employment Status										
Employed	64%	58%	58%	66%	77%	61%	56%	87%	52%	62%
Retired	18%	29%	27%	13%	10%	22%	17%	3%	31%	22%
Unable/Caretaker[18]	7%	7%	6%	7%	5%	5%	13%	5%	10%	8%
Other	11%	6%	8%	14%	7%	12%	14%	5%	6%	8%

Living Abroad

This section delves into overseas citizen ballot requesters' lives outside of the U.S. by examining the reasons they were abroad during the 2018 General Election, the amount of time they had spent

18 This category collapses the "No, I was disabled," "No, I was unable to work," and "No, I was a caretaker or stay-at-home parent" response options.

living overseas, and the countries where those individuals held dual citizenship. Reasons for being overseas varied (e.g., dual citizenship, family-related reasons, employment opportunities), and OCPS asked respondents to choose from a broad list.[19]

A common reason for 2018 respondents to live abroad was to be with family; a quarter of all respondents lived abroad to be closer to their loved ones. Twenty-three percent of respondents cited employment as their primary reason for maintaining a residence outside the U.S. Given the high level of employment (64%) among overseas citizens, it is not surprising to see work cited as one of the primary motivators for living abroad. Of those overseas citizens who cited work as their primary reason for living abroad, 51% said that they lived outside the U.S. to obtain a job with a new employer, 24% were transferred by an employer, 5% owned a business, and 20% cited other work-related reasons. Additionally, data shows that 23% of respondents listed "other" reasons for living abroad, such as personal choice, quality of life concerns, and a combination of both family and work reasons. Sixteen percent of overseas citizens who requested absentee ballots cited being born overseas or being a citizen of a different country as their primary reason for living abroad. Finally, the least-cited reasons for living abroad include retirement (5%), education (5%), and missionary/volunteer activities (3%).

As noted, a common reason for living abroad was being born outside of the U.S. or having been a citizen of a different country. Accordingly, 42% of respondents reported that they held citizenship in the country they were residing in during the 2018 General Election, and 7% said that they held citizenship in a country other than the U.S. or their country of residence. Of the 61% of respondents with spouses, 37% reported that their spouse held U.S. citizenship, 70% reported that their spouse held citizenship in their country of residence, and 15% said that their spouse held citizenship in a country other than the U.S. and their country of residence. Additionally, of the 52% of respondents who have children, 85% reported that their children had U.S. citizenship, 67% said that their child had citizenship in the country of residence, and 11% said their child had citizenship in a country other than the U.S. or their country of residence.

Respondents were also asked to report the length of time they had lived abroad. This question was asked primarily to assess any relationship between time spent living overseas and the likelihood of successfully completing the absentee voting process. Thirty-one percent of respondents had lived in their country of residence for six years or less, 22% of respondents lived in their country of residence for six to 12 years, and 47% of respondents had lived in their country of residence for more than 12 years. Individuals over the age of 65 most often reported living in their country of residence for more than 12 years, and those aged 25 to 34 were the most likely to live in their country of residence for six years or less.

Participation in the 2018 General Election

Voting

In the 2016 OCPS, 83% of respondents reported that they definitely voted in the election. Respondent voting rates were lower in 2018, consistent with expected drop[20] between a presidential and midterm election. However, the Census Bureau reported higher voter turnout rates in the 2018 midterm election compared to the 2014 midterm election.[21] This is consistent with differences in

19 Questions 7 and 7A answer options were condensed into the seven categories reported in the Volume 2 topline tables.

20 Pew Research Center, (2014). "Voter Turnout Always Drops Off for Midterm Elections, but Why?" Available at https://www.pewresearch.org/fact-tank/2014/07/24/voter-turnout-always-drops-off-for-midterm-elections-but-why/

21 United States Census Bureau, (2019). "Voter Turnout Rates Among All Voting Age and Major Racial and Ethnic Groups Were Higher Than in 2014." Available at https://www.census.gov/library/stories/2019/04/behind-2018-united-states-midterm-election-turnout.html

voting participation reported in the 2014 and 2018 surveys; overall, 69% of 2018 respondents reported definitely voting, compared to 57% in 2014. Notably, 18% of respondents in 2014 reported not being sure whether they voted, compared to 9% in 2018. The higher number of "not sure" responses in 2014 may be a function of differences in question structuring and respondents not remembering which mode they voted by. [22]

Among survey respondents who requested an absentee ballot, 91% reported that they had submitted an absentee ballot for the 2018 General Election. Of those indicating voting and returning the ballot, 68% had a vote recorded in administrative vote history files. The rate of successful voting (i.e., the percentage of self-reported ballot returners identified as having cast a ballot in administrative records) varies across countries with differing obstacle levels.[23] Among those in countries with the lowest level of obstacles, approximately 70% of self-reported voters have a successful vote recorded, as compared to 60% from countries with the highest level of voting obstacles.

Of the subset of 2018 respondents who reported either not returning their absentee ballot or Federal Write-In Absentee Ballot (FWAB) or were unsure, older individuals (aged 65 and up) most often reported doing so because they did not want to vote. In comparison, respondents in the two youngest age categories (those aged 18 to 34) most often reported trying or wanting to vote, but not being able to complete the process. These respondents were also asked how confident they would be in their vote being counted had they voted. Most respondents (84%) answered they would be very confident or somewhat confident, comparable to the 81% of those who did vote being very confident or somewhat confident that their vote was counted as intended.

Furthermore, OCPS asked respondents who unsuccessfully tried to return a ballot to describe the reasons why they ultimately did not vote. About a quarter of those respondents (26%) reported not voting in the election because their absentee ballot arrived to their residence too late. This response was most common among respondents living in Sub-Saharan Africa. The most common reason for trying to vote and subsequently not voting overall was finding the absentee voting process too complicated (37%), especially among respondents aged 25 to 34 (61%) and those in East and South East Asia (51% and 52% respectively). The oldest respondents were the only age group to report not voting because they were not registered (9%).

Most respondents (66%) reported being very interested in the 2018 election,[24] while 22% reported being somewhat interested. This is lower than the results following the 2016 Presidential Election, but higher than the results following the previous 2014 Midterm Election. Regardless of interest, overseas citizens experience unique voting challenges that in-person voters would not have to experience. Respondents were asked to report whether they experienced voting obstacles such as not knowing how to obtain an absentee ballot, registration difficulties, and ballot request and transmission issues. Overall, younger respondents (aged 18 to 35) reported less knowledge about obtaining an absentee ballot, more difficulty registering to vote, and more difficulty requesting a ballot or completing an FPCA than other age groups. FWAB and FPCA awareness was low overall (20% and 31%) and at the subpopulation level, with no significant differences between 2016 and 2018.

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22 The 2018 questionnaire item had respondents choose from "Yes, definitely voted," "No, definitely did not vote," and "Not sure if voted" answer options. Its 2014 counterpart was a double-barreled item asking respondents to indicate the mode by which they voted. See the 2014 OCPA Report (https://www.fvap.gov/uploads/FVAP/Reports/FVAP-OCPA_201609_final.pdf) and the corresponding tables in Volume 2 of this report for detailed comparison.

23 This is based on the estimated fraction of likely OCVAP voters in the country who do not vote due to voting obstacles.

24 Interest in voting among OCPS respondents may not reflect the attitudes of all overseas citizens as the OCPS sample consists of absentee ballot requestors.

Absentee Ballots

OCPS contains a series of questions about absentee ballot requests, transmissions, and returns, seeking to understand how overseas citizens engage with the materials required for overseas voting. Although the OCPS sample is drawn from overseas U.S. citizens whose state voter files indicate they requested an absentee ballot, respondents were asked to confirm whether they requested one. Overall, 72% of respondents reported requesting an absentee ballot for the 2018 General Election, a decrease from 87% of respondents in 2016.[25] A further 15% reported that they did not request an absentee ballot and 12% reported being unsure. All respondents were then asked to report if they had expected to receive an absentee ballot automatically from an election official, and just over half (56%) of respondents reported that they did. This has increased since 2016, where 47% of respondents reported expecting to receive their absentee ballot automatically. Similarly, 40% of 2014 OCPS respondents reported receiving an absentee ballot automatically from a local election official (LEO). Fewer respondents reported requesting an absentee ballot from their country of residence for the first time in 2018 (32%) than respondents in 2016 (44%). Additionally, fewer 2018 respondents obtained a FWAB (28%) than 2016 respondents (36%).

Overseas citizens can request absentee ballots through multiple modes. Most respondents requested their absentee ballots electronically (65%), including 34% that requested a ballot on a state election website and 1% that requested by fax. Postal mail was a less common ballot request mode (17%). The oldest respondents (aged 65 and up) requested their ballots by postal mail more than other age groups (24% compared to 14–18%), while the youngest respondents (aged 18 to 24) were most likely to request a ballot by website; the proportion of those who requested ballots by website decreased as age increased.

Like in 2016, postal mail was the most common mode of ballot receipt in 2018. Sub-Saharan Africa was the only region where postal mail was not the most common; instead, most respondents in that region received their ballot by email. Respondents living in Sub-Saharan Africa also returned absentee ballots by email more than other regions and by postal mail less than other regions. Of respondents who submitted their ballots by mail, those in South/Central America / Caribbean, Sub-Saharan Africa, and North/Central/ South Asia reported using the country of residence's national mail service the least.

These results align with the findings related to countries with different levels of obstacles to voting, with obstacles being mostly related to postal service reliability. Although 81% of all respondents who reported requesting an absentee ballot said that they received their ballot for the 2018 General Election, those from low-obstacle countries experienced fewer issues receiving their ballots, with 84% of those from low-obstacle countries reporting receiving their ballots as compared to 68% in high-obstacle countries. Among those who reported receiving a ballot, modes of receipt varied depending on the level of obstacles within a country. More than half (57%) of those in low-obstacle countries who received an absentee ballot reported doing so by mail. In the highest obstacle countries, less than one-half (38%) reported receiving their ballot by mail. This difference is statistically significant. As obstacles increase, so did the percentage overseas U.S. citizens who reported receiving absentee ballots through an electronic mode.

25 For comparison, 43% of 2014 respondents reported requesting an absentee ballot. The 2014 survey question differed structurally from its 2016 and 2018 counterparts by having respondents indicate whether they did request an absentee ballot, whether they did not request one but received one automatically, whether they neither requested nor received one automatically, or whether they did not need an absentee ballot. The full breakdown of this survey question can be viewed in Volume 3 of the 2014 report (https://www.fvap.gov/uploads/FVAP/Reports/FVAP-OCPA_201609_final.pdf).

FVAP Resources

The percentage of 2018 respondents that were aware of FVAP was fairly low (36%) and consistent with 2016 respondents 39%, but higher than 2014 respondents (29%). Respondents in Sub-Saharan Africa and North/Central/South Asia were the most aware of FVAP, while respondents in North America and East Asia were the least aware. Individuals who visited the FVAP.gov website or used the FVAP Online Assistant Tool in anticipation of the 2018 General Election rated their satisfaction highly, consistent with 2016 respondents. Overall, 2018 respondents reported using FVAP products and services before the election more than 2016 respondents did.

However, respondents who were aware of FVAP reported lower usage of FVAP resources: 58% reported using FVAP.gov in 2018 compared to 67% in 2016, 33% reported using the FVAP Online Assistant Tool in 2018 compared to 41% in 2016, and 7% used FVAP staff support in 2018 compared to 10% in 2016.[26]

The use of resources, including FVAP.gov and state election websites, tended to decrease as age increased, as illustrated in Table 8.

Table 8. Use of Voting Resources by Age

	18–24	25–34	35–44	45–54	55–64	65 and up
FVAP.gov	68%	66%	64%	60%	52%	40%
FVAP staff support	12%	9%	8%	5%	6%	4%
FVAP Online Assistant Tool	43%	38%	35%	33%	28%	21%
State or local election office website	62%	60%	49%	46%	43%	36%
U.S. Government resources	10%	8%	7%	7%	7%	8%

Sources of Voting Information

In the months leading to the 2018 General Election, overseas citizens had the opportunity to access voting information through different channels and from different sources. The internet (not including social media) was the most-used source of information among survey respondents (35%), while newspapers, magazines, television, and radio were among the least popular sources of information, regardless of whether the they were U.S. media sources (used by 7% of respondents) or non-U.S. media sources (used by 6% of respondents).

The second most popular sources of voting information among respondents were LEOs or state

26 In 2014, all respondents were asked to indicate if they used FVAP products or services regardless of whether they were aware of FVAP or not. FVAP resource use was only reported by the 2016 and 2018 respondents that were aware of FVAP.

election officials (SEOs). When sending overseas ballots, SEOs and LEOs often include sample ballots or other supplementary voting information. Election offices also maintain websites or other online resources where voters can access more information about who and what is on their ballots. Thirty percent of all survey respondents reported receiving information from these officials, with higher percentages among males (34%) and older adults (33% or more among those aged 45 and up). Notably, males and older individuals were among the respondents that reported receiving voting procedure information from SEOs or LEOs at higher rates in 2016 and 2014 as well (see Table 9).

Table 9. Percent of Respondents that Received Voting Information from SEOs/LEOs

Year	All Respondents	Female	Male	Age 18–24	Age 25–34	Age 35–44	Age 45–54	Age 55–64	Age 65+
2018	30%	26%	34%	25%	22%	26%	33%	34%	38%
2016	27%	24%	31%	17%	20%	25%	29%	34%	36%
2014	48%	46%	51%	28%	42%	47%	49%	56%	53%

The use of the internet, particularly access to the internet through mobile devices such as phones and tablets, continues to be high, as 84% of respondents reported using it at least occasionally. The use of the internet on mobile devices increased compared to previous OCPS iterations (79% use in 2014 and 81% use in 2016). The high and widespread use of the internet is accompanied by high reliance on online resources to obtain voter information. Like in 2016, the internet (not including social media) was the most common source of information among respondents in 2018. This was particularly true for younger respondents, who reported higher rates of internet usage than older participants in 2018 (39% to 42% among age groups of ages 44 or less, compared to 27% to 35% among age groups of ages 45 or more).

Similarly, use of social media as a source for voting information was most common among younger respondents (22% of participants ages 18 to 24), and least common for older age groups (6% of participants 65 years old and up). Participants were also asked about their social media use when sharing political stories, posting comments on political issues, and other actions related to politics. Generally, about one-third of respondents reported engaging in such activities on social media, with the most common action being “liking” or promoting material related to political or social issues that others posted (45% of respondents reported having done that). Female respondents were more engaged than males in the use of social media to share or discuss political issues. In particular, 51% of females reported “liking” material related to politics or social issues compared to 37% of males, and 42% of females indicated that they had used social media to encourage other people to vote compared to 32% of males.

In addition to online interactions, respondents were asked to estimate their number of social connections. For OCPS purposes, this meant the number of voting age U.S. citizens that respondents knew in their country of residence. Over half of respondents reported knowing between one and 10 U.S. citizens, with only eight percent of respondents reporting not knowing any. When respondents were asked to report how many U.S. citizens they discussed absentee voting with, the greatest proportion responded one or two (33%) or none (32%).

Although discussion with other U.S. citizens tended to be low, participants tended to be more open to discussing voting procedures with family members or friends. Eighteen percent of respondents reported receiving information on the absentee voting process from family or friends in their country of residence, and 14% reported receiving such information from family or friends outside of that country. Younger respondents reported receiving absentee voting information from family or friends at considerably higher rates than older respondents. For example, 39% of respondents between the ages of 18 and 24 reported receiving information from family or friends, compared to only 17% of respondents between the ages of 35 and 44. This difference is probably related to older respondents having more experience and knowledge of the absentee voting process and younger respondents requiring more assistance in this process from more experienced family members or friends.

Among other sources used to receive information about the absentee voting process overseas, organizations of U.S. citizens living abroad remained popular, as one in four respondents reported having received information from these types of organizations. Eight percent of respondents reported receiving absentee information from candidates or parties, which is consistent with percentages in 2016, but a drop compared with 13% in 2014.

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APPENDIX A – COUNTRY AND STATE CATEGORIES

Countries and Regions

The 186 countries[27] used in this study are from the U.S. Department of State's official list of countries.[28] Areas missing from this list may not be officially recognized by the Department of State and thus were excluded from analysis due to challenges associated with collecting adequate data.

North America

Canada, Mexico

South/Central America / Caribbean

Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela

Europe

Albania, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom

Sub-Saharan Africa

Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe

Middle East / North Africa

Algeria, Armenia, Azerbaijan, Bahrain, Egypt, Georgia, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, Turkey, United Arab Emirates, Yemen

North/Central/South Asia

Afghanistan, Bangladesh, Bhutan, India, Kazakhstan, Kyrgyz Republic, Maldives, Nepal, Pakistan, Russia, Sri Lanka, Tajikistan, Turkmenistan, Uzbekistan

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27 Countries without estimates were those without sufficient data to predict the citizen population. See the first chapter of Volume 3 for a list of country-level predictors.

28 https://www.state.gov/misc/list/index.htm

East Asia

China, Hong Kong, Japan, Macau, Mongolia, South Korea, Taiwan

South East Asia

Brunei, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, Timor-Leste, Vietnam

Oceania

Australia, Fiji, Kiribati, Marshall Islands, Micronesia, New Zealand, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu

APPENDIX B – VARIABLES USED IN THE MODEL OF COUNTRY-LEVEL VOTING RATES

Variable	Description	Source(s)
Dependent Variable		
Voting Rate	Number of votes counted in 2018 General Election originating from host country/number of voting age eligible population residing in host country in 2018.	Numerator is taken from OCPS frame. See Chapter 3 of Volume 3; Denominator is imputed using model averaging methodology. See Chapter 1 of Volume 3.
Proxies for Obstacles to Voting		
Worldwide Governance Indicators	Mean of 1996–2018 averages of World Bank's Worldwide Governance Indicators	World Bank. See Chapter 1 of Volume 3.
Ln(Minimum Time to Respond)	Natural log of number of days that passed between when invitations to participate in the OCPS were sent and the first survey start from a respondent in the country who was contacted by mail.	Computed from the OCPS using start date. See text.
Control Variables		
Ln(Distance to the United States)	Natural log of minimum straight-line distance between U.S.–host country agglomeration pair. Agglomerations are taken from 2014 United Nations Urbanization Prospects.	City agglomerations and their locations are taken from the United Nations Urbanization Prospects. See Chapter 1 of Volume 3
Ln(GDP per capita), U.S. – Ln(GDP per capita), Host Country	Difference in natural log of GDP per capita of the host country and that of the U.S. in 2018.	World Bank World Development Indicator and Penn World Tables. See Chapter 1 of Volume 3.
English	Indicator for whether English is a primary language in the country.	Ethnologue. See Chapter 1 of Volume 3.
Spanish	Indicator for whether Spanish is a primary language in the country.	Ethnologue. See Chapter 1 of Volume 3.
Region of the World	Indicators for the country's region of the world as defined by the U.S. Department of State.	Appendix A
Fraction of CVAP with Post-Secondary Education	Fraction of eligible population in the country with post-secondary educational attainment.	Imputed as part of OCPA. See Chapter 1 of Volume 3.
Fraction of CVAP that is Male	Fraction of eligible population in the country that is male.	Imputed as part of OCPA. See Chapter 1 of Volume 3.
Fraction of CVAP, Age 25–64	Fraction of eligible population in the country whose age is between 25–64.	Imputed as part of OCPA. See Chapter 1 of Volume 3.

Fraction of CVAP, Age 65+	Fraction of eligible population in the country whose age is 65 or greater.	Imputed as part of OCPA. See Chapter 1 of Volume 3.
Ln(Eligible Population)	Natural log of # of voting age eligible population residing in host country in 2018.	Imputed using model averaging methodology. See Chapter 1 of Volume 3.
Ln(Country Population)	Natural log of country's total population.	Penn World Tables. See Chapter 1 of Volume 3.

APPENDIX C – VOTING GAP DECOMPOSITION METHODOLOGY

This appendix presents the model used to generate predictions of the obstacles gap. The following model is fitted using fractional logistic regression:[29]

$$Voting\ Rate_i = \frac{e^{\beta_1 Ln(Min\ Mailing\ Time)_i + \beta_2 WGI_i + \beta_3 (Ln(Min\ Mailing\ Time)_i * WGI_i) + \beta X_i + constant}}{1 + e^{\beta_1 Ln(Min\ Mailing\ Time)_i + \beta_2 WGI_i + \beta_3 (Ln(Min\ Mailing\ Time)_i * WGI_i) + \beta X_i + constant}}$$

$Voting\ Rate_i$ is the 2018 voting rates of OCVAP residing in country i. Obstacles are operationalized by two variables. The first, $Ln(Min\ Mailing\ Time)_i$, is the natural log of the minimum time it took a 2018 OCPS respondent to respond to the survey after invitations to take the survey were mailed, a proxy for between-country mailing times.[30] This variable captures the influence of mailing times between the U.S. and the country of residence on the probability that someone votes. The second variable is the country's mean Worldwide Governance Indicator (WGI), which is an index of governance quality based on multiple surveys and expert opinions (see Volume 3). The WGI captures various institutional and infrastructural aspects of a country that may impact the probability that a blank requested ballot is received by a *UOCAVA* voter once entering the country of residence or that a completed ballot successfully leaves the country of residence. These may include various aspects of mail reliability (e.g., road quality and mail transport time, mail theft, government censorship). Because between-country mailing times would conceivably only influence the probability that a ballot is received and returned on time if the ballot successfully navigates the mailing system of the country of residence, the effect of between-country mailing times is allowed to vary based on the country's WGI.

X_i are a set of control variables that might be related to differences in the perceived benefit of voting across countries. These include: *Ln(distance between the country and the U.S.)*; difference in *Ln(GDP per capita)* between host country and the United States; indicators for whether the country speaks English or Spanish; indicators for the region of the world that the country is in; the imputed fraction of OCVAP with post-secondary education; the imputed fraction of OCVAP that is male; and the imputed fractions of population that are age 25–64 and 65+. Description as sources for the predictor variables are reported in Appendix A.

Once the model is fitted, predictions for what each country's voting rate would have been if (1) OCPS mailing times were only 6 days (the minimum mailing time observed in the data) for all countries and (2) WGI for all countries was that of the country with the max WGI. [31] The estimate of obstacle-free OCVAP voting rate is the average of these predicted voting rates weighted by the size of the eligible population. In other words, the model is used to predict what participation would be if long mailing times or mail unreliability were not an obstacle to OCVAP voting.

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29 Model fit using Stata's fracreg command. Countries are weighted by the size of their estimated OCVAP. The sample is weighted in order to mitigate the effect of sampling variability associated with low-population countries and obtain a representative estimate of the effect of obstacles to voting on vote rates.

30 This variable is not available for countries for which there was not at least one 2016 OCPS respondent. For these countries, this variable was imputed through a linear regression model, where the predictor included: (logged) distance between the country and the U.S.; difference in (logged) GDP per capita between the country and the U.S.; mean WGI; and region of the world fixed effects. The 2016 OCPS is used rather than the 2018 OCPS because more countries had at least one respondent in the 2016 OCPS.

31 In practice, generating this prediction involves adjusting the log-odds of voting in the country for a change in obstacle variables. For countries with zero votes, the voting rate is zero and the log-odds are undefined. For these countries, the baseline (before adjustment) log-odds were set such that the implied voting rate was 1%.

APPENDIX D – EVIDENCE FOR OBSTACLES TO VOTING USING EVIDENCE FROM AROUND TIME OF MIGRATION

This appendix presents evidence that the voting gap is at least partly explained by obstacles to voting and not just differences in motivation to vote. The methodology involves comparing voting rates from the 2014 General Election of individuals who had recently emigrated (recent migrants) from the United States and are thus outside the United States to a group who had not yet emigrated but would soon do so (future migrants).[32] Because individuals in both groups emigrated around the same time, differences in voting rates are less likely to be explained by pre-emigration differences in motivation to vote. And because individuals in the OCVAP group are comprised of recent migrants, it is unlikely that the overseas group's motivation to vote has been affected by spending long period outside the United States. For these reasons, the differences in voting rates can be plausibly attributed to obstacles to voting associated with residing outside the United States.

Data used in this analysis is drawn from the OCPS sample. A benefit of this survey is that it includes detailed questions about individuals' migration history, which allows the determination of whether a respondent was residing within the United States or within their 2018 country of residence for each midterm and presidential election in the period 2000–2016. In addition, vote history for the OCPS sample is available for many respondents for the period 2000–2018, which allows one to account for any differences in voting history for each group in the period before migration. The OCPS subsample used for this analysis includes respondents who were residing in the United States in November 2012 and whose only post-2010 destination country was their 2018 country of residence. Within this sample, the 2014 voting rates of individuals who reported being in the United States in November 2014 is compared to that of individuals who resided in their 2018 country of residence in November 2014.

Specifically, the data for this subsample is used to fit the following logistic model:

$$P(Voted_{2014}|Overseas_{2012}=0) = \frac{e^{\beta_1 Overseas_{2014}+\beta_2 Voted_{2012}+\beta_3 Voted_{2010}+\beta_4 Voted_{2012}*Voted_{2010}+\beta X}}{1+e^{\beta_1 Overseas_{2014}+\beta_2 Voted_{2012}+\beta_3 Voted_{200810}+\beta_4 Voted_{2012}*Voted_{2010}+\beta X}}$$

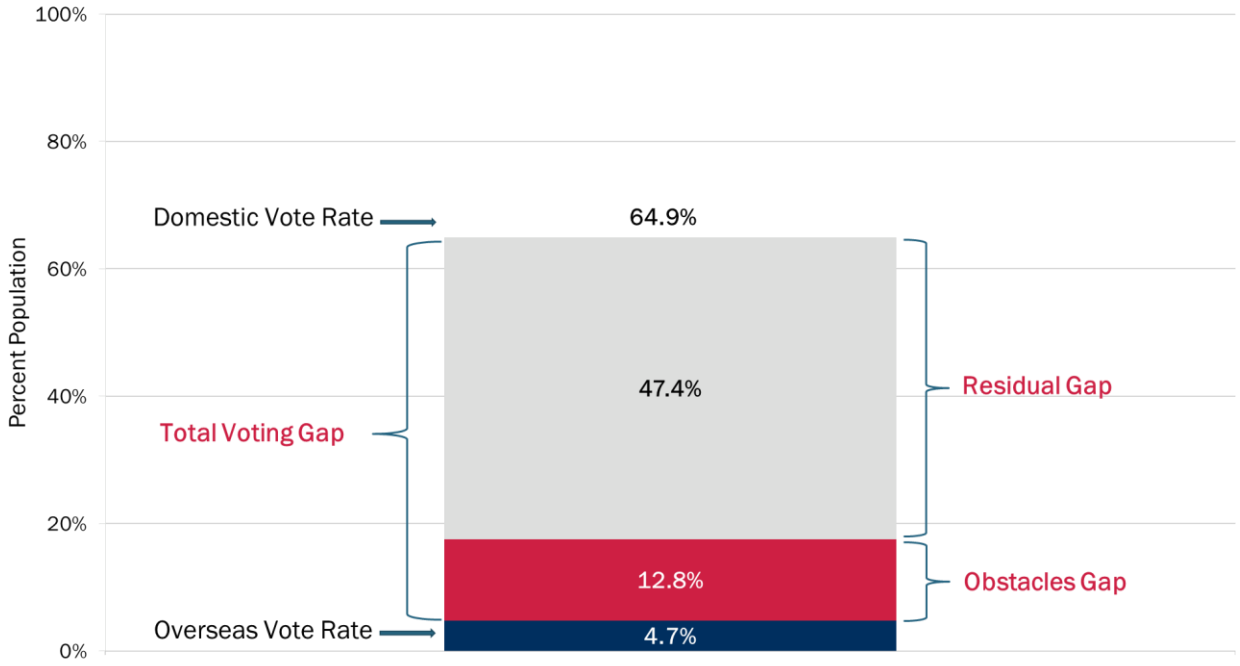
Where *X* includes a set of demographic and geographic controls (age, age squared, sex, race/ethnicity, educational attainment, and 2018 state of legal residence). The estimation sample is weighted such that both the overseas and U.S. groups are representative of the 2018 total eligible population with respect to the WGI, mailing time, and region of their 2018 country of residence.

The model is then used to generate predicted voting rates assuming the entire estimation sample overseas (15%) or in the United States (55%). The estimated voting rates imply that for every overseas voter, there were 3.71 (calculated as 55% / 15% = 3.71) overseas residents who would have voted had they been in the United States. Given the estimated participation rate of the

32 One concern with this strategy is that the estimate may be capturing the effect of mobility, rather than overseas obstacles per se. To mitigate this concern, a similar model is estimated, but restricted to OCPS respondents who were outside the U.S. in 2012. Individuals who remained outside the U.S. are thus compared to those who returned to the U.S. between November 2012 and November 2014. If mobility were driving the results, then the overseas group would be expected to have a higher predicted probability of voting, because they were immobile relative to the domestic group. The results indicate statistically significantly lower voting rates among the overseas group, which is consistent with the effect of being outside the United States, rather than mobility.

OCVAP was 4.7%, this implies that if there were no obstacles that were specific to overseas voting, the participation rate would have been 17.5%. The implied obstacles gap is 12.8 percentage points, while the implied residual gap was 47.4 percentage points. This decomposition is also consistent with differences in motivation explaining the overwhelming majority of the voting gap between the OCVAP and non-*UOCAVA* CVAP population.

Figure D1. Decomposition of the Voting Gap using Migrant Sub-Sample



However, there is strong reason to believe that the obstacles gap is underestimated and the residual gap overestimated when using this methodology. The primary drawback of this methodology is that the OCPS sample is drawn from the population of overseas absentee ballot requesters in 2018. These are individuals who requested an absentee ballot in 2018, and thus might not be representative of the overseas eligible population with respect to obstacles to voting or motivation to vote. Specifically, because OCPS respondents attempted to vote and successfully requested an absentee ballot, the obstacles to voting associated with residing outside the U.S. for these individuals may be less likely to affect the voting rate than the general eligible population, because absentee ballot requesters perceived enough benefit in voting that they would attempt to vote regardless. This implies that the resulting obstacles gap is underestimated and the residual gap overestimated. A related concern is that because data on voting comes from the 2014 election, obstacles and motivation of the OCVAP in 2014 may not be representative of obstacles and motivation in 2018. Also, the FPCA, FWAB, and other voting resources are not consistently available in languages other than English, and the survey was conducted only in English; therefore, obstacles related to support for limited English proficiency overseas voters may not be fully captured.

The primary benefit of this decomposition methodology over the methodology presented in the main body of the text, which compares voting rates among OCVAP in countries with different levels of obstacles, is that it uses information about the actual voting behavior of a group residing in the U.S. that is comparable to the geographically representative overseas population. This means the counterfactual voting rate is independent of the overseas-specific obstacles to voting, unlike the

counterfactual absentee ballot request rate generated from the cross-country model. This is because all of the data for the cross-country analysis comes from individuals who are residing outside the United States and probably still reflects obstacles to voting. In addition, although individuals residing in high- and low-obstacle countries may differ with respect to features associated with the motivation to vote, the two weighted samples compared in the migration analysis are similar with respect to the timing of their migration as well as features of their destination countries, and thus are less likely to differ with respect to motivation to vote.

APPENDIX E – ADMINISTRATIVE CVAP VOTING RATE

As discussed in the main body of this report, our baseline *UOCAVA* CVAP participation rate is based on various administrative data, while our baseline CVAP participation rate is based on self-reported participation taken from survey data. This section presents alternative estimates of the participation rate based on an administrative-based estimate of the CVAP participation rate. To obtain an administrative-based estimate of the participation rate for the CVAP, this report uses data from the United States Elections Project (USEP).[33]

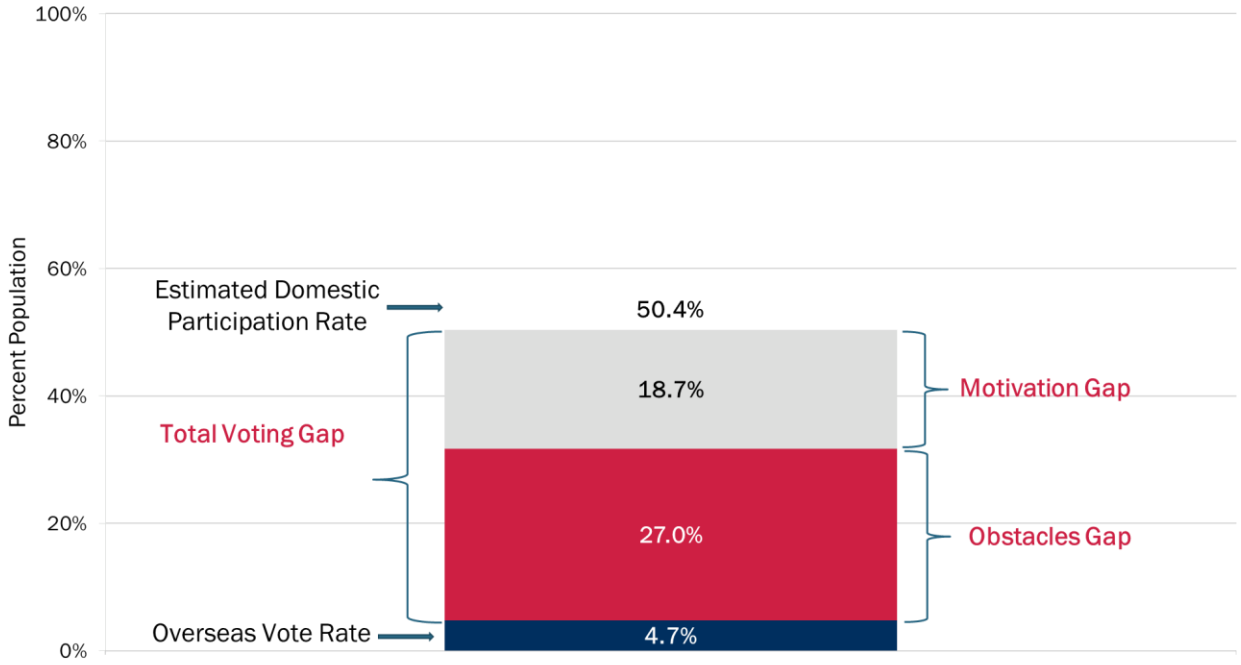
The starting point for the size of the CVAP is the domestic voting age population, which the USEP reports as being 255,801,552. Then, the approximately 7.9% of this population that are non-citizens are excluded. Because the comparison of interest is to CVAP who have an option to vote non-absentee, this count is further reduced by excluding the domestic *UOCAVA* ADM population. This estimate of the domestic *UOCAVA* voters reported is obtained from the 2018 Post-Election Voting Survey of Active Duty Military (pg.99) and is approximately 745,192. This results in a total CVAP of approximately 234,848,040.

For the total number of votes attributable to this population, the starting point is the 118,581,921 votes counted in the 2018 General Election. From this total, the approximately 135,507 votes attributed to the OCVAP are subtracted. In addition, votes attributed to the *UOCAVA* ADM population are excluded. The number of votes attributable to the *UOCAVA* ADM population is taken from the 2018 FVAP LEO-Quant report. As a result, an additional 117,764 votes are excluded, resulting in a final estimate of 118,328,650 votes originating from the CVAP.

To calculate the participation rate for the domestic population, the total 118,328,650 votes cast are divided by the estimated size of the domestic population. This results in an estimated domestic participation rate of approximately 50%. Figure E1 presents an alternative decomposition based on the baseline administrative CVAP participation rate. The primary difference between the decompositions using the survey and administrative CVAP participation rates is that a smaller fraction of the gap in the administrative-based decomposition is ascribed to differences in motivation between the two populations.

[33] Data available at http://www.electproject.org/2018g

Figure E1. Decomposition using Administrative CVAP Participation Rate



APPENDIX F- VOTING GAPS UNDER ALTERNATIVE OCVAP VOTING RATES

The baseline estimates for the participation rates for the OCVAP and CVAP reveal a voting gap between the two populations of approximately 60 percentage points. Put another way, these initial estimates imply that the domestic population is approximately 14 times more likely to vote.

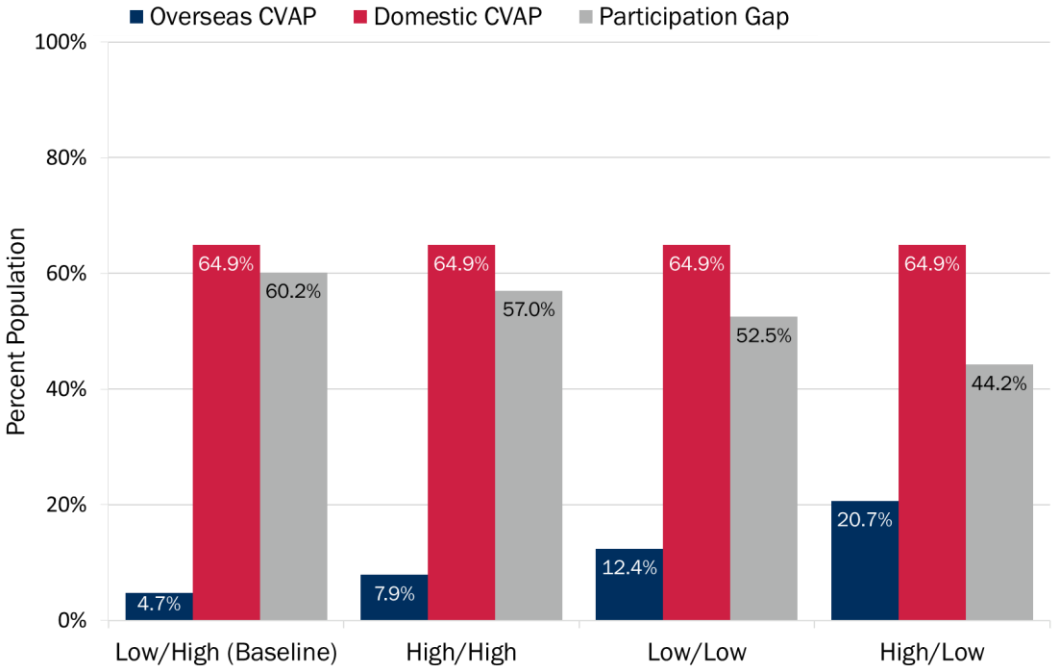
To test whether the magnitude of the estimated gap is sensitive to the choices concerning how to measure the participation rate, alternative measures of the numerator (# of votes) and denominator (size of the population) are employed. Specifically, the baseline numerator for the OCVAP participation rate is used as a "Low" estimate, while the baseline denominator is defined as the "High" estimate. "High" and "Low" estimates of the numerator and denominator respectively are then substituted into the OCVAP participation rate to observe how small the voting gap can conceivably be.

For the "High" estimate of the numerator, the count of returned and non-rejected regular absentee ballots and FWABs from FVAP's 2018 Quantitative Local Election Officials Survey (225,855) is used. This count is not used as the baseline numerator because it is likely inflated by (1) the fact that it is unclear what criteria the SEOs and LEOs who responded to the survey used to identify civilian *UOCAVA*, and (2) some degree of double counting between different fields of the survey. These problems are less severe with the individual-level data used to generate the baseline numerator, though it is conceivable that the LEO Survey count includes votes that were not identified in the search of absentee ballot request/return files.

For the "Low" estimate of the denominator of the OCVAP participation rate, the total number of individuals who are estimated to have reported foreign income to the IRS or individuals who claimed social security benefits from an overseas address (1,092,206 in 2018) is used. This is not used as a baseline estimate due to the fact that is almost surely an undercount that only includes individuals who are (1) employed or retired and (2) reside overseas for a long enough period of time to make their overseas address their permanent address.

Alternative participation rates for the OCVAP based on different combinations of "High" and "Low" numerators and denominators are presented in Figure F1. Regardless of how the participation rate is measured, the voting gap between the OCVAP and CVAP remains considerable. Even under the highest estimate of the OCVAP participation rate, the CVAP is almost two times as likely to have voted in 2018 than OCVAP. The estimates are thus consistent with the existence of a substantial difference in the level of participation between the two populations.

Figure F1. Voting Gap under Different Assumptions



2018 Overseas Citizen Population Analysis

Volume 2: Tabulation of Survey Results

TABULATION OF SURVEY RESULTS

The 2018 Overseas Citizen Population Survey (OCPS) was distributed to 45,000 overseas citizens who requested an absentee ballot for the 2018 General Election. Conducted as a part of the Federal Voting Assistance Program's (FVAP) analysis of the overseas citizen voting process, the OCPS asked respondents questions about (1) the country in which they were located, (2) the length of time they had resided outside of the U.S., (3) their absentee voting experiences and behaviors leading up to the 2018 General Election, and (4) other relevant demographic information. Results for key survey items are reported in this volume, broken down by demographic subpopulations based on age, sex, income, race, education, marital status, and world region. Sample sizes (*N*) are included for each question and footnotes indicate which items were only shown to subsets of respondents. A full narrative of survey results is available in Volume 1 of this report.

Respondent Demographics[34] This table provides a breakdown of survey respondents by world region and key demographics. [*N* = 6,923]. World regions: (1) North America; (2) South/Central America and Caribbean; (3) Europe; (4) Sub-Saharan Africa; (5) Middle East / North Africa; (6) North/Central/South Asia; (7) East Asia; (8) South East Asia; (9) Oceania

Key Characteristics by World Region										
	Overall	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondents	100%	18%	7%	47%	2%	6%	2%	7%	5%	7%
Age										
Age 18 to 24	9%	7%	8%	11%	12%	7%	11%	6%	3%	5%
Age 25 to 34	21%	18%	20%	22%	29%	14%	14%	27%	16%	21%
Age 35 to 44	18%	13%	12%	20%	21%	16%	21%	24%	16%	16%
Age 45 to 54	17%	13%	12%	19%	14%	19%	29%	19%	17%	15%
Age 55 to 64	16%	17%	18%	15%	8%	16%	11%	13%	20%	16%
Age 65 and up	20%	31%	29%	14%	16%	28%	14%	10%	27%	27%
Sex										
Male	45%	44%	47%	40%	38%	51%	53%	63%	62%	41%
Female	55%	56%	53%	60%	62%	49%	47%	37%	38%	59%
Income										
$0–$19,999	15%	10%	32%	15%	28%	16%	21%	11%	23%	5%
$20,000–$74,999	41%	35%	41%	42%	41%	45%	41%	51%	44%	36%
$75,000+	43%	56%	27%	42%	31%	40%	38%	38%	33%	59%
Race										
White	80%	85%	57%	85%	81%	92%	31%	66%	62%	87%
Black	2%	1%	8%	2%	10%	2%	0%	0%	1%	1%
Hispanic	7%	8%	32%	6%	2%	2%	1%	3%	3%	3%
Other Race	10%	6%	4%	7%	7%	4%	68%	30%	34%	9%
Education										
Less Than Bachelor's	18%	23%	23%	17%	11%	18%	9%	7%	21%	21%
Bachelor's Degree	36%	34%	38%	34%	38%	31%	32%	45%	44%	38%
More Than Bachelor's	46%	43%	39%	49%	51%	51%	59%	48%	35%	41%
Marital Status										
Married	61%	63%	54%	59%	52%	69%	63%	56%	67%	69%
Never Married	28%	23%	27%	31%	39%	20%	29%	38%	24%	20%
Other	11%	15%	19%	10%	9%	11%	8%	6%	9%	11%

34 Information on age, sex, and country of residence was obtained from the survey frame. Other demographic variables were obtained from survey responses: race (Q30 and Q31), income (Q38), education (Q32), and marital status (Q34).

Q2. What was the last month and year in which your primary residence was in the United States? *Please estimate if you are unsure of the exact month and year.* [*N* =6,684]

Years Living Outside of the United States			
	6 years or less	6+ to 12 years	More than 12 years
Respondents	28%	21%	51%
Age			
Age 18 to 24	53%	13%	34%
Age 25 to 34	51%	31%	18%
Age 35 to 44	28%	33%	38%
Age 45 to 54	18%	20%	62%
Age 55 to 64	17%	15%	68%
Age 65 and up	12%	12%	76%
Sex			
Male	25%	23%	52%
Female	30%	20%	50%
Region			
North America	21%	20%	59%
South/Central America / Caribbean	36%	25%	39%
Europe	27%	21%	52%
Sub-Saharan Africa	54%	19%	27%
Middle East / North Africa	22%	19%	60%
North/Central/South Asia	34%	25%	41%
East Asia	32%	26%	42%
South East Asia	32%	27%	41%
Oceania	24%	22%	54%
Income			
$0–$19,999	43%	19%	38%
$20,000–$74,999	28%	22%	50%
$75,000+	24%	23%	54%
Race			
White	26%	20%	54%
Black	42%	24%	35%
Hispanic	37%	28%	35%
Other Race	35%	24%	41%
Education			
Less Than Bachelor's	24%	19%	58%
Bachelor's Degree	32%	21%	47%
More Than Bachelor's	26%	22%	52%
Marital Status			
Married	22%	23%	55%
Never Married	44%	21%	35%
Other	18%	15%	66%

Q2A. Was your primary residence also outside of the United States during the following dates? (1) November 2000 [*N* =4,209] (2) November 2002 [*N* =3,938] (3) November 2004 [*N* =3,635] (4) November 2006 [*N* =3,238] (5) November 2008 [*N* =2,815] (6) November 2010 [*N* =2,419] (7) November 2012 [*N* =1,952] (8) November 2014 [*N* =1,393] (9) November 2016 [*N* =790][35]

Primary Residence Out of the United States in Previous Elections[36]									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondents	18%	17%	18%	17%	18%	17%	18%	19%	17%
Age									
Age 18 to 24	25%	28%	29%	25%	26%	21%	20%	24%	15%
Age 25 to 34	18%	17%	17%	15%	16%	15%	19%	19%	18%
Age 35 to 44	17%	17%	18%	17%	16%	17%	17%	17%	15%
Age 45 to 54	17%	16%	18%	17%	18%	18%	19%	23%	19%
Age 55 to 64	19%	16%	16%	17%	17%	16%	17%	12%	16%
Age 65 and up	16%	14%	13%	13%	14%	14%	17%	22%	28%
Sex									
Male	18%	18%	18%	17%	17%	19%	20%	20%	20%
Female	18%	17%	18%	17%	18%	15%	17%	19%	15%
Region									
North America	18%	16%	16%	17%	19%	17%	17%	17%	16%
South/Central America / Caribbean	16%	15%	14%	14%	11%	12%	16%	17%	26%
Europe	19%	19%	19%	17%	18%	16%	17%	17%	13%
Sub-Saharan Africa	20%	18%	17%	17%	20%	22%	27%	21%	24%
Middle East / North Africa	20%	19%	21%	19%	20%	17%	19%	34%	24%
North/Central/South Asia	22%	23%	20%	25%	26%	21%	22%	26%	39%
East Asia	15%	15%	17%	15%	15%	15%	19%	22%	18%
South East Asia	18%	18%	19%	20%	20%	20%	26%	34%	32%
Oceania	14%	12%	13%	13%	14%	16%	18%	13%	4%
Income									
$0–$19,999	20%	21%	21%	19%	17%	15%	18%	22%	18%
$20,000–$74,999	18%	16%	17%	16%	17%	16%	18%	18%	18%
$75,000+	18%	17%	17%	16%	17%	17%	18%	17%	16%
Race									
White	17%	16%	17%	16%	17%	15%	17%	17%	15%
Black	18%	19%	18%	17%	21%	29%	25%	24%	17%
Hispanic	21%	21%	19%	18%	18%	15%	19%	15%	25%
Other Race	22%	21%	22%	20%	21%	20%	22%	31%	24%
Education									
Less Than Bachelor's	19%	21%	20%	17%	17%	16%	18%	26%	14%
Bachelor's Degree	18%	17%	17%	17%	17%	15%	16%	15%	16%
More Than Bachelor's	18%	17%	17%	16%	18%	18%	20%	20%	20%
Marital Status									
Married	17%	16%	17%	17%	17%	17%	19%	19%	18%
Never Married	20%	19%	19%	18%	19%	17%	17%	21%	17%
Other	20%	16%	14%	13%	12%	13%	13%	12%	19%

35 This question was shown to participants that reported moving out of the U.S. after November 2000 in Q2. Participants were only asked about the years before they reported moving out of the U.S. in Q2.

36 Percentages reflect respondents reporting "yes" to living outside of the United States.

Q4. In which month and year did you *last* move to [COUNTRY]? *Please estimate if you are unsure of the exact month and year.* [*N* = 6,640]

Years in Country of Residence			
	6 years or less	6+ to 12 years	More than 12 years
Respondents	31%	22%	47%
Age			
Age 18 to 24	53%	12%	35%
Age 25 to 34	56%	27%	17%
Age 35 to 44	33%	34%	33%
Age 45 to 54	21%	23%	56%
Age 55 to 64	20%	17%	63%
Age 65 and up	15%	13%	72%
Sex			
Male	29%	23%	47%
Female	33%	20%	46%
Region			
North America	22%	21%	57%
South/Central America / Caribbean	40%	24%	36%
Europe	32%	21%	47%
Sub-Saharan Africa	61%	16%	24%
Middle East / North Africa	25%	20%	55%
North/Central/South Asia	40%	22%	38%
East Asia	35%	26%	39%
South East Asia	40%	28%	32%
Oceania	27%	24%	50%
Income			
$0–$19,999	48%	17%	35%
$20,000–$74,999	31%	22%	47%
$75,000+	27%	23%	49%
Race			
White	30%	21%	50%
Black	43%	22%	34%
Hispanic	41%	28%	31%
Other Race	40%	24%	36%
Education			
Less Than Bachelor's	26%	20%	54%
Bachelor's Degree	35%	21%	44%
More Than Bachelor's	31%	23%	46%
Marital Status			
Married	26%	23%	50%
Never Married	47%	20%	32%
Other	21%	17%	62%

Q4A. Was your primary residence also in [COUNTRY] during the following dates? (1) November 2000 [*N* =1,062] (2) November 2002 [*N* =966] (3) November 2004 [*N* =929] (4) November 2006 [*N* =888] (5) November 2008 [*N* =856] (6) November 2010 [*N* =782] (7) November 2012 [*N* =715] (8) November 2014 [*N* =568] (9) November 2016 [*N* =283][37]

Primary Residence in Current Country During Previous Elections[38]									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondents	50%	48%	47%	42%	38%	37%	34%	32%	31%
Age									
Age 18 to 24	54%	50%	52%	52%	48%	41%	34%	43%	36%
Age 25 to 34	62%	59%	56%	53%	49%	43%	37%	25%	18%
Age 35 to 44	44%	42%	41%	33%	31%	30%	29%	29%	32%
Age 45 to 54	47%	44%	42%	35%	31%	33%	30%	30%	27%
Age 55 to 64	46%	47%	47%	47%	36%	37%	33%	34%	42%
Age 65 and up	44%	38%	39%	38%	34%	34%	41%	48%	56%
Sex									
Male	48%	46%	44%	41%	36%	32%	30%	28%	29%
Female	52%	49%	49%	44%	40%	41%	37%	36%	31%
Region									
North America	60%	66%	68%	56%	39%	48%	51%	42%	34%
South/Central America / Caribbean	56%	52%	66%	57%	44%	43%	42%	53%	52%
Europe	48%	44%	42%	38%	34%	32%	29%	28%	18%
Sub-Saharan Africa	34%	36%	34%	35%	33%	28%	25%	24%	38%
Middle East / North Africa	46%	52%	44%	41%	40%	34%	31%	35%	34%
North/Central/South Asia	59%	46%	48%	39%	47%	39%	52%	59%	64%
East Asia	59%	58%	45%	49%	51%	47%	47%	24%	38%
South East Asia	47%	41%	45%	37%	40%	37%	29%	35%	47%
Oceania	46%	39%	43%	50%	54%	44%	34%	24%	29%
Income									
$0–$19,999	49%	45%	49%	46%	43%	35%	35%	38%	33%
$20,000–$74,999	54%	53%	52%	45%	45%	45%	44%	39%	35%
$75,000+	47%	45%	42%	38%	28%	29%	24%	20%	22%
Race									
White	47%	47%	46%	42%	37%	33%	32%	29%	27%
Black	42%	47%	44%	46%	35%	44%	52%	45%	23%
Hispanic	67%	46%	49%	42%	36%	38%	35%	47%	46%
Other Race	55%	51%	45%	43%	42%	45%	42%	37%	38%
Education									
Less Than Bachelor's	50%	53%	52%	47%	45%	48%	46%	49%	30%
Bachelor's Degree	55%	50%	49%	46%	42%	36%	34%	31%	39%
More Than Bachelor's	45%	43%	42%	38%	33%	32%	31%	28%	26%
Marital Status									
Married	47%	46%	44%	39%	34%	32%	29%	28%	30%
Never Married	55%	51%	53%	51%	47%	46%	42%	36%	28%

37 This question was shown to participants who reported moving to current country of residence after November 2000 in Q4. Participants were only asked about the years before they reported moving to current country of residence in Q4 and if they did not respond "No" to equivalent question for that year in Q2A.

38 Percentages reflect respondents reporting "yes" to living in current country of residence.

Other	51%	47%	43%	38%	31%	34%	38%	52%	56%

Q5. In which month and year did you *last* move to your current address? *Please estimate if you are unsure of the exact month and year.* [*N* = 6,540]

Years at Current Address			
	6 years or less	6+ to 12 years	More than 12 years
Respondents	54%	19%	27%
Age			
Age 18 to 24	69%	7%	24%
Age 25 to 34	85%	9%	6%
Age 35 to 44	65%	26%	9%
Age 45 to 54	44%	26%	30%
Age 55 to 64	38%	20%	42%
Age 65 and up	28%	20%	52%
Sex			
Male	51%	20%	28%
Female	56%	17%	26%
Region			
North America	49%	20%	31%
South/Central America / Caribbean	52%	22%	26%
Europe	55%	17%	27%
Sub-Saharan Africa	73%	12%	15%
Middle East / North Africa	41%	20%	39%
North/Central/South Asia	50%	23%	27%
East Asia	61%	22%	18%
South East Asia	56%	26%	19%
Oceania	58%	15%	28%
Income			
$0–$19,999	62%	16%	21%
$20,000–$74,999	53%	18%	29%
$75,000+	54%	20%	26%
Race			
White	53%	19%	29%
Black	61%	19%	20%
Hispanic	59%	19%	22%
Other Race	61%	19%	20%
Education			
Less Than Bachelor's	45%	21%	34%
Bachelor's Degree	60%	16%	24%
More Than Bachelor's	53%	20%	27%
Marital Status			
Married	48%	21%	30%
Never Married	71%	13%	17%
Other	42%	20%	38%

Q5A. Was your primary residence also at this address during the following dates? (1) November 2000 [*N* =5,018] (2) November 2002 [*N* =4,846] (3) November 2004 [*N* =4,600] (4) November 2006 [*N* =4,271] (5) November 2008 [*N* =3,887] (6) November 2010 [*N* =3,547] (7) November 2012 [*N* =*3,103*] (8) November 2014 [*N* =2,521] (9) November 2016 [*N* =1,631][39]

Primary Residence at Current Address During Previous Elections[40]									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondents	7%	7%	7%	7%	7%	7%	8%	9%	10%
Age									
Age 18 to 24	13%	13%	12%	13%	12%	10%	10%	13%	10%
Age 25 to 34	6%	6%	6%	5%	5%	5%	6%	6%	8%
Age 35 to 44	4%	3%	3%	4%	4%	4%	5%	6%	5%
Age 45 to 54	6%	6%	7%	7%	7%	7%	7%	10%	15%
Age 55 to 64	9%	10%	10%	9%	10%	10%	11%	11%	11%
Age 65 and up	11%	10%	11%	11%	11%	10%	14%	18%	21%
Sex									
Male	7%	7%	7%	7%	7%	7%	8%	9%	10%
Female	7%	7%	7%	7%	7%	7%	7%	9%	10%
Region									
North America	8%	8%	7%	7%	7%	7%	8%	9%	8%
South/Central America / Caribbean	12%	13%	12%	13%	11%	10%	13%	18%	22%
Europe	7%	6%	6%	6%	6%	6%	6%	8%	8%
Sub-Saharan Africa	5%	6%	6%	7%	6%	7%	9%	7%	12%
Middle East / North Africa	8%	10%	10%	8%	9%	9%	11%	16%	16%
North/Central/South Asia	11%	10%	10%	9%	15%	10%	12%	15%	18%
East Asia	5%	6%	6%	6%	7%	6%	7%	4%	8%
South East Asia	12%	11%	13%	13%	11%	10%	13%	19%	23%
Oceania	3%	5%	5%	4%	3%	5%	4%	4%	6%
Income									
$0–$19,999	11%	11%	11%	11%	10%	8%	11%	12%	12%
$20,000–$74,999	8%	7%	7%	7%	7%	7%	8%	9%	12%
$75,000+	6%	6%	6%	6%	6%	6%	7%	7%	7%
Race									
White	6%	7%	7%	6%	6%	6%	7%	7%	8%
Black	7%	6%	5%	6%	7%	14%	15%	15%	20%
Hispanic	14%	13%	11%	10%	11%	11%	12%	16%	12%
Other Race	9%	9%	9%	9%	10%	9%	10%	13%	14%
Education									
Less Than Bachelor's	11%	12%	11%	12%	12%	12%	13%	15%	15%
Bachelor's Degree	8%	8%	7%	7%	7%	6%	7%	8%	10%
More Than Bachelor's	6%	6%	6%	5%	6%	6%	7%	7%	8%
Marital Status									

[39] This question was shown to participants who reported moving to current address after November 2000 in Q5. Participants were only asked about the years before they reported moving to current address in Q5 and if they did not respond "No" to equivalent question for that year in Q4A.

[40] Percentages reflect respondents reporting "yes" to living in current address.

Married	6%	6%	6%	6%	6%	6%	7%	7%	8%
Never Married	10%	10%	9%	9%	9%	9%	9%	10%	11%
Other	10%	10%	9%	8%	8%	8%	8%	11%	13%

Q6. In the 12 months before November 6, 2018, how many times had you traveled to the United States? [*N* = 6,830]

Number of Travels to the U.S. in Previous Year				
	None	One	Two	Three or more
Respondents	25%	33%	19%	23%
Age				
Age 18 to 24	37%	31%	19%	13%
Age 25 to 34	22%	36%	20%	23%
Age 35 to 44	23%	36%	19%	22%
Age 45 to 54	21%	34%	22%	23%
Age 55 to 64	21%	32%	19%	27%
Age 65 and up	33%	26%	17%	24%
Sex				
Male	27%	32%	18%	23%
Female	24%	33%	21%	22%
Region				
North America	11%	15%	20%	54%
South/Central America / Caribbean	20%	28%	19%	33%
Europe	28%	37%	20%	16%
Sub-Saharan Africa	32%	40%	19%	9%
Middle East / North Africa	31%	33%	19%	17%
North/Central/South Asia	36%	37%	17%	10%
East Asia	22%	41%	20%	17%
South East Asia	34%	41%	16%	9%
Oceania	34%	38%	18%	10%
Income				
$0–$19,999	39%	34%	14%	13%
$20,000–$74,999	29%	36%	18%	17%
$75,000+	16%	29%	23%	32%
Race				
White	25%	33%	20%	22%
Black	24%	29%	18%	29%
Hispanic	22%	30%	21%	27%
Other Race	27%	33%	19%	21%
Education				
Less Than Bachelor's	35%	30%	14%	20%
Bachelor's Degree	25%	35%	19%	22%
More Than Bachelor's	22%	32%	22%	25%
Marital Status				
Married	23%	32%	20%	25%
Never Married	28%	35%	19%	19%

Other	30%	31%	16%	23%

Q7. What was the *primary reason* that you were in [COUNTRY] on November 6, 2018? Was it because you, a partner, and/or a family member…? (1) Could be with family (2) Was born overseas/citizen of destination country (3) Could retire (4) Could go to school (5) Employment (6) Missionary/volunteer activities (7) Other reason [*N* = 6,896] (Based on Q7/Q7A)

Reason for Being Outside the United States							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Respondents	25%	16%	5%	5%	23%	3%	23%
Age							
Age 18 to 24	25%	27%	0%	26%	8%	4%	11%
Age 25 to 34	18%	20%	0%	9%	26%	4%	22%
Age 35 to 44	25%	15%	0%	2%	32%	3%	22%
Age 45 to 54	31%	14%	1%	1%	31%	3%	20%
Age 55 to 64	27%	12%	5%	0%	26%	3%	25%
Age 65 and up	27%	13%	18%	0%	11%	3%	29%
Sex							
Male	22%	13%	6%	4%	28%	3%	23%
Female	28%	18%	3%	5%	19%	3%	23%
Region							
North America	26%	21%	7%	5%	19%	1%	22%
South/Central America / Caribbean	28%	10%	14%	4%	15%	8%	20%
Europe	26%	18%	2%	6%	21%	2%	24%
Sub-Saharan Africa	13%	6%	3%	1%	34%	30%	12%
Middle East / North Africa	24%	16%	4%	2%	22%	7%	25%
North/Central/South Asia	40%	7%	6%	2%	22%	4%	20%
East Asia	11%	4%	1%	3%	58%	2%	20%
South East Asia	26%	3%	18%	2%	27%	9%	14%
Oceania	29%	19%	1%	3%	15%	1%	30%
Income							
$0–$19,999	26%	15%	5%	17%	7%	7%	23%
$20,000–$74,999	26%	17%	6%	4%	18%	4%	24%
$75,000+	24%	15%	3%	2%	34%	1%	21%
Race							
White	24%	17%	4%	4%	24%	3%	23%
Black	26%	12%	6%	2%	21%	4%	29%
Hispanic	32%	15%	6%	8%	16%	2%	21%
Other Race	31%	12%	4%	8%	26%	3%	16%
Education							
Less Than Bachelor's	36%	19%	7%	7%	9%	2%	20%
Bachelor's Degree	26%	16%	4%	5%	21%	5%	24%
More Than Bachelor's	21%	15%	4%	4%	30%	2%	23%
Marital Status							

Married	28%	16%	5%	1%	24%	3%	22%
Never Married	17%	19%	1%	13%	23%	5%	21%
Other	29%	11%	10%	1%	18%	1%	30%

Q8. Did you vote in the November 6, 2018 General Election? [*N* = 6,906]

	Voted		
	Yes, definitely voted	No, definitely did not vote	Not sure if I voted
Respondents	69%	22%	9%
Age			
Age 18 to 24	68%	23%	10%
Age 25 to 34	70%	21%	9%
Age 35 to 44	67%	22%	11%
Age 45 to 54	71%	21%	8%
Age 55 to 64	70%	21%	9%
Age 65 and up	68%	22%	10%
Sex			
Male	69%	23%	9%
Female	70%	21%	10%
Region			
North America	71%	21%	8%
South/Central America / Caribbean	65%	27%	8%
Europe	74%	17%	10%
Sub-Saharan Africa	66%	26%	8%
Middle East / North Africa	60%	28%	13%
North/Central/South Asia	56%	33%	10%
East Asia	60%	30%	10%
South East Asia	58%	32%	9%
Oceania	68%	23%	9%
Income			
$0–$19,999	63%	26%	10%
$20,000–$74,999	67%	22%	10%
$75,000+	72%	19%	8%
Race			
White	71%	20%	9%
Black	68%	21%	12%
Hispanic	62%	27%	12%
Other Race	57%	31%	12%
Education			
Less Than Bachelor's	61%	26%	13%
Bachelor's Degree	68%	22%	10%
More Than Bachelor's	73%	19%	8%
Marital Status			
Married	70%	21%	9%

Never Married	70%	21%	9%
Other	63%	26%	11%

Q9. Did you request an absentee ballot for the November 6, 2018 General Election? [*N* = 6,882]

Absentee Ballot Request			
	Yes	No	Not sure
Respondents	72%	15%	12%
Age			
Age 18 to 24	77%	10%	12%
Age 25 to 34	74%	13%	13%
Age 35 to 44	72%	14%	14%
Age 45 to 54	73%	15%	12%
Age 55 to 64	71%	17%	12%
Age 65 and up	67%	21%	11%
Sex			
Male	72%	17%	12%
Female	73%	14%	13%
Region			
North America	71%	18%	11%
South/Central America / Caribbean	71%	18%	11%
Europe	75%	13%	12%
Sub-Saharan Africa	79%	13%	9%
Middle East / North Africa	63%	21%	15%
North/Central/South Asia	67%	14%	19%
East Asia	71%	15%	14%
South East Asia	67%	14%	18%
Oceania	71%	16%	13%
Income			
$0–$19,999	69%	16%	14%
$20,000–$74,999	72%	16%	12%
$75,000+	75%	14%	11%
Race			
White	73%	15%	12%
Black	78%	15%	7%
Hispanic	68%	18%	15%
Other Race	66%	14%	20%
Education			
Less Than Bachelor's	70%	18%	12%
Bachelor's Degree	71%	15%	14%
More Than Bachelor's	74%	15%	11%
Marital Status			
Married	72%	16%	12%
Never Married	76%	11%	13%
Other	65%	23%	12%

Q9A. Did you expect to receive an absentee ballot automatically from an election official for the November 6, 2018 General Election? [*N* = 6,898]

Automatic Ballot			
	Yes	No	Not sure
Respondents	56%	29%	15%
Age			
Age 18 to 24	52%	30%	17%
Age 25 to 34	49%	34%	18%
Age 35 to 44	54%	31%	15%
Age 45 to 54	58%	26%	16%
Age 55 to 64	64%	25%	11%
Age 65 and up	62%	24%	15%
Sex			
Male	57%	27%	15%
Female	55%	30%	15%
Region			
North America	56%	32%	12%
South/Central America / Caribbean	59%	28%	13%
Europe	56%	29%	15%
Sub-Saharan Africa	52%	35%	14%
Middle East / North Africa	61%	23%	15%
North/Central/South Asia	63%	22%	15%
East Asia	51%	27%	21%
South East Asia	59%	25%	16%
Oceania	53%	29%	18%
Income			
$0–$19,999	57%	28%	15%
$20,000–$74,999	56%	28%	15%
$75,000+	56%	30%	14%
Race			
White	56%	30%	14%
Black	62%	24%	14%
Hispanic	59%	24%	18%
Other Race	58%	23%	19%
Education			
Less Than Bachelor's	62%	23%	14%
Bachelor's Degree	56%	29%	15%
More Than Bachelor's	54%	31%	15%
Marital Status			
Married	57%	29%	14%
Never Married	52%	30%	17%
Other	59%	26%	15%

Q9B. How did you request an absentee ballot for the November 6, 2018 General Election? [*N* = 5,196][41]

	Absentee Ballot Request Mode				
	Mail	Email	Website	Fax	I'm unsure how I submitted an absentee ballot request.
Respondents	17%	30%	34%	1%	19%
Age					
Age 18 to 24	16%	23%	45%	1%	16%
Age 25 to 34	14%	32%	40%	1%	13%
Age 35 to 44	14%	25%	39%	0%	22%
Age 45 to 54	16%	27%	34%	0%	23%
Age 55 to 64	18%	34%	29%	1%	18%
Age 65 and up	24%	34%	19%	0%	23%
Sex					
Male	17%	30%	34%	1%	18%
Female	16%	30%	34%	0%	20%
Region					
North America	17%	31%	31%	0%	21%
South/Central America / Caribbean	18%	37%	28%	2%	16%
Europe	17%	29%	35%	1%	18%
Sub-Saharan Africa	10%	39%	37%	1%	13%
Middle East / North Africa	18%	30%	28%	1%	23%
North/Central/South Asia	21%	30%	32%	1%	16%
East Asia	13%	30%	39%	2%	16%
South East Asia	19%	31%	31%	0%	19%
Oceania	12%	33%	34%	1%	19%
Income					
$0–$19,999	21%	27%	37%	1%	14%
$20,000–$74,999	16%	32%	32%	1%	19%
$75,000+	16%	31%	34%	0%	19%
Race					
White	17%	31%	33%	1%	19%
Black	29%	26%	34%	1%	10%
Hispanic	11%	35%	34%	2%	18%
Other Race	19%	21%	40%	1%	20%
Education					
Less Than Bachelor's	20%	29%	31%	0%	20%
Bachelor's Degree	16%	29%	36%	1%	18%
More Than Bachelor's	16%	31%	33%	1%	19%
Marital Status					
Married	17%	31%	33%	0%	19%
Never Married	16%	30%	37%	1%	16%
Other	19%	30%	27%	1%	24%

41 This question was shown to respondents who answered "yes" to whether they requested an absentee ballot for the November 6, 2018 General Election (Q9).

Q9C. Was this the first time you requested an absentee ballot while living in [COUNTRY]?
[*N* = 5,196][42]

Absentee Ballot Request Experience		
	Yes	No
Respondents	32%	68%
Age		
Age 18 to 24	64%	36%
Age 25 to 34	44%	56%
Age 35 to 44	32%	68%
Age 45 to 54	23%	77%
Age 55 to 64	23%	77%
Age 65 and up	17%	83%
Sex		
Male	29%	71%
Female	34%	66%
Region		
North America	30%	70%
South/Central America / Caribbean	41%	59%
Europe	30%	70%
Sub-Saharan Africa	50%	50%
Middle East / North Africa	31%	69%
North/Central/South Asia	46%	54%
East Asia	29%	71%
South East Asia	32%	68%
Oceania	29%	71%
Income		
$0–$19,999	47%	53%
$20,000–$74,999	31%	69%
$75,000+	29%	71%
Race		
White	30%	70%
Black	45%	55%
Hispanic	40%	60%
Other Race	39%	61%
Education		
Less Than Bachelor's	40%	60%
Bachelor's Degree	35%	65%
More Than Bachelor's	26%	74%
Marital Status		
Married	26%	74%
Never Married	45%	55%

42 This question was shown to respondents who answered "yes" to whether they requested an absentee ballot for the November 6, 2018 General Election (Q9).

Other	24%	76%

Q10. Did you receive an absentee ballot from an election official for the November 6, 2018 election? [*N* = 6,894]

Absentee Ballot Receipt			
	Yes	No	Not sure
Respondents	67%	15%	18%
Age			
Age 18 to 24	62%	16%	23%
Age 25 to 34	66%	14%	20%
Age 35 to 44	65%	14%	20%
Age 45 to 54	68%	13%	19%
Age 55 to 64	69%	16%	15%
Age 65 and up	67%	18%	15%
Sex			
Male	67%	16%	17%
Female	66%	15%	19%
Region			
North America	70%	17%	13%
South/Central America / Caribbean	59%	21%	20%
Europe	68%	13%	19%
Sub-Saharan Africa	67%	17%	16%
Middle East / North Africa	58%	18%	23%
North/Central/South Asia	59%	18%	23%
East Asia	63%	16%	20%
South East Asia	65%	18%	17%
Oceania	68%	15%	17%
Income			
$0–$19,999	62%	19%	18%
$20,000–$74,999	66%	15%	19%
$75,000+	69%	14%	17%
Race			
White	68%	14%	17%
Black	64%	21%	15%
Hispanic	58%	21%	21%
Other Race	62%	15%	23%
Education			
Less Than Bachelor's	61%	20%	20%
Bachelor's Degree	67%	14%	19%
More Than Bachelor's	69%	14%	16%
Marital Status			
Married	68%	15%	17%
Never Married	66%	13%	21%
Other	62%	21%	18%

Q10A. Did you obtain a Federal Write-In Absentee Ballot (FWAB) for the November 6, 2018 election? [*N* = 6,847]

	FWAB Receipt		
	Yes	No	Not sure
Respondents	28%	27%	45%
Age			
Age 18 to 24	29%	22%	50%
Age 25 to 34	25%	23%	52%
Age 35 to 44	25%	27%	48%
Age 45 to 54	28%	25%	47%
Age 55 to 64	30%	29%	40%
Age 65 and up	30%	34%	35%
Sex			
Male	27%	30%	43%
Female	29%	25%	46%
Region			
North America	27%	31%	42%
South/Central America / Caribbean	29%	30%	41%
Europe	29%	24%	47%
Sub-Saharan Africa	27%	28%	45%
Middle East / North Africa	29%	30%	40%
North/Central/South Asia	30%	27%	43%
East Asia	23%	26%	51%
South East Asia	23%	32%	45%
Oceania	29%	27%	44%
Income			
$0–$19,999	28%	25%	47%
$20,000–$74,999	28%	27%	45%
$75,000+	28%	28%	44%
Race			
White	28%	27%	45%
Black	42%	28%	31%
Hispanic	28%	27%	45%
Other Race	25%	25%	50%
Education			
Less Than Bachelor's	30%	27%	43%
Bachelor's Degree	28%	26%	46%
More Than Bachelor's	27%	28%	45%
Marital Status			
Married	28%	29%	43%
Never Married	27%	21%	52%
Other	29%	34%	37%

Q10B. How did you receive your absentee ballot or obtain a Federal Write-In Absentee Ballot (FWAB) for the November 6, 2018 General Election? [*N* = 5,180][43]

Absentee Ballot Receipt Mode					
	Mail	Email	Website	Fax	Not Sure
Respondents	53%	34%	6%	0%	7%
Age					
Age 18 to 24	52%	39%	4%	0%	5%
Age 25 to 34	47%	40%	7%	0%	6%
Age 35 to 44	49%	36%	7%	0%	7%
Age 45 to 54	54%	32%	5%	0%	10%
Age 55 to 64	55%	33%	6%	0%	6%
Age 65 and up	63%	26%	3%	0%	7%
Sex					
Male	53%	33%	7%	0%	7%
Female	54%	34%	5%	0%	7%
Region					
North America	53%	34%	5%	0%	8%
South/Central America / Caribbean	46%	42%	5%	1%	6%
Europe	56%	32%	5%	0%	7%
Sub-Saharan Africa	28%	58%	7%	1%	6%
Middle East / North Africa	55%	31%	4%	0%	10%
North/Central/South Asia	43%	37%	10%	0%	10%
East Asia	47%	38%	8%	1%	7%
South East Asia	45%	40%	7%	0%	8%
Oceania	55%	30%	7%	0%	7%
Income					
$0–$19,999	60%	28%	4%	0%	8%
$20,000–$74,999	54%	34%	5%	0%	6%
$75,000+	50%	36%	6%	0%	8%
Race					
White	53%	35%	5%	0%	7%
Black	50%	38%	3%	1%	8%
Hispanic	54%	36%	5%	0%	5%
Other Race	58%	28%	7%	0%	8%
Education					
Less Than Bachelor's	63%	25%	4%	0%	8%
Bachelor's Degree	52%	35%	6%	0%	8%
More Than Bachelor's	51%	37%	6%	0%	6%
Marital Status					
Married	54%	33%	5%	0%	8%
Never Married	49%	39%	6%	0%	6%
Other	58%	30%	4%	1%	7%

43 This question was shown to respondents who answered "yes" to either receiving an absentee ballot from an election official or obtaining a FWAB for the November 6, 2018 General Election (Q10, Q10A)

Q11. Did you return your absentee ballot or Federal Write-In Absentee Ballot (FWAB) for the November 6, 2018 General Election? [*N* = 5,177][44]

Absentee Ballot Submit			
	Yes	No	Not sure
Respondents	87%	9%	4%
Age			
Age 18 to 24	82%	12%	7%
Age 25 to 34	88%	9%	4%
Age 35 to 44	85%	10%	5%
Age 45 to 54	87%	8%	5%
Age 55 to 64	86%	10%	4%
Age 65 and up	87%	9%	4%
Sex			
Male	87%	8%	4%
Female	86%	10%	4%
Region			
North America	91%	7%	3%
South/Central America / Caribbean	85%	11%	5%
Europe	89%	7%	4%
Sub-Saharan Africa	86%	11%	3%
Middle East / North Africa	80%	13%	7%
North/Central/South Asia	82%	11%	7%
East Asia	82%	13%	5%
South East Asia	72%	23%	5%
Oceania	82%	14%	5%
Income			
$0–$19,999	81%	13%	6%
$20,000–$74,999	85%	11%	5%
$75,000+	90%	7%	4%
Race			
White	88%	8%	4%
Black	88%	8%	5%
Hispanic	82%	14%	4%
Other Race	76%	17%	6%
Education			
Less Than Bachelor's	85%	11%	4%
Bachelor's Degree	85%	11%	4%
More Than Bachelor's	89%	7%	4%
Marital Status			
Married	88%	8%	4%
Never Married	85%	10%	5%

44 This question was shown to respondents who answered "yes" to either receiving an absentee ballot from an election official or obtaining a FWAB for the November 6, 2018 General Election (Q10, Q10A).

Other	85%	11%	4%

Q11A. How did you return your absentee ballot or Federal Write-In Absentee Ballot (FWAB) for the November 6, 2018 General Election? [*N* = 4,663][45]

Absentee Ballot Submit Mode					
	Mail	Email	Website	Fax	I'm unsure how I submitted an absentee ballot.
Respondents	68%	18%	3%	6%	5%
Age					
Age 18 to 24	70%	21%	4%	3%	3%
Age 25 to 34	63%	22%	3%	8%	4%
Age 35 to 44	65%	20%	3%	8%	4%
Age 45 to 54	64%	19%	3%	7%	8%
Age 55 to 64	69%	17%	3%	7%	4%
Age 65 and up	77%	12%	1%	5%	4%
Sex					
Male	67%	19%	2%	7%	5%
Female	69%	18%	3%	6%	5%
Region					
North America	67%	18%	3%	6%	6%
South/Central America / Caribbean	59%	23%	2%	12%	3%
Europe	73%	16%	2%	5%	4%
Sub-Saharan Africa	55%	31%	3%	6%	5%
Middle East / North Africa	65%	19%	3%	7%	6%
North/Central/South Asia	58%	23%	3%	9%	6%
East Asia	66%	16%	4%	9%	4%
South East Asia	58%	24%	2%	12%	4%
Oceania	59%	26%	3%	4%	7%
Income					
$0–$19,999	67%	19%	4%	5%	4%
$20,000–$74,999	70%	18%	2%	6%	4%
$75,000+	66%	19%	3%	6%	6%
Race					
White	68%	19%	2%	6%	5%
Black	65%	21%	0%	7%	7%
Hispanic	65%	16%	2%	9%	8%
Other Race	67%	15%	4%	11%	3%
Education					
Less Than Bachelor's	70%	17%	3%	4%	6%
Bachelor's Degree	68%	17%	2%	8%	4%
More Than Bachelor's	67%	20%	2%	6%	5%
Marital Status					
Married	69%	18%	2%	6%	5%
Never Married	66%	20%	3%	7%	5%

45 This question was shown to respondents who answered "yes" to whether they returned their absentee ballot or FWAB for the November 6, 2018, General Election (Q11).

Other	70%	17%	3%	7%	4%

Q11B. What type of mail service did you use to submit your absentee ballot? (1) National mail service owned or operated by the government of [COUNTRY] (2) FedEx, UPS, DHL or other private delivery carrier (3) Mail service provided by the U.S. Government in [COUNTRY] (e.g., U.S. consulate, military base) (4) Other [*N* = 3,184][46]

Absentee Ballot Mail Type				
	(1)	(2)	(3)	(4)
Respondents	84%	4%	6%	6%
Age				
Age 18 to 24	88%	3%	5%	4%
Age 25 to 34	82%	4%	7%	7%
Age 35 to 44	78%	7%	9%	7%
Age 45 to 54	85%	5%	4%	6%
Age 55 to 64	83%	4%	6%	7%
Age 65 and up	86%	3%	6%	6%
Sex				
Male	84%	5%	7%	5%
Female	84%	4%	6%	7%
Region				
North America	83%	3%	5%	9%
South/Central America / Caribbean	55%	8%	16%	21%
Europe	90%	3%	4%	3%
Sub-Saharan Africa	32%	8%	46%	13%
Middle East / North Africa	66%	9%	13%	12%
North/Central/South Asia	47%	23%	24%	7%
East Asia	84%	6%	7%	4%
South East Asia	84%	6%	5%	5%
Oceania	91%	2%	4%	3%
Income				
$0–$19,999	83%	5%	8%	4%
$20,000–$74,999	83%	5%	6%	6%
$75,000+	85%	4%	6%	6%
Race				
White	86%	3%	6%	5%
Black	56%	15%	12%	17%
Hispanic	70%	7%	7%	16%
Other Race	76%	7%	11%	6%
Education				
Less Than Bachelor's	86%	3%	6%	5%
Bachelor's Degree	83%	5%	6%	6%
More Than Bachelor's	83%	4%	6%	6%
Marital Status				
Married	84%	4%	6%	6%
Never Married	82%	4%	8%	6%
Other	85%	4%	5%	6%

46 This question was shown to respondents who answered "mail" to how they returned their absentee ballot or FWAB (Q11A).

Q11C. For the election held on November 6, 2018, did you complete and submit a ballot at a polling station in the United States on Election Day? [*N* = 500][47]

Voted at a Poll in the United States			
	Yes	No	Not sure
Respondents	3%	93%	4%
Age			
Age 18 to 24	1%	99%	0%
Age 25 to 34	7%	91%	2%
Age 35 to 44	1%	92%	7%
Age 45 to 54	2%	91%	7%
Age 55 to 64	4%	91%	5%
Age 65 and up	2%	95%	3%
Sex			
Male	2%	92%	6%
Female	4%	93%	3%
Region			
North America	2%	98%	0%
South/Central America / Caribbean	6%	94%	0%
Europe	4%	90%	6%
Sub-Saharan Africa	2%	95%	3%
Middle East / North Africa	6%	88%	6%
North/Central/South Asia	2%	87%	11%
East Asia	2%	98%	0%
South East Asia	0%	97%	3%
Oceania	0%	94%	6%
Income			
$0–$19,999	1%	93%	6%
$20,000–$74,999	3%	93%	4%
$75,000+	3%	93%	4%
Race			
White	2%	93%	5%
Black	8%	78%	14%
Hispanic	9%	91%	0%
Other Race	1%	97%	3%
Education			
Less Than Bachelor's	3%	93%	4%
Bachelor's Degree	3%	95%	3%
More Than Bachelor's	3%	91%	6%
Marital Status			
Married	3%	93%	5%
Never Married	3%	94%	3%
Other	5%	91%	5%

47 This question was shown to respondents who answered "No" or "Not sure" to whether they returned their absentee ballot or FWAB for the November 6, 2018, General Election (Q11).

Q12. What was the *main reason* you did not vote in the November 6, 2018 General Election? [*N* = 447][48]

	Reason Did Not Vote	
	I tried/wanted to vote but did not or could not complete the process	I did not want to vote
Respondents	69%	31%
Age		
Age 18 to 24	86%	14%
Age 25 to 34	82%	18%
Age 35 to 44	69%	31%
Age 45 to 54	73%	27%
Age 55 to 64	61%	39%
Age 65 and up	50%	50%
Sex		
Male	70%	30%
Female	69%	31%
Region		
North America	62%	38%
South/Central America / Caribbean	78%	22%
Europe	68%	32%
Sub-Saharan Africa	88%	12%
Middle East / North Africa	66%	34%
North/Central/South Asia	85%	15%
East Asia	86%	14%
South East Asia	79%	21%
Oceania	50%	50%
Income		
$0–$19,999	82%	18%
$20,000–$74,999	69%	31%
$75,000+	66%	34%
Race		
White	67%	33%
Black	85%	15%
Hispanic	77%	23%
Other Race	82%	18%
Education		
Less Than Bachelor's	67%	33%
Bachelor's Degree	74%	26%
More Than Bachelor's	66%	34%
Marital Status		
Married	65%	35%
Never Married	84%	16%
Other	57%	43%

48 This question was shown to respondents who answered "no" or "not sure" to whether they returned their absentee ballot or FWAB for the November 6, 2018, General Election (Q11).

Q12A. Which of the following best describes why you did not vote in the election? (1) I was not registered to vote (2) I did not know how to get an absentee ballot (3) My absentee ballot arrived too late (4) My absentee ballot did not arrive at all (5) The absentee voting process was too complicated (6) Some other reason [*N* = 303][49]

	Reason Could Not Vote					
	(1)	(2)	(3)	(4)	(5)	(6)
Respondents	1%	2%	26%	2%	37%	32%
Age						
Age 18 to 24	0%	0%	28%	2%	31%	40%
Age 25 to 34	0%	0%	20%	1%	61%	18%
Age 35 to 44	0%	7%	30%	3%	27%	34%
Age 45 to 54	0%	0%	26%	3%	35%	36%
Age 55 to 64	0%	1%	24%	0%	35%	39%
Age 65 and up	9%	0%	29%	4%	23%	34%
Sex						
Male	1%	1%	26%	2%	35%	36%
Female	1%	2%	27%	3%	37%	29%
Region						
North America	0%	2%	32%	0%	36%	31%
South/Central America / Caribbean	0%	0%	28%	0%	39%	33%
Europe	2%	3%	23%	3%	34%	34%
Sub-Saharan Africa	0%	0%	65%	2%	23%	10%
Middle East / North Africa	0%	0%	28%	5%	28%	40%
North/Central/South Asia	0%	5%	22%	0%	30%	43%
East Asia	0%	0%	13%	0%	51%	36%
South East Asia	3%	0%	28%	0%	52%	17%
Oceania	0%	0%	38%	6%	22%	34%
Income						
$0–$19,999	0%	0%	22%	1%	51%	26%
$20,000–$74,999	3%	3%	31%	2%	35%	27%
$75,000+	0%	1%	26%	4%	31%	38%
Race						
White	2%	2%	23%	3%	33%	37%
Black	0%	0%	40%	0%	20%	40%
Hispanic	0%	0%	44%	0%	49%	7%
Other Race	0%	1%	28%	0%	48%	23%
Education						
Less Than Bachelor's	0%	1%	21%	0%	41%	36%
Bachelor's Degree	2%	2%	29%	4%	32%	31%
More Than Bachelor's	1%	1%	25%	1%	41%	31%
Marital Status						
Married	2%	1%	30%	2%	33%	32%
Never Married	0%	3%	24%	1%	45%	26%
Other	0%	0%	17%	4%	24%	54%

49 This question was shown to respondents who indicated they tried/wanted to vote but did not or could not complete the process (Q12).

Q13. If you *had* voted, how confident are you that your vote in the November 6, 2018 General Election would have been counted as you intended? [*N* = 468][50]

Non-Voter Confidence				
	Very confident	Somewhat confident	Not too confident	Not at all confident
Respondents	44%	40%	11%	5%
Age				
Age 18 to 24	25%	55%	10%	10%
Age 25 to 34	32%	54%	8%	6%
Age 35 to 44	61%	27%	8%	4%
Age 45 to 54	44%	32%	18%	6%
Age 55 to 64	45%	41%	11%	4%
Age 65 and up	49%	37%	11%	3%
Sex				
Male	55%	34%	10%	2%
Female	37%	44%	11%	8%
Region				
North America	58%	26%	14%	1%
South/Central America / Caribbean	44%	48%	3%	4%
Europe	43%	37%	10%	9%
Sub-Saharan Africa	55%	35%	10%	0%
Middle East / North Africa	59%	25%	11%	5%
North/Central/South Asia	61%	29%	9%	2%
East Asia	37%	48%	15%	0%
South East Asia	33%	57%	9%	1%
Oceania	32%	53%	11%	4%
Income				
$0–$19,999	38%	39%	9%	13%
$20,000–$74,999	40%	44%	13%	2%
$75,000+	55%	30%	9%	6%
Race				
White	50%	35%	9%	6%
Black	26%	59%	15%	0%
Hispanic	27%	50%	16%	7%
Other Race	32%	54%	14%	0%
Education				
Less Than Bachelor's	48%	36%	9%	8%
Bachelor's Degree	41%	40%	13%	6%
More Than Bachelor's	46%	42%	9%	2%
Marital Status				
Married	49%	34%	14%	4%
Never Married	39%	50%	6%	5%
Other	39%	40%	12%	9%

50 This question was shown to respondents who answered "no" or "not sure" to whether they returned their absentee ballot or FWAB for the November 6, 2018, General Election (Q11).

Q14. How confident are you that your vote in the November 6, 2018 General Election was counted as you intended? [*N* = 4,665][51]

Voter Confidence				
	Very confident	Somewhat confident	Not too confident	Not at all confident
Respondents	39%	42%	13%	6%
Age				
Age 18 to 24	32%	44%	14%	10%
Age 25 to 34	33%	41%	17%	8%
Age 35 to 44	34%	46%	14%	6%
Age 45 to 54	38%	43%	12%	7%
Age 55 to 64	43%	43%	11%	3%
Age 65 and up	49%	38%	8%	4%
Sex				
Male	46%	39%	9%	6%
Female	33%	45%	15%	7%
Region				
North America	42%	43%	11%	4%
South/Central America / Caribbean	40%	38%	12%	10%
Europe	37%	42%	14%	7%
Sub-Saharan Africa	40%	37%	13%	10%
Middle East / North Africa	38%	46%	11%	5%
North/Central/South Asia	39%	39%	11%	11%
East Asia	40%	41%	14%	5%
South East Asia	43%	38%	12%	7%
Oceania	39%	46%	11%	4%
Income				
$0–$19,999	39%	40%	14%	7%
$20,000–$74,999	40%	41%	13%	6%
$75,000+	39%	43%	12%	6%
Race				
White	40%	42%	13%	6%
Black	39%	31%	19%	10%
Hispanic	39%	42%	10%	9%
Other Race	35%	45%	16%	5%
Education				
Less Than Bachelor's	37%	42%	14%	7%
Bachelor's Degree	39%	42%	12%	6%
More Than Bachelor's	39%	42%	13%	6%
Marital Status				
Married	40%	42%	12%	6%
Never Married	35%	44%	14%	7%
Other	43%	39%	12%	7%

51 This question was shown to respondents who answered "yes" to whether they returned their absentee ballot or FWAB for the November 6, 2018, General Election (Q11).

Q15. Did you experience any of the following when you attempted to vote absentee in the November 6, 2018 General Election? (1) I did not know how to obtain an absentee ballot [*N* = 6,528] (2) I had difficulty registering to vote [*N* = 6,497] (3) I had difficulty requesting a ballot or completing a Federal Post Card Application (FPCA) [*N* = 6,502] (4) My ballot did not arrive on time [*N* = 6,481] (5) My ballot did not arrive at all [*N* = 6,519] (6) I expected to receive a ballot automatically but did not [*N* = 6,555] (7) I was informed that there was a problem with my signature [*N* = 6,456]

	Difficulty Voting[52]						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Respondents	16%	9%	12%	11%	11%	17%	1%
Age							
Age 18 to 24	22%	16%	19%	12%	12%	19%	3%
Age 25 to 34	21%	11%	14%	11%	10%	18%	2%
Age 35 to 44	15%	8%	12%	11%	11%	15%	1%
Age 45 to 54	15%	9%	12%	9%	11%	21%	1%
Age 55 to 64	11%	8%	9%	11%	11%	17%	1%
Age 65 and up	11%	6%	7%	11%	12%	17%	1%
Sex							
Male	14%	8%	11%	11%	11%	17%	1%
Female	17%	10%	13%	10%	11%	18%	2%
Region							
North America	16%	8%	9%	8%	10%	15%	0%
South/Central America / Caribbean	23%	13%	16%	18%	17%	22%	0%
Europe	14%	10%	12%	9%	10%	18%	2%
Sub-Saharan Africa	17%	8%	13%	18%	12%	13%	2%
Middle East / North Africa	17%	10%	15%	12%	14%	20%	1%
North/Central/South Asia	24%	14%	15%	17%	18%	25%	0%
East Asia	14%	7%	10%	10%	12%	14%	3%
South East Asia	18%	8%	14%	17%	12%	16%	1%
Oceania	17%	12%	11%	11%	11%	18%	1%
Income							
$0–$19,999	16%	11%	13%	12%	13%	17%	2%
$20,000–$74,999	17%	10%	13%	11%	12%	19%	2%
$75,000+	15%	9%	11%	10%	11%	16%	1%
Race							
White	14%	9%	11%	10%	10%	17%	1%
Black	16%	11%	13%	19%	13%	14%	0%
Hispanic	24%	17%	14%	14%	15%	23%	2%
Other Race	20%	10%	12%	13%	14%	20%	1%
Education							
Less Than Bachelor's	18%	13%	15%	15%	16%	20%	2%
Bachelor's Degree	17%	9%	11%	11%	11%	18%	1%
More Than Bachelor's	13%	8%	11%	9%	10%	16%	1%
Marital Status							
Married	15%	8%	11%	11%	12%	18%	1%
Never Married	18%	12%	14%	9%	10%	16%	2%
Other	15%	9%	10%	11%	13%	18%	1%

52 Percentages reflect respondents reporting "yes" to experiencing this type of voting challenge.

Q16. Before taking this survey, were you aware of the Federal Voting Assistance Program (FVAP) or its services? [*N* = 6,899]

FVAP Awareness		
	Yes	No
Respondents	36%	64%
Age		
Age 18 to 24	31%	69%
Age 25 to 34	36%	64%
Age 35 to 44	40%	60%
Age 45 to 54	36%	64%
Age 55 to 64	39%	61%
Age 65 and up	31%	69%
Sex		
Male	39%	61%
Female	34%	66%
Region		
North America	31%	69%
South/Central America / Caribbean	40%	60%
Europe	36%	64%
Sub-Saharan Africa	55%	45%
Middle East / North Africa	37%	63%
North/Central/South Asia	50%	50%
East Asia	33%	67%
South East Asia	40%	60%
Oceania	37%	63%
Income		
$0–$19,999	34%	66%
$20,000–$74,999	37%	63%
$75,000+	36%	64%
Race		
White	36%	64%
Black	42%	58%
Hispanic	35%	65%
Other Race	34%	66%
Education		
Less Than Bachelor's	30%	70%
Bachelor's Degree	37%	63%
More Than Bachelor's	38%	62%
Marital Status		
Married	38%	62%
Never Married	34%	66%
Other	34%	66%

Q17. In preparation for the 2018 primaries or General Election, did you use any of the following resources? (1) FVAP.gov [*N* = 2,723] (2) FVAP staff support [*N* = 2,657] (3) FVAP Online Assistant tool [*N* = 2,686] (4) State or local election office website [*N* = 6,793] (5) U.S. government voting assistance resources in country of residence [*N* = 6,737][53]

2018 FVAP website visits[54]					
	(1)	(2)	(3)	(4)	(5)
Respondents	58%	7%	33%	49%	8%
Age					
Age 18 to 24	68%	12%	43%	62%	10%
Age 25 to 34	66%	9%	38%	60%	8%
Age 35 to 44	64%	8%	35%	49%	7%
Age 45 to 54	60%	5%	33%	46%	7%
Age 55 to 64	52%	6%	28%	43%	7%
Age 65 and up	40%	4%	21%	36%	8%
Sex					
Male	55%	5%	30%	48%	6%
Female	61%	8%	35%	49%	8%
Region					
North America	59%	10%	32%	46%	6%
South/Central America / Caribbean	55%	6%	39%	43%	10%
Europe	60%	6%	32%	52%	8%
Sub-Saharan Africa	60%	8%	36%	58%	14%
Middle East / North Africa	48%	3%	27%	35%	6%
North/Central/South Asia	64%	8%	33%	44%	8%
East Asia	55%	6%	31%	51%	6%
South East Asia	60%	11%	41%	44%	8%
Oceania	54%	5%	32%	50%	3%
Income					
$0–$19,999	56%	8%	34%	49%	10%
$20,000–$74,999	59%	8%	33%	47%	7%
$75,000+	58%	6%	33%	50%	6%
Race					
White	57%	6%	32%	50%	7%
Black	64%	18%	50%	44%	9%
Hispanic	58%	9%	37%	45%	8%
Other Race	69%	10%	37%	43%	10%
Education					
Less Than Bachelor's	51%	9%	31%	41%	9%
Bachelor's Degree	62%	8%	36%	50%	7%
More Than Bachelor's	58%	5%	31%	50%	8%
Marital Status					
Married	56%	6%	33%	47%	6%
Never Married	65%	9%	35%	57%	9%
Other	50%	6%	28%	38%	9%

53 Items 1 to 3 were only shown to respondents who answered "yes" to being aware of FVAP before responding the survey (Q16).

54 Percentages reflect respondents reporting "yes" to using the following voting resources.

Q18. Overall, how satisfied were you with the FVAP website when you visited it in anticipation of the November 6, 2018 General Election? [*N* = 1,646][55]

Satisfaction with FVAP website					
	Very satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very dissatisfied
Respondents	25%	51%	20%	4%	1%
Age					
Age 18 to 24	19%	53%	21%	7%	0%
Age 25 to 34	15%	60%	19%	3%	3%
Age 35 to 44	26%	46%	22%	5%	1%
Age 45 to 54	25%	51%	20%	3%	2%
Age 55 to 64	32%	47%	17%	2%	1%
Age 65 and up	34%	45%	17%	3%	1%
Sex					
Male	24%	51%	21%	3%	1%
Female	25%	51%	19%	3%	2%
Region					
North America	27%	52%	19%	2%	0%
South/Central America / Caribbean	28%	42%	18%	4%	8%
Europe	22%	55%	18%	4%	1%
Sub-Saharan Africa	31%	41%	22%	6%	0%
Middle East / North Africa	31%	47%	20%	1%	1%
North/Central/South Asia	24%	52%	24%	0%	0%
East Asia	23%	54%	17%	6%	0%
South East Asia	19%	43%	30%	7%	2%
Oceania	30%	42%	23%	2%	3%
Income					
$0–$19,999	27%	51%	18%	3%	1%
$20,000–$74,999	24%	50%	19%	5%	2%
$75,000+	25%	51%	20%	3%	1%
Race					
White	25%	51%	20%	3%	1%
Black	37%	29%	17%	1%	16%
Hispanic	21%	58%	12%	4%	4%
Other Race	23%	54%	17%	5%	1%
Education					
Less Than Bachelor's	25%	45%	26%	3%	2%
Bachelor's Degree	25%	52%	19%	3%	1%
More Than Bachelor's	25%	51%	18%	4%	2%
Marital Status					
Married	27%	48%	20%	3%	2%
Never Married	17%	59%	19%	4%	1%
Other	31%	48%	17%	4%	1%

55 This question was shown to respondents who visited FVAP.gov or the FVAP Online Assistant tool (Q17).

Q19. Please indicate which, if any, FVAP products or services you have used for voting assistance during any election *before* the 2018 General Election. (1) FVAP.gov [*N* = 2,718] (2) FVAP staff support [*N* = 2,646] (3) FVAP Online Assistant tool [*N* = 2,671] (4) State or local election office website [*N* = 6,744] (5) U.S. government voting assistance resources in [COUNTRY] [*N* = 6,684][56]

	FVAP Services[57]				
	(1)	(2)	(3)	(4)	(5)
Respondents	60%	8%	33%	48%	10%
Age					
Age 18 to 24	62%	7%	43%	48%	11%
Age 25 to 34	61%	7%	27%	52%	8%
Age 35 to 44	66%	9%	38%	52%	11%
Age 45 to 54	66%	8%	38%	48%	10%
Age 55 to 64	58%	7%	29%	46%	10%
Age 65 and up	46%	7%	25%	39%	11%
Sex					
Male	59%	7%	34%	47%	10%
Female	60%	9%	31%	48%	10%
Region					
North America	58%	10%	35%	44%	8%
South/Central America / Caribbean	56%	7%	31%	41%	15%
Europe	61%	6%	31%	51%	10%
Sub-Saharan Africa	56%	10%	31%	54%	14%
Middle East / North Africa	54%	7%	33%	40%	10%
North/Central/South Asia	67%	9%	33%	42%	14%
East Asia	64%	9%	36%	48%	10%
South East Asia	70%	13%	48%	46%	11%
Oceania	58%	7%	27%	46%	7%
Income					
$0–$19,999	53%	11%	35%	45%	9%
$20,000–$74,999	58%	7%	31%	45%	11%
$75,000+	66%	7%	34%	52%	10%
Race					
White	59%	7%	31%	49%	10%
Black	70%	16%	41%	41%	14%
Hispanic	62%	11%	36%	46%	10%
Other Race	69%	11%	42%	42%	9%
Education					
Less Than Bachelor's	52%	9%	33%	39%	10%
Bachelor's Degree	61%	8%	35%	47%	10%
More Than Bachelor's	62%	7%	31%	51%	10%
Marital Status					
Married	60%	8%	33%	48%	10%
Never Married	63%	7%	35%	50%	10%
Other	50%	11%	29%	40%	11%

56 Questions 1 to 3 were only shown to respondents who answered "yes" to being aware of FVAP before responding the survey (Q16).

57 Percentages reflect respondents reporting "yes" to using the following FVAP products or services for voting assistance.

Q20. What source led you to visit your state or local election office website when you visited in anticipation of the November 6, 2018 General Election? [*N* = 3,373][58]

Source of State/Local Website						
	FVAP.gov	Internet search	State or local election official	Family or friend	State Department or Consular Services	Other
Respondents	10%	58%	13%	7%	3%	9%
Age						
Age 18 to 24	8%	64%	7%	14%	3%	4%
Age 25 to 34	9%	66%	8%	7%	4%	6%
Age 35 to 44	11%	61%	12%	4%	3%	9%
Age 45 to 54	11%	57%	14%	4%	4%	10%
Age 55 to 64	14%	52%	17%	3%	3%	12%
Age 65 and up	8%	45%	23%	6%	4%	15%
Sex						
Male	11%	55%	15%	6%	4%	9%
Female	9%	60%	10%	7%	3%	10%
Region						
North America	8%	62%	13%	3%	3%	11%
South/Central America / Caribbean	11%	47%	19%	9%	8%	7%
Europe	10%	59%	11%	8%	3%	9%
Sub-Saharan Africa	14%	53%	12%	7%	7%	8%
Middle East / North Africa	13%	53%	15%	6%	4%	8%
North/Central/South Asia	17%	48%	9%	10%	4%	12%
East Asia	11%	63%	12%	4%	2%	9%
South East Asia	18%	43%	24%	3%	1%	12%
Oceania	8%	62%	11%	7%	4%	8%
Income						
$0–$19,999	11%	58%	11%	9%	3%	8%
$20,000–$74,999	11%	58%	12%	8%	4%	8%
$75,000+	10%	58%	14%	5%	3%	10%
Race						
White	10%	58%	13%	6%	3%	10%
Black	19%	55%	6%	5%	8%	8%
Hispanic	10%	59%	13%	8%	7%	3%
Other Race	12%	61%	10%	6%	4%	7%
Education						
Less Than Bachelor's	11%	54%	11%	13%	3%	8%
Bachelor's Degree	9%	61%	12%	7%	3%	8%
More Than Bachelor's	11%	57%	14%	4%	4%	11%
Marital Status						
Married	11%	56%	14%	5%	4%	10%
Never Married	9%	63%	9%	10%	2%	7%
Other	9%	49%	15%	4%	8%	15%

58 This question was shown to respondents who visited a state or local election office website (Q17).

Q21. Before taking this survey, were you aware that you could use the Federal Post Card Application (FPCA) to register to vote and request an absentee ballot? [*N* = 6,888]

FPCA Awareness		
	Yes	No
Respondents	31%	69%
Age		
Age 18 to 24	32%	68%
Age 25 to 34	28%	72%
Age 35 to 44	33%	67%
Age 45 to 54	31%	69%
Age 55 to 64	33%	67%
Age 65 and up	28%	72%
Sex		
Male	33%	67%
Female	29%	71%
Region		
North America	27%	73%
South/Central America / Caribbean	35%	65%
Europe	31%	69%
Sub-Saharan Africa	37%	63%
Middle East / North Africa	34%	66%
North/Central/South Asia	36%	64%
East Asia	26%	74%
South East Asia	30%	70%
Oceania	29%	71%
Income		
$0–$19,999	30%	70%
$20,000–$74,999	30%	70%
$75,000+	30%	70%
Race		
White	30%	70%
Black	34%	66%
Hispanic	29%	71%
Other Race	31%	69%
Education		
Less Than Bachelor's	27%	73%
Bachelor's Degree	30%	70%
More Than Bachelor's	32%	68%
Marital Status		
Married	31%	69%
Never Married	30%	70%
Other	30%	70%

Q21A. Did you use the Federal Post Card Application (FPCA) to request your absentee ballot or did you use another method? (1) Yes, I used an FPCA to request an absentee ballot. (2) No, I used a state or local form to request an absentee ballot. (3) No, I used a non-government website (e.g., Rock the Vote [RTV], Overseas Vote Foundation [OVF]) to request an absentee ballot. (4) No, I used another method. (5) Other [*N* = 1,806][59]

	Used FPCA				
	(1)	(2)	(3)	(4)	(5)
Respondents	51%	29%	5%	9%	6%
Age					
Age 18 to 24	60%	26%	8%	0%	6%
Age 25 to 34	51%	28%	5%	11%	4%
Age 35 to 44	53%	28%	6%	8%	6%
Age 45 to 54	49%	25%	8%	10%	9%
Age 55 to 64	50%	31%	3%	11%	5%
Age 65 and up	46%	33%	4%	11%	6%
Sex					
Male	50%	32%	4%	9%	5%
Female	51%	26%	7%	10%	7%
Region					
North America	48%	32%	4%	9%	7%
South/Central America / Caribbean	49%	33%	7%	6%	6%
Europe	51%	28%	7%	11%	4%
Sub-Saharan Africa	48%	32%	3%	10%	6%
Middle East / North Africa	59%	18%	6%	6%	11%
North/Central/South Asia	64%	28%	0%	4%	4%
East Asia	52%	29%	3%	13%	3%
South East Asia	57%	33%	3%	6%	2%
Oceania	47%	26%	4%	7%	17%
Income					
$0–$19,999	49%	29%	5%	9%	8%
$20,000–$74,999	50%	31%	5%	10%	5%
$75,000+	53%	27%	5%	10%	6%
Race					
White	49%	30%	5%	9%	6%
Black	52%	34%	2%	6%	6%
Hispanic	58%	20%	6%	9%	6%
Other Race	63%	17%	4%	10%	6%
Education					
Less Than Bachelor's	48%	31%	5%	9%	8%
Bachelor's Degree	51%	27%	5%	10%	7%
More Than Bachelor's	52%	29%	6%	9%	4%
Marital Status					
Married	51%	29%	5%	10%	5%
Never Married	52%	28%	7%	7%	6%
Other	50%	30%	2%	10%	8%

59 This question was shown to respondents who requested an absentee ballot and were aware that they could use an FPCA to register to vote and request an absentee ballot (Q9, Q21).

Q22. Before taking this survey, were you aware of the Federal Write-In Absentee Ballot (FWAB)? [*N* = 4,704][60]

FWAB Awareness		
	Yes	No
Respondents	20%	80%
Age		
Age 18 to 24	21%	79%
Age 25 to 34	20%	80%
Age 35 to 44	25%	75%
Age 45 to 54	18%	82%
Age 55 to 64	19%	81%
Age 65 and up	19%	81%
Sex		
Male	21%	79%
Female	20%	80%
Region		
North America	18%	82%
South/Central America / Caribbean	26%	74%
Europe	20%	80%
Sub-Saharan Africa	29%	71%
Middle East / North Africa	24%	76%
North/Central/South Asia	29%	71%
East Asia	18%	82%
South East Asia	23%	77%
Oceania	18%	82%
Income		
$0–$19,999	22%	78%
$20,000–$74,999	19%	81%
$75,000+	20%	80%
Race		
White	20%	80%
Black	16%	84%
Hispanic	22%	78%
Other Race	21%	79%
Education		
Less Than Bachelor's	19%	81%
Bachelor's Degree	21%	79%
More Than Bachelor's	20%	80%
Marital Status		
Married	20%	80%
Never Married	20%	80%

60 This question was shown to respondents who answered "no" or "not sure" to whether they obtained a FWAB for the November 6, 2018 General Election (Q10A).

Other	21%	79%

Q23. Did you receive information about the absentee voting process from any of the following sources in 2018? (1) State or local election official [*N* = 6,691] (2) U.S. newspapers, magazines, radio, or TV [*N* = 6,635] (3) International newspapers, magazines, radio, or TV [*N* = 6,622] (4) Family or friends living outside of [COUNTRY] [*N* = 6,625] (5) Family or friends living in [COUNTRY] [*N* = 6,646] (6) Internet other than social media [*N* = 6,689] (7) Social media [*N* = 6,631] (8) Directly from candidates/parties [*N* = 6,629] (9) Employer/HR department [*N* = 6,614] (10) An organization for Americans living abroad [*N* = 6,701] (11) Other [*N* = 6,247]

Procedural Information[61]											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Respondents	30%	7%	6%	14%	18%	35%	13%	8%	1%	25%	6%
Age											
Age 18 to 24	25%	9%	9%	31%	39%	42%	22%	7%	2%	17%	5%
Age 25 to 34	22%	5%	5%	20%	23%	39%	19%	6%	2%	21%	7%
Age 35 to 44	26%	7%	6%	13%	17%	39%	15%	6%	1%	27%	7%
Age 45 to 54	33%	5%	5%	8%	16%	33%	13%	8%	1%	26%	6%
Age 55 to 64	34%	7%	7%	9%	12%	35%	9%	11%	0%	26%	7%
Age 65 and up	38%	8%	7%	8%	11%	27%	6%	11%	1%	27%	6%
Sex											
Male	34%	7%	6%	12%	15%	35%	11%	8%	1%	23%	6%
Female	26%	6%	7%	16%	20%	35%	15%	8%	2%	27%	7%
Region											
North America	35%	6%	6%	9%	15%	30%	10%	8%	0%	25%	6%
South/Central America / Caribbean	28%	8%	7%	15%	18%	32%	12%	8%	3%	20%	8%
Europe	30%	7%	7%	15%	19%	38%	14%	9%	1%	27%	6%
Sub-Saharan Africa	30%	8%	5%	17%	18%	37%	11%	7%	14%	20%	7%
Middle East / North Africa	23%	7%	7%	13%	25%	31%	14%	5%	2%	26%	6%
North/Central/South Asia	21%	8%	5%	17%	20%	35%	13%	5%	3%	18%	11%
East Asia	28%	7%	5%	17%	21%	37%	21%	6%	2%	24%	7%
South East Asia	33%	5%	5%	12%	18%	35%	15%	5%	1%	26%	10%
Oceania	28%	6%	4%	15%	11%	31%	11%	7%	0%	20%	7%
Income											
$0–$19,999	26%	7%	5%	21%	24%	37%	16%	8%	3%	21%	7%
$20,000–$74,999	29%	7%	7%	14%	17%	36%	14%	9%	1%	26%	6%
$75,000+	31%	7%	6%	11%	18%	34%	12%	7%	1%	26%	7%
Race											
White	31%	6%	6%	13%	18%	35%	13%	8%	1%	26%	6%
Black	23%	9%	8%	15%	20%	27%	16%	12%	3%	29%	9%
Hispanic	24%	10	8%	19%	19%	41%	19%	11%	1%	19%	11%
Other Race	23%	9%	7%	15%	21%	35%	16%	5%	1%	22%	7%
Education											
Less Than Bachelor's	28%	8%	7%	13%	20%	32%	12%	8%	0%	20%	7%
Bachelor's Degree	28%	7%	7%	17%	19%	36%	16%	8%	2%	24%	7%
More Than Bachelor's	32%	6%	6%	12%	17%	36%	12%	8%	1%	28%	6%
Marital Status											
Married	31%	6%	6%	10%	14%	34%	12%	8%	1%	26%	7%

61 Percentages reflect respondents reporting "yes" to receiving absentee voting information from the following sources.

Never Married	26%	7%	8%	23%	29%	40%	18%	7%	2%	23%	6%
Other	31%	8%	7%	10%	13%	30%	11%	10%	1%	27%	7%

Q24. Did you access the internet on a cell phone, tablet or other mobile handheld device, at least occasionally, in October 2018? [*N* = 6,896]

Access Internet on Mobile Device			
	Yes	No	Not sure
Respondents	84%	13%	3%
Age			
Age 18 to 24	92%	6%	2%
Age 25 to 34	95%	4%	1%
Age 35 to 44	94%	5%	2%
Age 45 to 54	89%	8%	3%
Age 55 to 64	77%	17%	5%
Age 65 and up	62%	33%	6%
Sex			
Male	83%	14%	3%
Female	84%	12%	4%
Region			
North America	81%	16%	3%
South/Central America / Caribbean	78%	18%	3%
Europe	85%	11%	3%
Sub-Saharan Africa	88%	11%	1%
Middle East / North Africa	75%	19%	6%
North/Central/South Asia	88%	8%	4%
East Asia	88%	10%	2%
South East Asia	82%	14%	4%
Oceania	85%	12%	3%
Income			
$0–$19,999	79%	16%	5%
$20,000–$74,999	82%	15%	3%
$75,000+	89%	9%	2%
Race			
White	84%	13%	3%
Black	70%	25%	5%
Hispanic	84%	11%	5%
Other Race	87%	9%	3%
Education			
Less Than Bachelor's	74%	20%	6%
Bachelor's Degree	86%	11%	3%
More Than Bachelor's	86%	12%	2%
Marital Status			
Married	83%	13%	3%
Never Married	89%	9%	2%

Other	72%	22%	6%

Q25. How would you characterize the reliability of postal service in [COUNTRY] relative to the United States Postal Service? [*N* = 6,896]

	Postal Reliability				
	Much less reliable	Somewhat less reliable	About the same level of reliability	Somewhat more reliable	Much more reliable
Respondents	16%	17%	46%	12%	10%
Age					
Age 18 to 24	16%	19%	42%	15%	8%
Age 25 to 34	16%	16%	46%	12%	10%
Age 35 to 44	15%	16%	46%	12%	11%
Age 45 to 54	13%	15%	48%	12%	11%
Age 55 to 64	18%	16%	43%	12%	11%
Age 65 and up	19%	18%	47%	8%	8%
Sex					
Male	16%	17%	46%	12%	9%
Female	16%	16%	46%	11%	10%
Region					
North America	14%	19%	61%	4%	2%
South/Central America / Caribbean	54%	29%	12%	3%	2%
Europe	6%	12%	51%	17%	14%
Sub-Saharan Africa	72%	18%	6%	2%	2%
Middle East / North Africa	39%	35%	23%	2%	1%
North/Central/South Asia	33%	32%	27%	6%	2%
East Asia	5%	11%	36%	18%	30%
South East Asia	41%	27%	24%	5%	3%
Oceania	7%	8%	67%	12%	6%
Income					
$0–$19,999	25%	20%	37%	11%	7%
$20,000–$74,999	17%	17%	46%	11%	10%
$75,000+	12%	15%	49%	13%	12%
Race					
White	14%	16%	48%	12%	10%
Black	22%	10%	49%	12%	8%
Hispanic	32%	24%	28%	9%	7%
Other Race	16%	18%	42%	10%	14%
Education					
Less Than Bachelor's	17%	16%	48%	9%	10%
Bachelor's Degree	17%	17%	44%	12%	10%
More Than Bachelor's	15%	16%	47%	12%	10%
Marital Status					
Married	15%	16%	47%	11%	10%
Never Married	17%	18%	45%	12%	9%
Other	18%	18%	43%	11%	9%

Q26. How interested or uninterested were you in the election held on November 6, 2018? [*N*=6,895]

Interest in Election					
	Very interested	Somewhat interested	Neither interested nor uninterested	Somewhat uninterested	Very uninterested
Respondents	66%	22%	6%	4%	2%
Age					
Age 18 to 24	55%	32%	8%	3%	2%
Age 25 to 34	63%	24%	6%	5%	2%
Age 35 to 44	63%	22%	6%	5%	3%
Age 45 to 54	70%	20%	5%	3%	2%
Age 55 to 64	70%	19%	5%	3%	3%
Age 65 and up	69%	18%	7%	3%	3%
Sex					
Male	65%	22%	6%	4%	2%
Female	66%	21%	6%	4%	3%
Region					
North America	71%	19%	5%	2%	3%
South/Central America / Caribbean	67%	20%	6%	4%	2%
Europe	68%	21%	5%	4%	2%
Sub-Saharan Africa	61%	27%	7%	3%	3%
Middle East / North Africa	58%	26%	7%	6%	4%
North/Central/South Asia	62%	23%	9%	4%	1%
East Asia	56%	27%	9%	5%	4%
South East Asia	57%	25%	10%	5%	3%
Oceania	65%	23%	8%	2%	2%
Income					
$0–$19,999	63%	24%	7%	3%	2%
$20,000–$74,999	65%	22%	6%	4%	2%
$75,000+	69%	21%	5%	3%	2%
Race					
White	67%	21%	6%	4%	2%
Black	70%	21%	4%	1%	4%
Hispanic	65%	24%	5%	2%	3%
Other Race	56%	27%	10%	6%	2%
Education					
Less Than Bachelor's	65%	20%	8%	5%	2%
Bachelor's Degree	63%	24%	7%	3%	3%
More Than Bachelor's	68%	21%	5%	4%	2%
Marital Status					
Married	67%	22%	5%	4%	3%
Never Married	63%	24%	7%	4%	2%
Other	71%	16%	7%	4%	2%

Q27. How much attention did you pay in October 2018 to news about U.S. politics and the November 6, 2018 General Election? [*N* = 6,892]

	Election News				
	A great deal	A lot	A moderate amount	A little	None at all
Respondents	48%	21%	21%	8%	2%
Age					
Age 18 to 24	31%	24%	30%	12%	2%
Age 25 to 34	42%	21%	24%	10%	3%
Age 35 to 44	45%	23%	21%	10%	3%
Age 45 to 54	52%	22%	17%	8%	1%
Age 55 to 64	56%	18%	18%	5%	2%
Age 65 and up	54%	21%	18%	5%	2%
Sex					
Male	50%	23%	19%	7%	2%
Female	47%	20%	22%	9%	2%
Region					
North America	53%	21%	19%	6%	1%
South/Central America / Caribbean	42%	22%	25%	6%	5%
Europe	49%	22%	20%	7%	2%
Sub-Saharan Africa	43%	18%	23%	13%	2%
Middle East / North Africa	44%	21%	22%	10%	3%
North/Central/South Asia	40%	22%	30%	6%	1%
East Asia	42%	22%	22%	11%	2%
South East Asia	43%	21%	22%	11%	2%
Oceania	52%	16%	19%	11%	2%
Income					
$0–$19,999	37%	23%	29%	9%	3%
$20,000–$74,999	48%	21%	20%	9%	2%
$75,000+	53%	21%	18%	6%	1%
Race					
White	50%	22%	19%	8%	2%
Black	56%	20%	20%	3%	2%
Hispanic	47%	21%	25%	5%	2%
Other Race	34%	19%	32%	13%	3%
Education					
Less Than Bachelor's	42%	22%	23%	8%	4%
Bachelor's Degree	46%	22%	22%	9%	2%
More Than Bachelor's	53%	20%	19%	7%	1%
Marital Status					
Married	51%	21%	19%	7%	2%
Never Married	42%	21%	25%	9%	2%
Other	52%	20%	18%	8%	2%

Q28. Do you ever use social networking sites like Facebook or Twitter to do any of the following? (1) Post links to political stories or articles for others to read [*N* = 6,848] (2) Post your own thoughts or comments on political or social issues [*N* = 6,852] (3) Encourage other people to take action on a political or social issue that is important to you [*N* = 6,849] (4) Encourage other people to vote [*N* = 6,859] (5) Repost content related to political or social issues that was originally posted by someone else [*N* = 6,855] (6) "Like" or promote material related to political or social issues that others have posted [*N* = 6,859]

Social Network Activity[62]						
	(1)	(2)	(3)	(4)	(5)	(6)
Respondents	32%	32%	32%	38%	33%	45%
Age						
Age 18 to 24	31%	26%	36%	43%	35%	58%
Age 25 to 34	38%	37%	37%	44%	38%	54%
Age 35 to 44	34%	36%	33%	42%	36%	46%
Age 45 to 54	34%	34%	33%	39%	36%	45%
Age 55 to 64	33%	33%	31%	33%	32%	42%
Age 65 and up	25%	23%	24%	28%	25%	31%
Sex						
Male	29%	30%	27%	32%	28%	37%
Female	35%	34%	36%	42%	37%	51%
Region						
North America	33%	31%	31%	39%	33%	44%
South/Central America / Caribbean	28%	29%	32%	37%	29%	41%
Europe	33%	33%	34%	40%	34%	47%
Sub-Saharan Africa	28%	29%	29%	34%	27%	42%
Middle East / North Africa	23%	21%	22%	29%	26%	35%
North/Central/South Asia	23%	19%	23%	25%	26%	33%
East Asia	37%	38%	32%	38%	35%	48%
South East Asia	32%	37%	31%	39%	37%	46%
Oceania	36%	35%	35%	36%	36%	50%
Income						
$0–$19,999	33%	32%	35%	41%	34%	50%
$20,000–$74,999	36%	35%	36%	40%	37%	47%
$75,000+	30%	30%	29%	36%	32%	44%
Race						
White	33%	33%	32%	38%	33%	45%
Black	35%	32%	37%	56%	34%	42%
Hispanic	37%	34%	36%	40%	39%	48%
Other Race	29%	26%	30%	37%	33%	44%
Education						
Less Than Bachelor's	32%	31%	30%	37%	34%	44%
Bachelor's Degree	33%	33%	34%	40%	36%	48%
More Than Bachelor's	32%	31%	31%	36%	31%	43%
Marital Status						
Married	31%	31%	30%	36%	32%	42%
Never Married	33%	33%	36%	43%	36%	53%
Other	34%	36%	34%	38%	35%	43%

62 Percentages reflect respondents reporting "yes" to using social networking sites to do any of the following.

Q29. How many U.S. citizens, aged 18 and older, would you estimate you know who resided in [COUNTRY] on November 6, 2018? [*N* = 6,764]

Social Connections in Country of Residence							
	None	1-2	3-4	5-10	11-20	21-50	51+
Respondents	8%	15%	13%	29%	13%	11%	11%
Age							
Age 18 to 24	7%	14%	13%	37%	13%	6%	11%
Age 25 to 34	8%	17%	15%	32%	9%	10%	9%
Age 35 to 44	8%	14%	14%	25%	14%	12%	13%
Age 45 to 54	6%	13%	9%	32%	14%	13%	12%
Age 55 to 64	9%	17%	12%	25%	12%	11%	14%
Age 65 and up	12%	16%	12%	24%	13%	12%	11%
Sex							
Male	9%	15%	12%	27%	13%	12%	12%
Female	8%	16%	13%	30%	12%	10%	11%
Region							
North America	9%	17%	14%	34%	12%	9%	6%
South/Central America / Caribbean	9%	13%	10%	24%	11%	11%	22%
Europe	9%	17%	15%	29%	12%	9%	7%
Sub-Saharan Africa	4%	10%	8%	18%	11%	19%	30%
Middle East / North Africa	3%	5%	6%	16%	12%	23%	34%
North/Central/South Asia	9%	14%	8%	26%	15%	16%	13%
East Asia	4%	6%	7%	28%	17%	20%	18%
South East Asia	8%	12%	6%	26%	17%	10%	22%
Oceania	11%	19%	17%	33%	10%	5%	5%
Income							
$0–$19,999	11%	18%	12%	27%	10%	8%	13%
$20,000–$74,999	10%	17%	13%	27%	11%	10%	11%
$75,000+	6%	13%	12%	31%	14%	13%	12%
Race							
White	8%	15%	13%	28%	12%	11%	11%
Black	9%	13%	6%	29%	10%	9%	23%
Hispanic	10%	18%	14%	28%	8%	9%	13%
Other Race	11%	12%	11%	32%	15%	10%	10%
Education							
Less Than Bachelor's	12%	20%	14%	28%	10%	6%	9%
Bachelor's Degree	9%	15%	13%	28%	12%	11%	12%
More Than Bachelor's	7%	14%	12%	29%	14%	13%	12%
Marital Status							
Married	8%	16%	13%	27%	13%	12%	12%
Never Married	8%	14%	12%	33%	12%	9%	11%
Other	14%	16%	11%	24%	13%	12%	11%

Q29A. How many U.S. citizens in [COUNTRY] that you know would you estimate you talked to about absentee voting? [*N* = 6,178][63]

Discuss Absentee Voting with Social Connections in Country of Residence							
	None	1-2	3-4	5-10	11-20	21-50	51+
Respondents	32%	33%	13%	16%	3%	2%	1%
Age							
Age 18 to 24	25%	37%	16%	14%	3%	4%	2%
Age 25 to 34	31%	35%	13%	15%	3%	1%	1%
Age 35 to 44	34%	31%	12%	15%	3%	2%	2%
Age 45 to 54	30%	35%	11%	18%	3%	2%	1%
Age 55 to 64	32%	31%	12%	18%	3%	1%	1%
Age 65 and up	37%	29%	12%	14%	4%	2%	1%
Sex							
Male	34%	31%	13%	15%	4%	2%	1%
Female	30%	34%	12%	17%	3%	2%	2%
Region							
North America	34%	34%	14%	14%	3%	1%	1%
South/Central America / Caribbean	33%	28%	13%	15%	4%	5%	2%
Europe	31%	35%	12%	16%	3%	2%	1%
Sub-Saharan Africa	28%	26%	12%	20%	5%	6%	3%
Middle East / North Africa	24%	24%	15%	25%	5%	5%	2%
North/Central/South Asia	29%	35%	9%	19%	4%	1%	2%
East Asia	28%	33%	8%	22%	5%	1%	2%
South East Asia	40%	27%	10%	15%	3%	3%	2%
Oceania	40%	32%	15%	9%	2%	1%	2%
Income							
$0–$19,999	30%	34%	15%	14%	4%	3%	1%
$20,000–$74,999	32%	34%	12%	15%	3%	3%	2%
$75,000+	31%	32%	13%	18%	3%	2%	1%
Race							
White	30%	34%	13%	16%	3%	2%	1%
Black	33%	26%	11%	14%	7%	7%	2%
Hispanic	35%	28%	15%	15%	2%	1%	3%
Other Race	41%	29%	9%	14%	3%	1%	2%
Education							
Less Than Bachelor's	33%	37%	12%	12%	4%	2%	0%
Bachelor's Degree	31%	34%	13%	15%	4%	2%	2%
More Than Bachelor's	32%	31%	13%	18%	3%	2%	1%
Marital Status							
Married	33%	33%	12%	16%	3%	2%	1%
Never Married	26%	34%	15%	16%	4%	3%	2%
Other	37%	31%	10%	16%	3%	2%	1%

63 This question was shown to respondents who reported knowing one or more U.S. citizens aged 18 or older in their country of residence (Q29).

Q29B. Of the U.S. citizens aged 18 and older who you knew in [COUNTRY] on November 6, 2018, how many of them would you estimate requested an absentee ballot or had an absentee ballot sent to them for the election held on November 6, 2018? [*N* = 5,960] [64]

Estimated Social Connections in Country of Residence that Voted							
	None	1-2	3-4	5-10	11-20	21-50	51+
Respondents	20%	30%	13%	21%	7%	6%	4%
Age							
Age 18 to 24	20%	27%	21%	19%	5%	4%	4%
Age 25 to 34	18%	34%	14%	21%	5%	5%	3%
Age 35 to 44	17%	32%	12%	21%	8%	6%	3%
Age 45 to 54	17%	27%	13%	24%	9%	6%	4%
Age 55 to 64	23%	29%	11%	20%	6%	6%	6%
Age 65 and up	27%	28%	11%	19%	6%	6%	4%
Sex							
Male	22%	29%	11%	21%	7%	6%	4%
Female	19%	31%	14%	21%	6%	5%	4%
Region							
North America	25%	31%	12%	20%	6%	3%	2%
South/Central America / Caribbean	34%	25%	8%	15%	5%	5%	7%
Europe	16%	32%	16%	22%	7%	5%	3%
Sub-Saharan Africa	14%	19%	10%	22%	8%	14%	12%
Middle East / North Africa	18%	18%	10%	22%	9%	13%	10%
North/Central/South Asia	29%	27%	8%	22%	4%	5%	5%
East Asia	16%	26%	10%	23%	11%	10%	4%
South East Asia	28%	24%	7%	20%	10%	8%	3%
Oceania	26%	39%	14%	16%	3%	2%	1%
Income							
$0–$19,999	23%	30%	12%	16%	6%	6%	6%
$20,000–$74,999	21%	32%	13%	18%	6%	6%	3%
$75,000+	18%	28%	13%	25%	8%	5%	4%
Race							
White	19%	30%	13%	21%	7%	6%	4%
Black	20%	25%	11%	16%	10%	11%	6%
Hispanic	23%	37%	14%	13%	4%	5%	4%
Other Race	26%	26%	12%	25%	4%	4%	2%
Education							
Less Than Bachelor's	28%	32%	12%	16%	5%	4%	3%
Bachelor's Degree	20%	30%	13%	22%	6%	6%	5%
More Than Bachelor's	18%	29%	14%	22%	8%	6%	4%
Marital Status							
Married	20%	30%	13%	21%	7%	5%	4%
Never Married	19%	31%	14%	20%	6%	6%	4%
Other	25%	28%	11%	19%	5%	7%	4%

64 This question was shown to respondents who reported knowing one or more U.S. citizens aged 18 or older in their country of residence (Q29).

Q29C. How many U.S. citizens aged 18 and older resided at your primary address in [COUNTRY] on November 6, 2018? [*N* = 6,187][65]

Number of U.S. Citizens Ages 18+ Living in Current Address				
	None	One	Two	Three or more
Respondents	16%	51%	23%	9%
Age				
Age 18 to 24	21%	34%	18%	26%
Age 25 to 34	22%	54%	16%	8%
Age 35 to 44	15%	60%	22%	3%
Age 45 to 54	13%	52%	26%	10%
Age 55 to 64	11%	50%	27%	12%
Age 65 and up	18%	49%	26%	7%
Sex				
Male	14%	51%	25%	10%
Female	18%	52%	21%	9%
Region				
North America	13%	56%	23%	8%
South/Central America / Caribbean	16%	43%	27%	14%
Europe	20%	52%	21%	7%
Sub-Saharan Africa	16%	47%	25%	12%
Middle East / North Africa	12%	34%	30%	25%
North/Central/South Asia	15%	37%	31%	17%
East Asia	12%	66%	18%	4%
South East Asia	13%	46%	28%	13%
Oceania	14%	51%	25%	10%
Income				
$0–$19,999	24%	49%	14%	12%
$20,000–$74,999	18%	55%	18%	9%
$75,000+	12%	49%	30%	9%
Race				
White	15%	52%	24%	9%
Black	26%	54%	8%	12%
Hispanic	25%	44%	19%	12%
Other Race	20%	48%	22%	10%
Education				
Less Than Bachelor's	19%	47%	18%	15%
Bachelor's Degree	17%	53%	22%	9%
More Than Bachelor's	15%	52%	25%	8%
Marital Status				
Married	13%	49%	30%	9%
Never Married	21%	54%	13%	12%

65 This question was shown to respondents who reported knowing one or more U.S. citizens aged 18 or older in their country of residence (Q29).

Other	24%	61%	10%	5%

Q33. As of November 6, 2018, in which country or countries did you hold citizenship? *Mark all that apply*. [*N* = 6,923]

	Citizenship		
	United States	Country of Residence	Other
Respondents	100%	42%	7%
Age			
Age 18 to 24	100%	57%	10%
Age 25 to 34	100%	35%	8%
Age 35 to 44	100%	32%	9%
Age 45 to 54	100%	42%	9%
Age 55 to 64	100%	44%	6%
Age 65 and up	100%	51%	4%
Sex			
Male	100%	40%	7%
Female	100%	44%	7%
Region			
North America	100%	57%	5%
South/Central America / Caribbean	100%	38%	6%
Europe	100%	42%	10%
Sub-Saharan Africa	100%	13%	6%
Middle East / North Africa	100%	71%	6%
North/Central/South Asia	100%	12%	2%
East Asia	100%	7%	2%
South East Asia	100%	18%	3%
Oceania	100%	55%	5%
Income			
$0–$19,999	100%	42%	8%
$20,000–$74,999	100%	41%	6%
$75,000+	100%	41%	9%
Race			
White	100%	43%	7%
Black	100%	27%	4%
Hispanic	100%	46%	12%
Other Race	100%	33%	6%
Education			
Less Than Bachelor's	100%	48%	7%
Bachelor's Degree	100%	40%	6%
More Than Bachelor's	100%	41%	9%
Marital Status			
Married	100%	39%	6%
Never Married	100%	45%	11%
Other	100%	51%	5%

Q35. As of November 6, 2018, in which country or countries did your spouse hold citizenship? *Mark all that apply*. [*N* = 4,438][66]

	Spouse citizenship		
	United States	Country of Residence	Other
Respondents	37%	70%	15%
Age			
Age 18 to 24	11%	95%	8%
Age 25 to 34	26%	68%	18%
Age 35 to 44	31%	67%	17%
Age 45 to 54	39%	66%	17%
Age 55 to 64	42%	70%	13%
Age 65 and up	45%	76%	10%
Sex			
Male	38%	67%	17%
Female	37%	72%	13%
Region			
North America	36%	81%	11%
South/Central America / Caribbean	52%	60%	13%
Europe	30%	70%	16%
Sub-Saharan Africa	58%	39%	19%
Middle East / North Africa	62%	74%	19%
North/Central/South Asia	67%	37%	6%
East Asia	30%	58%	16%
South East Asia	46%	56%	9%
Oceania	36%	78%	20%
Income			
$0–$19,999	36%	72%	8%
$20,000–$74,999	33%	74%	11%
$75,000+	40%	66%	19%
Race			
White	37%	71%	14%
Black	16%	80%	16%
Hispanic	39%	67%	20%
Other Race	39%	57%	14%
Education			
Less Than Bachelor's	34%	78%	9%
Bachelor's Degree	35%	71%	14%
More Than Bachelor's	40%	67%	17%
Marital Status			
Married	37%	70%	15%
Never Married	n/a	n/a	n/a
Other	n/a	n/a	n/a

66 This question was shown to respondents who indicated that they were married (Q34).

Q36. Do you have children? [*N* = 6,854]

	Children	
	Yes	No
Respondents	52%	48%
Age		
Age 18 to 24	3%	97%
Age 25 to 34	19%	81%
Age 35 to 44	59%	41%
Age 45 to 54	71%	29%
Age 55 to 64	67%	33%
Age 65 and up	74%	26%
Sex		
Male	56%	44%
Female	50%	50%
Region		
North America	56%	44%
South/Central America / Caribbean	57%	43%
Europe	48%	52%
Sub-Saharan Africa	46%	54%
Middle East / North Africa	73%	27%
North/Central/South Asia	60%	40%
East Asia	46%	54%
South East Asia	55%	45%
Oceania	53%	47%
Income		
$0–$19,999	29%	71%
$20,000–$74,999	49%	51%
$75,000+	63%	37%
Race		
White	53%	47%
Black	61%	39%
Hispanic	44%	56%
Other Race	50%	50%
Education		
Less Than Bachelor's	51%	49%
Bachelor's Degree	46%	54%
More Than Bachelor's	57%	43%
Marital Status		
Married	71%	29%
Never Married	5%	95%
Other	70%	30%

Q37. As of November 6, 2018, in which country or countries did your children hold citizenship? *Mark all that apply*. [*N* = 3,974][67]

Children Citizenship			
	United States	Country of Residence	Other
Respondents	85%	67%	11%
Age			
Age 18 to 24	100%	97%	0%
Age 25 to 34	70%	80%	13%
Age 35 to 44	83%	72%	12%
Age 45 to 54	88%	68%	13%
Age 55 to 64	88%	65%	10%
Age 65 and up	87%	61%	8%
Sex			
Male	85%	63%	11%
Female	86%	71%	10%
Region			
North America	78%	76%	7%
South/Central America / Caribbean	92%	49%	10%
Europe	83%	73%	15%
Sub-Saharan Africa	94%	34%	14%
Middle East / North Africa	94%	76%	9%
North/Central/South Asia	90%	18%	5%
East Asia	98%	44%	5%
South East Asia	90%	40%	6%
Oceania	86%	78%	10%
Income			
$0–$19,999	85%	58%	9%
$20,000–$74,999	85%	70%	9%
$75,000+	86%	66%	13%
Race			
White	85%	69%	12%
Black	81%	48%	6%
Hispanic	86%	68%	9%
Other Race	89%	53%	8%
Education			
Less Than Bachelor's	82%	66%	8%
Bachelor's Degree	85%	71%	9%
More Than Bachelor's	87%	65%	13%
Marital Status			
Married	85%	69%	11%
Never Married	70%	67%	17%
Other	88%	59%	10%

67 This question was shown to respondents who indicated that they had children (Q36).

Q39. In the week before November 6, 2018, did you work either full-time or part-time? [*N* = 6,812]

	Employment Status					
	Yes	No, I was retired	No, I was disabled	No, I was unable to work	No, I was a caretaker or stay-at-home parent	No, other
Respondents	64%	18%	1%	1%	5%	11%
Age						
Age 18 to 24	41%	1%	0%	2%	1%	55%
Age 25 to 34	84%	0%	0%	2%	4%	10%
Age 35 to 44	81%	0%	2%	2%	11%	5%
Age 45 to 54	83%	3%	0%	0%	7%	6%
Age 55 to 64	66%	18%	3%	3%	3%	7%
Age 65 and up	23%	73%	1%	0%	1%	3%
Sex						
Male	67%	21%	1%	1%	1%	9%
Female	62%	16%	1%	2%	7%	12%
Region						
North America	58%	29%	1%	2%	4%	6%
South/Central America / Caribbean	58%	27%	2%	1%	4%	8%
Europe	66%	13%	1%	1%	5%	14%
Sub-Saharan Africa	77%	10%	0%	2%	4%	7%
Middle East / North Africa	61%	22%	1%	1%	3%	12%
North/Central/South Asia	56%	17%	0%	4%	8%	14%
East Asia	87%	3%	1%	1%	4%	5%
South East Asia	52%	31%	5%	1%	5%	6%
Oceania	62%	22%	1%	3%	4%	8%
Income						
$0–$19,999	48%	17%	2%	3%	4%	26%
$20,000–$74,999	63%	23%	2%	1%	3%	8%
$75,000+	74%	12%	0%	1%	5%	7%
Race						
White	65%	19%	1%	1%	4%	10%
Black	67%	20%	2%	1%	1%	9%
Hispanic	67%	11%	1%	2%	5%	13%
Other Race	60%	12%	1%	3%	9%	15%
Education						
Less Than Bachelor's	42%	28%	4%	2%	3%	20%
Bachelor's Degree	65%	15%	1%	2%	6%	11%
More Than Bachelor's	72%	17%	1%	1%	4%	6%
Marital Status						
Married	64%	21%	1%	1%	7%	5%
Never Married	69%	4%	1%	2%	1%	24%
Other	52%	37%	2%	1%	2%	6%

Q40. As of November 6, 2018, did you own any of the following assets within the United States? *Mark all that apply*. [*N* = 5,002]

	U.S. Assets					
	Privately held home or other dwelling	Privately held business	Privately held land	Stocks or bonds	Checking or savings account	Other assets
Respondents	17%	3%	4%	45%	91%	12%
Age						
Age 18 to 24	2%	1%	2%	30%	86%	10%
Age 25 to 34	6%	1%	1%	35%	96%	9%
Age 35 to 44	18%	4%	4%	46%	93%	12%
Age 45 to 54	24%	5%	5%	52%	89%	13%
Age 55 to 64	25%	4%	8%	51%	89%	14%
Age 65 and up	18%	3%	6%	46%	89%	10%
Sex						
Male	17%	4%	6%	49%	91%	14%
Female	16%	2%	3%	41%	91%	10%
Region						
North America	16%	3%	5%	50%	83%	12%
South/Central America / Caribbean	13%	3%	4%	32%	92%	14%
Europe	16%	3%	4%	44%	92%	10%
Sub-Saharan Africa	20%	5%	4%	48%	97%	14%
Middle East / North Africa	19%	4%	5%	48%	91%	10%
North/Central/South Asia	20%	4%	3%	55%	92%	11%
East Asia	19%	4%	8%	44%	95%	12%
South East Asia	20%	4%	3%	46%	92%	14%
Oceania	16%	3%	3%	40%	93%	12%
Income						
$0–$19,999	6%	1%	2%	23%	92%	9%
$20,000–$74,999	11%	2%	3%	37%	91%	9%
$75,000+	24%	5%	6%	57%	90%	15%
Race						
White	16%	3%	5%	47%	91%	11%
Black	18%	3%	4%	21%	86%	15%
Hispanic	12%	3%	4%	34%	92%	10%
Other Race	19%	4%	3%	40%	91%	12%
Education						
Less Than Bachelor's	13%	3%	5%	29%	89%	11%
Bachelor's Degree	15%	3%	4%	41%	91%	11%
More Than Bachelor's	19%	4%	5%	52%	91%	12%
Marital Status						
Married	20%	4%	5%	47%	91%	12%
Never Married	8%	2%	2%	37%	92%	10%
Other	19%	4%	6%	46%	90%	10%

Appendix A: Margin of Error

This survey has a margin of error (MOE) of plus or minus 1.5 percentage points at a 95% confidence level.[68] For questions asked of all respondents, it can be reasonably asserted that the true population value will be within 1.5 percentage points of an estimated proportion, ignoring non-sampling errors.[69] For instance, if the survey were conducted 100 times, the population value for a proportion would be expected to be within the MOE of the point estimate 95 times. Note that precision will be lower for questions not asked of all respondents. Subpopulation MOEs are provided in Table A.1 below.

Table A.1. Margin of Error by Subpopulation

Subgroup	Margin of Error
Respondents	1.5%
Age	
Age 18 to 24	6.8%
Age 25 to 34	3.9%
Age 35 to 44	3.6%
Age 45 to 54	3.4%
Age 55 to 64	3.2%
Age 65 and up	2.8%
Sex	
Male	2.1%
Female	2.1%
Region	
North America	3.6%
South/Central America / Caribbean	6.1%
Europe	2.2%
Sub-Saharan Africa	5.3%
Middle East / North Africa	4.6%
North/Central/South Asia	6.7%
East Asia	6.2%
South East Asia	7.3%
Oceania	5.9%
Income	
$0–$19,999	4.5%
$20,000–$74,999	2.5%
$75,000+	2.2%
Race	
White	1.7%
Black	11.1%
Hispanic	6.7%

68 For more information on MOE, see the weighting section of Volume 3.

69 The margin of error only reflects sampling error, which arises due to not interviewing the entire population. Nearly every survey has the potential for non-sampling errors (e.g., nonresponse and measurement errors), although the study design aimed to minimize such errors.

Table A.1. Margin of Error by Subpopulation	
Subgroup	Margin of Error
Other Race	4.9%
Education	
Less Than Bachelor's	3.8%
Bachelor's Degree	2.6%
More Than Bachelor's	2.1%
Marital Status	
Married	1.8%
Never Married	3.3%
Other	4.2%

2018 Overseas Citizen Population Analysis

Volume 3: Methodology

TABLE OF CONTENTS

(1) DATA AND METHODOLOGY FOR DEVELOPING COUNTRY-LEVEL ESTIMATES OF POPULATION OF U.S. CITIZENS

In general, the U.S. Government does not keep track of where U.S. citizens travel overseas, or where they might be living, working, or studying while overseas. For some nations, it is likely that data on the number of U.S. citizens currently in their country do exist; countries with visa requirements for entry and exit, such as China, should be able to provide information on the number of U.S. citizens in their country at any given time. However, it is not always possible to gain access to these data. Thus, there is no exact count of the total number of overseas citizens; nor do many other nations produce a consistent enumeration of the number of overseas citizens who live within their borders.

Because of these issues and others discussed below, the Fors Marsh Group (FMG) team had to estimate the number of overseas citizens in any given country to be able to accurately measure voter participation among overseas U.S. citizens. These estimates were generated using three primary data sources: foreign country data on the number of U.S. citizens living within foreign countries' borders, U.S. Government administrative data on overseas citizens, and data from academic studies that have examined factors that affect the number of U.S. citizens living in any given country around the world.

The groundwork for this analysis was laid in 2015 when the FMG team conducted this analysis for the 2014 election and was refreshed to produce the updated estimates for the 2016 election. This section discusses the data collection, imputation, and estimation methodology from 2017, as well as how it was updated to produce new estimates for the 2018 election.

Foreign Government Estimates of their U.S. Citizen Population

There are several sources for Foreign Government Estimates (FGEs) of the U.S. citizens living in each country. The FGEs used in the analyses come from several sources: (1) the United Nations Statistics Division, which collects data on migrant stocks from the statistical agencies from many countries; (2) census microdata collected and standardized by the Minnesota Population Center's Integrated Public Use Microdata Series IPUMS International; (3) documents released by countries' national statistical agencies; (4) the Organisation for Economic Co-operation and Development (OECD) International Migration Database, which provides data on the number of U.S. citizens during the years 2000 to 2020 for most OECD countries; and (4) a U.S. Census Bureau internal document titled, "Estimating Native Emigration from the United States," which was compiled as part of a project to estimate U.S. net emigration.

The primary methods that foreign governments use to track the population of U.S. citizens in their country are censuses and registries. The FMG team used both census and registry data, in addition to an indicator variable, to account for the difference in collection method. Countries vary in who they consider to be a U.S. citizen for purposes of a census or registry. Some countries count only U.S. citizens and others count only individuals born in the United States. The groups defined

Foreign Government Estimates (FGE)

The term "foreign government estimate" (FGE) will be used throughout this report. These estimates refer to two different concepts, depending on the context. First, FGEs are the data that foreign governments have, through registries and census, on the number of U.S. citizens living in their country. Second, the term FGE is used to describe the updated estimates we generate for all countries—for those who have FGE data and those for whom we have to fully estimate the U.S. citizen population living in their country.

Census versus Registry

This report also uses the terms "census" and "registry," and it is important to understand the distinction between the two.

- *A census is a country-wide, periodic data collection that tallies all residents.*
- *A registry is a compilation of administrative records from numerous sources.*

Registries may provide more complete counts if they are updated often and if they are drawn from several different sources (such as tax records, visas, school forms, etc.). One major disadvantage of registries is that U.S. citizens may continue to appear on a foreign registry for several years after they no longer reside in that country.

by these two criteria have significant overlap, but a small proportion of individuals belong to only one of those groups. The FMG team accounted for this discrepancy by having an indicator variable for whether the country uses U.S. citizens or U.S.-born individuals, allowing ultimately for the estimation of the number of U.S. citizens, despite this variation by country. Because countries that allow dual citizenship may undercount resident U.S. citizens by counting dual citizens as their own, a variable was created to indicate countries that allow their citizens to maintain dual citizenship with the United States.

Some countries use ambiguous terminology, meaning it could not always be determined if a country was measuring U.S. citizens or U.S.-born individuals. The country of Kiribati in the Central Pacific serves as such an example. In Kiribati's census questionnaire, individuals are asked to list their "home country," but further clarification is not offered on whether the term refers to the individual's country of birth, country of citizenship, or an alternative definition. Other countries instead ask for each individual's nationality, but again do not specify how they define nationality. When these cases could not be resolved with certainty, they were excluded from the analysis.

FGEs are not available for every country, and many release estimates on a cycle of every five or 10 years. In addition, some countries with complete data—foreign government data on U.S. citizens in their country, U.S. administrative data, and all other variables—still have errors in their FGEs because of the differences between registries and censuses. To have a complete and accurate estimate of the total number of overseas U.S. citizens, the FMG team estimated models to generate FGEs for all countries—those with complete data including FGE, and those without an FGE. To accomplish this, U.S. administrative data on overseas citizens were collected, as well as additional predictors that research has demonstrated to be correlated with migration.

U.S. Administrative Records on Overseas Citizens

Several federal agencies collect data on overseas citizens and release statistics about subsets of that population. The FMG team used these data to estimate the total number of U.S. citizens in a given country. The key administrative data used were:

Number of U.S. Exchange Students, 2000–2018: This is the total number of U.S. exchange students attending foreign universities in each country for each year during the period 2000–2018.

Number of Social Security Beneficiaries, 2000–2018: This is the number of overseas Social Security beneficiaries, as reported annually by the U.S. Social Security Administration (SSA). Counts were available for each year during the period 2000–2018.

Number of Foreign Earned Income Returns, 2000–2016: This is the estimated number of Internal Revenue Service (IRS) Form 2555 returns (used to declare foreign income) filed by U.S. citizens living in a country in a given year (Hollenbeck & Kahr, 2009). Each form represents at least one U.S. citizen residing in the country. Data were not available for some countries, and for the subset of countries with estimates, they were only available for 1996, 2001, 2006, 2011, and 2016. Data were available on either a by-country or by-region basis.

Number of Civilian U.S. Federal Government Employees, 2000–2018: The number of civilian U.S. Federal Government employees residing in a country in a given year, as reported to the Federal Voting Assistance Program (FVAP) by the Office of Personnel Management (OPM).

There are additional administrative records in existence, such as overseas deaths, consulate registrations, and counts of military personnel. However, these data sources were not incorporated into this analysis for several reasons. Some of these data are classified, sensitive, or otherwise not available to the general public; including them in the analysis would have precluded other researchers from reproducing the results and, thus, undermined the transparency of these analyses. Another concern is that these additional sources of data are likely to be quite strongly associated with tourism or military presence, rather than resident citizens, and that including them would add error by overestimating the number of U.S. citizens in countries with a military presence or a high volume of tourists from the United States.

Filling the Data Gap—Imputation and Estimation

Most modeling techniques require the predictor fields to be completely populated. Therefore, to be able to use the administrative data to model the U.S. overseas citizen population, missing data had to be addressed. In other countries, especially countries with low government capacity and with smaller populations, FGEs may be incomplete or nonexistent. Data from smaller countries may not be available because, as a rule, the U.S. Government does not report data when too few people meet a certain criteria. For example, there may be such a small number of U.S. tax filers living in Timor-Leste that the U.S. Government does not release records for Timor-Leste because of privacy considerations. It is probable that missing data is thus also correlated with migration, meaning that simply dropping country-years with missing data or filling them in with the mean would introduce bias into the estimates.

To be able to model the full set of country-years without biasing the estimates, additional data were collected to impute the missing data. As the OECD explains, “Imputation is the process used to determine and assign replacement values for missing, invalid or inconsistent data [...] This is done by changing some of the responses or assigning values when they are missing [...] to ensure that estimates are of high quality and that a plausible, internally consistent record is created.”

The FMG team imputed missing U.S. administrative data by creating a predictive model that relies on variables known to be associated with higher levels of migration between countries. These mobility variables include:

The Difference Between Foreign Country and U.S. Gross Domestic Product (GDP) per capita at Purchasing Power Parities (PPP) (Constant 2011 international dollars): This variable is the difference between the PPP-converted GDP per capita of the foreign country and the United States

in a given year in constant 2011 dollars, as reported by the World Bank's World Development Indicators. Research shows that countries with more favorable economic conditions are more attractive to U.S. citizens and, thus, have larger U.S. citizen populations. For countries for which this variable was missing (Taiwan, Cuba, Somalia), the data was imputed by regressing the log of the World Bank GDP per capita on the log of the GDP per capita provided by the Penn World Tables for a sample of countries in which both estimates were available. The resulting model was then used to impute the World Bank estimate for those countries with only a Penn World estimate. Version 9.1 of the Penn World Tables was used for Taiwan, and version 7.1 was used for Cuba and Somalia. The resulting predictions for Cuba and Somalia were extrapolated to 2018.

Population: This variable refers to the population of the foreign country, as reported in World Bank's World Development Indicators. The literature on international migration has typically found that countries with larger populations and economies tend to attract more migrants (Lewer & Van den Berg, 2008).

Distance From the United States: This variable is the distance between the closest foreign city and U.S. city that both have a population over 750,000. For countries that do not have a city with a population over 750,000, the distance between the capital city of the foreign country and the closest U.S. city with a population of at least 750,000 was used. Distance has typically been found to be associated with lower levels of migration between two countries (Lewer & Van den Berg, 2008), likely because the larger distance is related to higher costs of migration (owing to factors such as travel and moving expenses).

Trade with the United States: This variable refers to the mean end-of-year product trade (imports plus exports) between the United States and the foreign country, limited to the years 2000–2018, as reported by the Census Bureau. Trade has been linked to migration between trading countries (Felbermayr & Toubal, 2012; Sangita, 2013).

Institutional Quality: This variable is the average of the six World Bank's Worldwide Governance Indicators (WGI)—Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption—averaged across the years 1996–2018. This variable serves two purposes: First, research has found that institutional quality, and particularly the degree of political stability, is a determinant of net migration to countries (Ziesemer, 2010). Countries with good institutional quality are expected to have higher numbers of U.S. citizens. Second, countries with low governance quality are also likely to have poor FGEs, because they are unlikely to invest in the human capital of their bureaucracy.

Number of Immigrants in the United States: This variable is the number of immigrants from a foreign country ages 25 and up in the United States in the year 2000 as reported by Artuc et al. (2013). One type of potential out-migrant from the United States is an immigrant from a foreign country (or their offspring) who then decides to return to his or her country of origin (Scheuren, 2012). A more general justification for the inclusion of this variable is that it may proxy for factors that promote or inhibit migration both to and from the United States, such as transportation costs. Consequently, countries with larger numbers of immigrants in the United States would be expected to have larger numbers of U.S. citizens. On the other hand, the number of immigrants in the United States from a country may also be negatively associated with the number of U.S. citizens in that country, if factors that affect migration flows asymmetrically (such as political instability) are salient. The uncertainty regarding relationship direction is not a limitation for this predictor because the estimation strategy does not require an assumption of a positive or negative relationship.

U.S. Military Aid: This variable refers to the total amount of military assistance in constant dollars made by the United States to the foreign country between 1946 and 2015 as reported by United States Agency for International Development (USAID). Aid to foreign countries by the U.S. Government, and the associated interaction between those governments, may promote migration from the United States to the foreign beneficiary countries by facilitating the transfer of information about the foreign country to potential U.S. migrants (Berthelemy, Beuran, & Maurel, 2009). In addition, aid may be a proxy for general diplomatic ties (Alesina & Dollar, 2000) associated with foreign government policies that are advantageous to U.S. migrants, leading to increased U.S. migration to the country.

English or Spanish: This is a variable regarding whether English or Spanish is spoken in the foreign country. The information is taken from *Ethnologue: Languages of the World* (Lewis, Grimes, Simons, & Huttar, 2009). These variables may proxy for cultural distance between the United States and the foreign country as well as for the ability to succeed in the host country's labor market (Adsera & Pytlikova, 2012). Given that English and Spanish are the two most widely spoken languages in the United States, countries where these languages are commonly spoken are expected to attract more U.S. citizens.

Trend: This is a linear trend variable that controls for trends in the size of the overseas U.S. citizen population common to all countries and not explained by other theoretical variables. It accounts for variation in factors that affect migration to all other countries, such as advances in communication technology, changes in transportation costs, or general geopolitical factors. These factors may include population growth through births of U.S. citizens, whether overseas or within the United States, which would be expected to affect the total number of overseas U.S. citizens. This variable may also capture changes in transportation costs over the 2000–2018 period of study, which would also be expected to affect the tendency of U.S. citizens to migrate.

To impute data on exchange students, log-linear interpolation and extrapolation methods were used to determine values for missing years, as needed. Countries without a count for any year were assigned a value of zero.

For the SSA and IRS data, the FMG team imputed the missing data for countries for which there were no data. For the SSA data, most years had very reliable administrative counts on the total number of beneficiaries from a region (e.g., Africa) and by country. To impute the number of beneficiaries for African countries without counts, the number of beneficiaries from those countries that had a country count from the SSA was subtracted from the region total. For example, if there were 10,000 beneficiaries for Africa, only South Africa was provided with a count, and 500 beneficiaries were listed from South Africa, 500 were subtracted from the 10,000 regional total. There would be a remaining 9,500 beneficiaries to allocate to the countries without specific counts. To allocate the remaining beneficiaries, a model was created using the variables listed above.

The FMG team used this model to generate predicted numbers for those countries without estimates and distributed the unassigned beneficiaries of a region in proportion to that prediction. For example, a highly-populated African country where English is the primary language that has a relatively high GDP has more beneficiaries allocated to it compared to a highly-populated French speaking country in Africa with a relatively low GDP. A similar methodology was employed to generate estimates for the number of IRS returns for those countries for which the IRS does not already provide estimates. Once all countries have an estimate for the years for which data are available, estimates for the remaining years are produced using log-linear interpolation or extrapolation.

The collected and imputed data yield the final set of variables that will be used to model the foreign country population estimates.

Estimating the Overseas Citizen Population

Because of the complexity of migration, there is no clear indication of which variables—and which combination of variables—will be the most predictive, and there are too many possible combinations to include all of them. To address this uncertainty, a variant of a method called ensemble Bayesian model averaging (EBMA) was used. EBMA has been found to yield more accurate predictions than using a single model when predicting armed conflicts or the outcome of presidential campaigns (Montgomery et al., 2012). The general approach of EBMA is to take predictions from multiple models (i.e., ensembles) and create an average of all the estimates weighted by the model's fit to the data in combination with each model's correlation or redundancy with predictions derived from other models. The resulting estimate is designed to be more accurate than the estimates derived from any single model by minimizing the effects of overfitting the data resulting from individual model specifications. At the same time, this method allows the final estimate to incorporate as much information as possible from the predictor variables.

The data collected, along with the data imputations, yield the final set of variables that will be used to model the foreign country population estimates. As noted above, FGEs are only available for some countries for some years, and counts of demographic subgroups are available for even fewer countries and years. In addition, some countries with complete data—foreign government data on Americans in their country, U.S. administrative data, and all other variables—will still have errors in their FGEs because of the issues associated with registries, censuses, and other factors. Therefore, the FMG team ran models to generate FGEs for all countries: those with complete data, including FGEs, and those without FGEs.

Several possible models and approaches can be used to develop this type of estimate. These models differ both in the underlying mathematical algorithms and in the choice of variables used to create the predictions. In an effective predictive model, the outcome variable (in this case, the population of U.S. citizens) is related to the predictor variables in a systematic way. Because the FGE is strictly positive and bounded from below at zero, each model was estimated using a Poisson regression. The FMG team ran this model for every combination of predictor variables and then derived an average prediction.

The *N* models take the form:

$$\mathbf{FGE}_{\mathbf{it}}^{\mathbf{m}} = \mathbf{e}^{\beta \mathbf{C}_{\mathbf{it}} + \beta \mathbf{X}_{\mathbf{it}}^{\mathbf{m}} + \gamma 1 \mathbf{REGISTRY}_{\mathbf{it}} + \gamma 2 \mathbf{CITIZEN}_{\mathbf{it}} + \gamma 3 \mathbf{DUAL}_{\mathbf{it}} + \gamma 4 (\mathbf{DUAL}_{\mathbf{it}} * \mathbf{CITIZEN}_{\mathbf{it}}) + constant}$$

Dual Citizens

One critical issue that needed to be addressed in this model was the handling of dual citizens. Many countries encourage dual citizenship as a way to promote continued engagement with their expatriate populations (Lafleur, 2012). These policies may therefore promote return migration, reflected in a larger FGE. Therefore, including DUAL in the model, and allowing predictions to vary with DUAL, is important in the present circumstance because whether a country allows dual citizenship with the United States may have an effect on the size of the U.S. citizen population given that the prospect of gaining citizenship in the host country while retaining U.S. citizenship may encourage immigration to that country. In addition, DUAL may proxy for unobserved policies that encourage U.S. citizen migration as well as historical connections with the United States.

In this model,

- *FGE* is the foreign government estimate of the size of the U.S. citizen population in country *i* in year *t* (i.e., there is at most one estimate for every country-year for the period 2000 to 2018).
- *C* is a vector of variables reflecting the (natural log of the) size of particular subpopulations of the U.S. citizen population and is thus highly likely to be correlated with the FGE. For this reason, these variables are included in every model. In these models, these variables are all of the U.S. Government administrative data for each country for each year.
- *X* is a vector of predictor variables that are likely to explain variations in the U.S. citizen population of country *i* included in model *m*. These include the mobility variables described in the previous section. Because it is unknown which, if any, of the mobility variables improve model fit most effectively over a model with just subpopulation counts, models were run for every combination of mobility variables (including one specification with no such variables).
- *REGISTRY* is a variable that takes a value of 1 if the country's FGE is based on a registry count, and 0 otherwise.
- *CITIZEN* is a dummy variable that takes a value of 1 if the FGE pertains to the number of U.S. citizens in the country, and 0 otherwise.
- *DUAL* is a dummy variable that takes a value of 1 if the country allows dual citizenship with the United States, and 0 otherwise. [70]
- *DUAL * CITIZEN* is an interaction variable that takes a value of 1 if the country allows both dual citizenship and has an FGE that counts U.S citizens, and 0 otherwise.

The goal is to estimate the difference between the number of overseas U.S. citizens in countries that both allow dual citizenship and count the number of U.S. citizens, and countries that do not meet one or both of these conditions. Specifically, predictions are generated under the assumption that no country meets both of these conditions (i.e., DUAL*CITIZEN = 0) as it is under such circumstances that one is most likely to encounter citizenship misclassification and, thus, inaccurate citizen counts. In other words, citizenship-based FGEs for countries that allow dual citizenship are adjusted in such a way that the prediction incorporates dual citizens. To generate these predictions, REGISTRY is assumed to equal 0, CITIZEN is assumed to equal 1, and (DUAL * CITIZEN) is assumed to equal 0 for all countries. The constraints applied to REGISTRY, CITIZEN, and the DUAL*CITIZEN product make the final predictions more comparable with respect to the population. To be specific, a count of U.S. citizens (i.e., CITIZEN = 1) is enumerated using a census (REGISTRY = 0).

70 "Dual Citizenship" in this case means individuals can be citizens both of the country and the United States. Consequently, this variable is also coded as 1 for countries with that allow for citizenship for more than those two countries.

Averaging Across Models

Estimating the overseas U.S. citizen population was complicated because it was not clear which variables—and which combination of variables—should be used to model this population. To address this uncertainty, the FMG team used EBMA, which has been found to yield more accurate predictions than using a single model when applied to predict armed conflict or the outcome of presidential campaigns (Montgomery et al., 2012). The general approach of EBMA is to take predictions from multiple models (i.e., ensembles) and create an average of all the estimates weighted by the model's fit to the data in combination with each model's correlation or redundancy with predictions derived from other models. The resulting estimate is designed to be more accurate than the estimates derived from any single model by minimizing the effects of overfitting the data resulting from individual model specifications. At the same time, this method allows the final estimate to incorporate as much information as possible from the predictor variables.

Models

For the estimates of the overseas U.S. citizen population, the baseline model includes (1) all U.S. Government administrative data, (2) data about whether a country has a registry or census, (3) how that country counts a U.S. citizen, and (4) if the country allows dual U.S. citizenship. Additional models that include every combination of the migration research variables are also estimated.

The model space from which this average prediction is derived takes the form of all possible combinations of predictor variables. For *k* predictors, the number of models, *N*, equals 2^ (*k*) (including the model with no theoretical predictors, as described above). As applied to the estimation of overseas U.S. citizens, this approach is not likelihood-based (instead, it is based on root mean square error; see below) and, therefore, is not Bayesian. Consequently, the modeling approach is simply referred to as ensemble model averaging (EMA).

The final estimate of the overseas U.S. citizen population for country *i* in year *t* is:

$$\exp\left(P_{it}\right) = \exp\left(\sum_{m=1}^{N} w^{m} P_{it}^{m}\right)$$

or the anti-log of the average of all linear predictions for the country across *N* models, weighted by model validation metric *w*.

The model validation metric *w* can be expressed in reduced form as:

$$w^{m} = \frac{f^{m} * c^{m}}{\sum_{m=1}^{N} f^{m} * c^{m}}$$

In which f^{m} is the component of the metric that indicates how well model *m* fit the data. f^{m} can be written as:

$$f^m = \frac{(\frac{1}{MSE^m})}{\sum_{m=1}^{N}(\frac{1}{MSE^m})}$$

in which the MSE is the mean squared error. The MSE is determined through *K*-fold cross-validation (Stone, 1977); each observation in the sample is randomly assigned to one of *K* subsamples, the model is estimated using the *K* – 1 subsamples, predictions are produced for the excluded validation sample, and the MSE (weighted by the selection bias weight α_i, from above) is generated for that subsample. The cross-validation procedure is repeated *K* times, with each subsample acting as the validation sample in turn. The cross-validation step is then repeated *S* times, with the average of the *S* * *K* MSEs used as the model MSE. In this application, *K* = 5 and *S* = 10.

Overfitting and In-Sample Data

Overfitting often occurs when a model is made overly complex so that the results best fit the data being used for estimation (the "in-sample" data). This overfitting can affect the quality of the forecasting and prediction. The approach used here helps alleviate concerns about model overfitting by using model averaging and cross-validation.

Each model's contribution to the final estimate is therefore determined by its out-of-sample predictive ability, minimizing overfitting that could result from determining model performance based only on in-sample fit. Testing the model using countries that were not used to build the model allows for a more robust test as its predictive power is more likely due to variation in the U.S. citizen populations in these countries and not random measurement error (Hawkins, 2004; Ward, Greenhill, & Bakke, 2010).

The other component of the model validation metric, c^m, captures the degree to which the predictions generated by a model are correlated with predictions generated by other models. Specifically:

$$c^m = \frac{1/\sum_{j=1}^{N-1}\mathrm{Corr}(P^m, P^j)}{\sum_{m=1}^{N}(1/\sum_{j=1}^{N-1}\mathrm{Corr}(P^m, P^j))}$$

in which Corr is the correlation coefficient between models *m* and *j*. In other words, c^m is larger when a model is relatively uncorrelated with other models. The model validation metric w^m is larger when models simultaneously (1) make relatively accurate out-of-sample predictions, and (2) are uncorrelated or not redundant with predictions made from other models. The validation metric, therefore, focuses on the models that are best at prediction, while also being sure to include a diverse set of model specifications rather than just minor variations of the same model. The proposed validation metric thus rewards accuracy and penalizes redundancy.

Mitigating Selection Bias

One potential issue with the modeling strategy outlined so far is that countries for which FGEs are available may have different characteristics than those where FGEs are not available. In particular, countries without FGEs tend to be poorly governed and tend to have relatively low economic output.

To account for this potential selection bias that may result from countries with FGEs being different in ways that may also affect the size of their overseas U.S. population, each country is given a weight for the purpose of model estimation:

$$\alpha_i = \frac{1}{\Pr(\mathrm{FGE})_i * n_i}$$

in which Pr(FGE) is the predicted probability that a country has an FGE during the years 2000 through 2018 based on its observable characteristics and *n* is the number of years for which country *i* has an FGE. The predicted probability of having an FGE is generated using a logit regression in which the sample is all countries for which predictions are made. Predictor variables include all variables in vectors *C* and *X* in the estimation equation along with U.S. State Department region dummy variables. Data for the predictor variables for this selection equation were obtained for the year 2000. The result of the weighting is that countries with FGEs that have a low probability of having an estimate (based on the selection bias equation) have more weight when generating model parameters and predictions, resulting in more accurate EMA predictions for countries without estimates, and more accurate parameter estimates than those that would be generated in an unweighted model. This mitigates selection bias when there is not an unobserved factor (i.e., one not included in the model) that affects both the size of the FGE and whether a country has an FGE (Wooldridge, 2002). Including *n* in the denominator of the weight accounts for the overrepresentation of some countries in the sample because they have had FGEs for multiple years.

Estimating the Eligible Voter Population

To estimate the number of U.S. overseas citizens who are eligible to vote, the modeled estimates needed to be filtered to include only individuals who were 18 years and older. The FMG team started the estimation process by using data from the Database on Immigrants in OECD Countries (DIOC). This data set provides counts of international migrants 15 years of age and older in OECD and some non-OECD countries by country of origin, divided into demographic groups defined by age, education, and sex. There are three age categories (15–24, 25–64, 65 and older), three education categories (No Education/Primary Education, Secondary Education, Post-Secondary Education), and two sex categories, for a total of 18 demographic groups. The population of U.S. citizens under the age of 15 was estimated for a subset of the DIOC country-years by subtracting the total population aged 15 and older from an available FGE to get the population under age 15, resulting in a total of 19 demographic groups encompassing the entire U.S. citizen population in a country.

However, the DIOC has not released new estimates since 2014, so the FMG team collected additional estimates from IPUMS International data. The IPUMS International website organizes census microdata from countries across the world; these data were collected and aggregated to mirror the same population categories as the DIOC data. In cases in which data were available from both the DIOC and IPUMS for a given country-year, the IPUMS data were used. Unlike the

DIOC data, the under-age-15 population was available in the IPUMS data and did not require imputation.

The model-averaging methodology was used to obtain predictions for both the aggregate population as well as the sizes of each age-sex-education group for all countries in the frame for the years 1996 to 2018. The size of each stratum was then rescaled so that the total number of U.S. citizens in each country across all groups was equal to the total number of U.S. citizens in each country as estimated in the updated 1996–2018 populations. In practice, after allocating the population across groups for each country, the group of individuals who were under age 15 was removed first, as was a proportion of the age 15–24 group who were under age 18. This was done by removing a proportion of those who do not have a high school education, equivalent to the proportion of the relevant domestic U.S. population who are age 15–17. The estimated counts by demographic strata were then used to obtain an estimate of the size of the eligible population. This ultimately resulted in an estimate of the number of voting-eligible U.S. citizens residing in each country from the years 1996 to 2018.

(2) METHODOLOGICAL CHANGES AND VALIDATION

Collected Data Validation

As discussed in the previous section, the data sets used as predictors in the initial iteration of the analysis were updated by collecting any newly-released data. Of these data sets, there were three types of changes: newly released data, methodological changes, and the inclusion of data from a separate source.

Of the 13 sources of data used as predictors of the number of U.S. overseas citizens, nine had updates available, two of which had made substantial methodological changes that necessitated more detailed validation (see Table 2.1). Overall, the changes to the data sets were either just an increase in coverage, or were changes to the pre-existing data that are an improvement over the data used for the 2016 analysis and are expected to improve the precision of the 2018 analysis.

Table 2.1. Summary of Updates to Data

Variables	Source	Updates Available	Methodological Changes
Federal Government Employees	Office of Personnel Management	Yes	None
Students Abroad	Institute of International Education	Yes	None
Social Security Beneficiaries	Social Security	Yes	None
World Governance Indicators	World Bank	Yes	None
Trade	U.S. Census Bureau	Yes	None
Population, GDP per Capita	World Development Indicators/Penn World Tables	Yes	Switched to World Development Indicators as a source of GDP data due to lack of availability of data for most countries in the most recent Penn World Tables.
Military Aid by U.S.	U.S. Agency for International Development	Yes	None

Table 2.1. Summary of Updates to Data			
Variables	Source	Updates Available	Methodological Changes
U.S. Born Population Demographics	DIOC and IPUMS	Yes	IPUMS data collected to supplement existing DIOC data
Population by Age, Sex, and Education	DIOC	No	None
IRS Form 2555s	IRS Statistics of Income	Yes	None
Distance	United Nations World Urbanization Prospects	No	None
Language Spoken	*Ethnologue: Languages of the World*	No	None
Immigrants in the U.S.	Artuc et all (2013)	No	None

Estimates Validation

For the overseas citizen population estimates, two validation tests were conducted. First, the Federal Voting Assistance Program (FVAP) estimates were compared to the estimates generated in 2018. Second, the FVAP estimates were compared to estimates produced by the World Bank. Together, these tests help determine whether the estimated geographic distribution of the overseas citizen population is reasonable.

If the Foreign Government Estimates (FGEs) used to generate the FVAP estimates were subject to substantial measurement error, then the estimates themselves would be less accurate due to overfitting. This measurement error would be unlikely to be correlated with the predictors in a way that is consistent with theory.

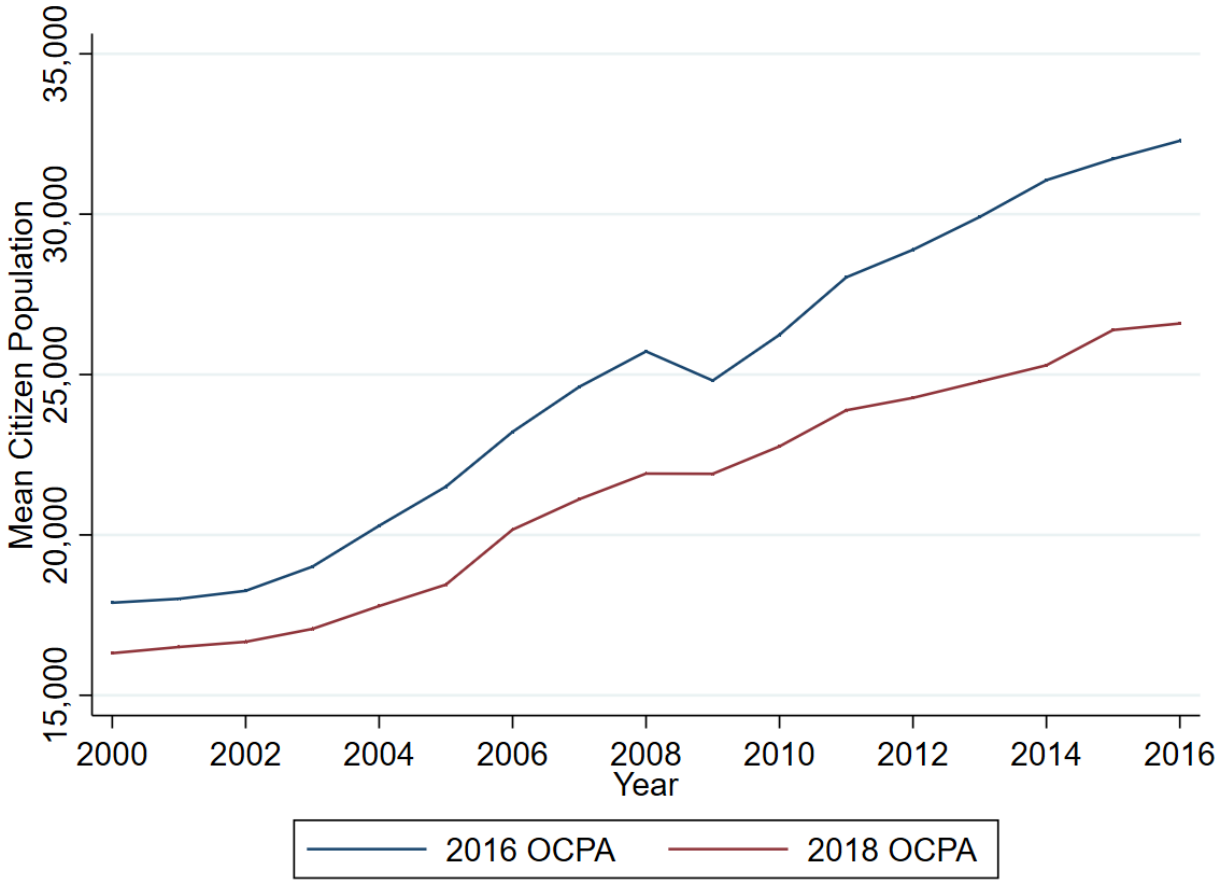
Testing Against Previous FVAP Estimates

The first way the new set of estimates were validated was by comparing them to the official estimates produced for 170 countries in 2016. Because the changes to the predictor data were minimal, it follows that the resulting estimates should still be highly correlated with the previous set of estimates. If the models were not performing well, then the unexplained variance would result in a low correlation between the estimates. In this section the new overseas U.S. citizen population and eligible voter population estimates are compared to the 2018 estimates by calculating the correlations, comparing the global averages over time, and evaluating the changes to the estimates for overlapping years.

Overall, the changes in the estimated geographic distribution of the U.S. citizens population were minor. The new country-level estimates had a correlation of approximately .97, and the median ratio of the new estimate over the old estimate was fairly close to 1 (1.08 for overseas citizens;

1.26 for the Overseas Citizen Voting Age Population [OCVAP]). However, countries with larger U.S. populations were more likely to see a decrease in their new estimates, resulting in an overall decrease in the estimated U.S. overseas citizen population. Figure 2.1 below shows the average estimated U.S. citizen population by country over time for both the old and new estimates. Although the new estimates are consistently lower on average, the two sets of estimates follow the same trend year over year, and the new estimates continue the trend for 2017 and 2018, which previously had no estimates.

Figure 2.1. Average U.S. Citizen Population by Country Over Time



As the table below demonstrates, the countries with the biggest proportional changes in their U.S. citizen population estimates were the ones with especially low populations. This is to be expected, as a change in the estimate of just a couple dozen people can have a dramatic effect on the proportion for small counties. Additionally, less administrative data are generally available for smaller countries compared to larger ones. Although imputation was used to fill in the gaps, imputation is still less accurate and stable than measured data, and thus can introduce additional variance.

Table 2.2. Top Percentage Changes in FVAP Overseas Citizen Population Estimates							
Top Increases in U.S. Citizen Estimates				Top Decreases in U.S. Citizen Estimates			
Country	Year	New Estimate	Percent Change	Country	Year	New Estimate	Percent Change
Djibouti	2000	23	793%	Venezuela	2016	3,425	-68%
Djibouti	2001	29	634%	Haiti	2016	2,321	-61%
Sao Tome and Principe	2000	23	424%	Venezuela	2015	4,840	-59%
Djibouti	2002	39	418%	Haiti	2015	2,336	-59%
Djibouti	2003	49	395%	Suriname	2016	478	-58%
Maldives	2005	718	293%	Venezuela	2014	5,705	-58%
Maldives	2006	752	293%	Haiti	2014	2,408	-54%
Djibouti	2004	65	280%	Venezuela	2013	6,631	-54%
Maldives	2010	693	264%	Bolivia	2011	1,394	-52%

By contrast, Table 2.3 shows that the countries with some of the largest U.S. citizen populations are the ones that saw the biggest changes in their estimates in terms of raw counts. Israel, Hong Kong, and Switzerland all saw large increases in their estimates for multiple years, whereas the estimates declined for Mexico in recent years.

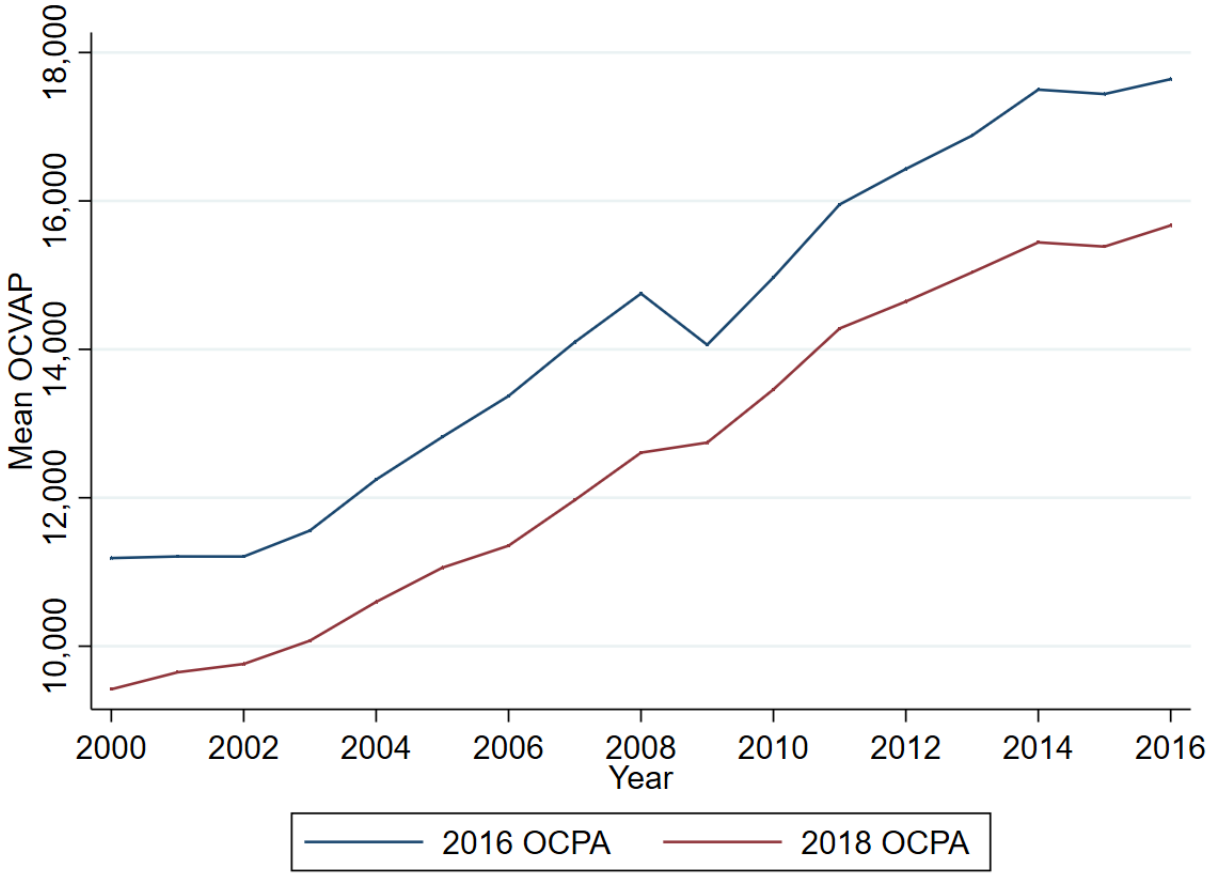
Table 2.3. Top Overall Changes in FVAP Overseas Citizen Population Estimates							
Top Increases in U.S. Citizen Estimates				Top Decreases in U.S. Citizen Estimates			
Country	Year	New Estimate	Change	Country	Year	New Estimate	Change
Israel	2016	183,491	55,099	Mexico	2016	578,772	-512,434
Israel	2015	171,031	36,680	Mexico	2015	583,294	-483,150
Hong Kong	2015	90,195	29,545	Mexico	2014	567,105	-459,372
Switzerland	2015	88,703	28,590	Mexico	2013	561,054	-419,235
Switzerland	2014	85,752	28,353	Mexico	2012	556,268	-375,410
Switzerland	2012	81,801	28,211	Mexico	2007	563,486	-347,191
Hong Kong	2016	90,037	28,145	Mexico	2011	564,981	-341,619
Switzerland	2013	84,796	28,042	Mexico	2008	558,545	-337,624
Israel	2014	165,566	27,648	Mexico	2006	547,879	-333,993
Switzerland	2016	92,091	27,152	Mexico	2005	497,195	-324,689

Despite the examples showing poorer agreement across estimates outlined above, with a correlation of .97, the newly generated estimates follow closely with the estimates produced in 2018. Because the changes to the predictor data sets were determined to be an improvement on the predictor data used in the previous iteration, the differences in the estimates of the overseas U.S. citizen population can be viewed as an increase in accuracy over the original estimates.

Because of the updates to the U.S. citizen subpopulations discussed in the data validation section, the changes to the eligible voter population were more substantial, although the old and new estimates still had a correlation of .98. Because of the addition of additional Integrated Public Use Microdata Series (IPUMS) data on overseas U.S. citizens demographic subpopulations, the average estimate of the percent of U.S. citizens over 18 years of age increased by an average of 6 percentage points, resulting in eligible voter estimates that were on average 1.4 times what they were in the 2018 estimates.

Similar to the U.S. citizen estimates, the plot below shows that despite the changes in the estimate of the proportion of citizens who are eligible, the new eligible voter estimates follow the same trend year over year as the original estimates, and continue the trend into 2017 and 2018.

Figure 2.2. Average Eligible Voter Population by Country Over Time



As with the U.S. citizen updates, although the biggest country-years shifts in the eligible voter estimates may appear to be drastic, they are all for countries with small U.S. citizen populations. In this case almost all have fewer than 2,000 estimated eligible voters, meaning they have a very minimal impact on the overall eligible population estimates.

Table 2.4. Top Overall Changes in FVAP Eligible Voter Estimates							
Top Increases in Eligible Voter Estimates				Top Decreases in Eligible Voter Estimates			
Country	Year	New Estimate	Percent Change	Country	Year	New Estimate	Percent Change
Djibouti	2000	23	806%	Venezuela	2016	638	-79%
Djibouti	2001	29	647%	Nicaragua	2000	266	-77%
Comoros	2016	83	509%	Venezuela	2015	866	-75%
Comoros	2015	76	439%	Nicaragua	2001	269	-75%
Sao Tome and Principe	2000	22	434%	Haiti	2000	225	-70%
Djibouti	2002	39	427%	Venezuela	2014	1,277	-70%
Central African Republic	2016	269	427%	Philippines	2016	12,422	-69%
Gambia	2016	318	420%	Haiti	2001	229	-66%
Comoros	2014	79	405%	Philippines	2015	12,839	-66%
Djibouti	2003	48	403%	Suriname	2016	283	-65%

Being two of the countries with the largest U.S. citizen population, it is unsurprising to see Canada and Mexico at the top of the list of country-years with the greatest overall decrease in the eligible voter population (Table 2.5).

Table 2.5. Top Overall Changes in FVAP Eligible Voter Estimates							
Top Increases in Eligible Voter Estimates				Top Decreases in Eligible Voter Estimates			
Country	Year	New Estimate	Change	Country	Year	New Estimate	Change
Israel	2016	162,324	48,673	Canada	2016	487,954	-134,538
Israel	2015	151,498	32,217	Mexico	2000	76,592	-130,018
Switzerland	2015	78,856	27,672	Mexico	2015	80,785	-122,316
Switzerland	2014	75,893	26,922	Canada	2015	489,493	-121,206
Switzerland	2016	81,988	26,830	Mexico	2016	80,494	-120,921
Hong Kong	2016	60,463	26,489	Mexico	2001	75,615	-120,158
Switzerland	2013	74,683	26,335	Mexico	2014	86,860	-119,117
Hong Kong	2014	60,074	26,071	Mexico	2006	76,365	-118,414
Hong Kong	2015	59,243	26,064	Mexico	2002	77,249	-116,436
Hong Kong	2013	59,389	25,979	Mexico	2007	77,663	-115,453

To establish whether the changes in the estimates are likely to represent improvements over the estimates generated in the 2016 Overseas Citizen Population Analysis (OCPA), both sets of estimates are compared to a third source of data on the geographic distribution of OCVAP living outside the United States: the number of absentee ballot requests or transmissions by country. For reasons discussed in Volume 1 of this report, the ballot request rate is likely to differ across countries, and thus one would not expect either set of estimates to be perfectly correlated with the

number of ballot requests. However, if the OCVAP estimates were capturing the true OCVAP, the number of ballot requests would still be expected to be strongly correlated with the estimated OCVAP across countries. For the 2016 General Election, the correlation between the 2016 OCVAP estimates generated in 2018 and the number of ballot transmissions was .92, while the correlation with the updated 2016 OCVAP estimates are .95. The correlations with the numbers of votes recorded in 2016 were .92 and .95, respectively. Both sets of estimates are similarly highly correlated with the number of ballot requests and votes recorded, though the updated estimates have a slightly stronger correlation, consistent with the updates to the data and leading to an improvement in the estimates.

Testing Against World Bank and State Department Data

The second validity test compares these estimates with those produced by the World Bank, which uses a different methodology. The differences in estimation methodologies may yield somewhat different results. Because the World Bank methodology does not account for differences across countries in who is counted as a migrant from the United States and how they are counted, there could be a significant undercount of U.S. citizens in cases where the country allows individuals to hold dual citizenship. For countries that do not update their estimates frequently (something more likely to occur in less developed, poorly governed countries) the 2013 World Bank estimates may be even more likely to undercount.

The way in which the World Bank imputes estimates for countries without an FGE may have implications for the size and geographic distribution of the U.S. population. The estimates produced here are expected to be larger relative to the World Bank estimates in regions with historically small numbers of U.S. citizens.

Table 2.6 compares the FVAP estimates with the World Bank estimates and the number of consulate registrations by U.S. citizens in 2013 as reported by the State Department. The total size of the overseas citizen population is approximately two times larger according to the FVAP estimates than the World Bank estimates. The relatively larger FVAP estimates are consistent with the expectation that the World Bank estimates would undercount overseas citizens. The FVAP estimates are also closer in total size to the number of consulate registrations by U.S. citizens in 2013 as reported by the State Department. However, when comparing the implied shares of the overseas citizen population residing in a given region, there is much greater agreement between FVAP and World Bank estimates. The FVAP estimates are closer in size to the State Department estimates but closer in distribution to the World Bank's, suggesting that the estimation technique used here is addressing not only undercounting problems that exist in the World Bank model, but also possible overcounting in the State Department's results.

Table 2.6. Overseas Citizen Population by Region in 2013

Region[71]	Updated FVAP Estimate	World Bank	State Department
Africa	103,163	48,685	197,986
East Asia and Pacific	720,574	453,145	1,089,897
Europe and Eurasia	1,190,144	785,556	1,622,226
Near East	276,580	159,153	989,428

[71] This region break-down differs from that used in Volume 1 due to the fact that State Department only reports data for State Department regions and not individual countries. Consequently, comparing OCPA estimates to those of the State Department requires the use of State Department region definitions. For more details on the region breakdown differences between Volume 1 and Volume 3, refer to p. 29 of Chapter 3, below.

South and Central Asia	103,946	48,641	285,745
Western Hemisphere	1,845,246	1,422,111	3,307,895

(3) SURVEY SAMPLING FOR THE OVERSEAS CITIZEN POPULATION SURVEY

The Overseas Citizen Population Survey (OCPS) is conducted as a part of the Federal Voting Assistance Program's (FVAP) analysis of the overseas citizen population and is distributed to overseas citizens who requested an absentee ballot for the 2018 General Election. The OCPS asks respondents about their experiences leading up to and during the 2018 General Election, including questions about the length of time they have lived outside the U.S., the process for requesting and receiving their ballots, their use of special voting forms like the Federal Post Card Application (FPCA) and Federal Write-In Absentee Ballot (FWAB), and demographic information. By themselves, these survey data provide a snapshot of who overseas voters are and how they navigate the voting process. Data from the OCPS are used in conjunction with broader population-level estimates to better understand how policies that provide special voting protections to overseas citizens affect their ability to vote.

Target Population

The target population for the OCPS was U.S. citizens who were registered to vote on November 6, 2018, were residing outside the United States, were not Uniformed Services voters, and who requested an absentee ballot for the 2018 General Election to be sent to an overseas address.

Absentee Voter Data Collection

Although the FMG team has been able to estimate the size of the overseas citizen population by country and by region, there is no registry of overseas citizens that records where each of these individuals resides overseas.[72] However, there is a subpopulation of overseas citizens for which address information is often available: overseas citizens who have requested an absentee ballot. These data are not in a single federal database; instead, data on voter registration are held at the state or local level. For the current effort, the lack of a central repository of voter registration information meant that these data had to be collected from each state or local jurisdiction (as applicable) and combined in order to develop a comprehensive sampling frame.

This type of data collection can be especially cumbersome; fortunately, there are vendors with existing voter data infrastructure who create databases of domestic voters for use in national political campaigns. The task of compiling a sampling frame required a custom data collection effort since it involved registered overseas voters rather than registered domestic voters. The FMG team contracted with Aristotle, Inc., to carry out this effort because of its long history of providing high-quality data and political technology to a variety of campaigns, research groups, and advocacy organizations. Aristotle obtained the names and addresses of U.S. citizens voting from outside of the United States in the 2018 General Election. Specifically, the FMG team constructed a file containing data for individuals who had made a *Uniformed and Overseas Citizens Absentee Voting Act* (*UOCAVA*) absentee ballot request as well as individuals who were registered at an overseas address in states that keep a permanent record of overseas addresses in their voter files. This variation in how the data were obtained by state (or locality) was necessary since states do not maintain or make available their voter data in a uniform fashion. For example, some states do not allow permanent registration from an overseas address, and states vary in their policies regarding

[72] U.S. citizens living or traveling overseas are advised, but not obligated, to register with the nearest U.S. Embassy or Consulate.

how often they allow an overseas registration to last and how often they remove outdated addresses from their voter rolls.

The final data set of overseas citizens who requested an absentee ballot in 2018—referred to in this report as the absentee voter data—was compiled in the following manner:

1. Aristotle, which compiles state and local voter files into a nationwide voter file that represents registered voters across all 50 states and the District of Columbia, searched its nationwide voter file using custom database queries for each state, county, and town (as applicable), for voter characteristics that suggested a person was a registered overseas voter in the 2018 General Election. Examples of these characteristics included being tagged as a *UOCAVA* voter in the file, having a non-standard state listing or ZIP code, or having an overseas address listed. These queries had to be applied separately for voter file records originating from different states or localities because of inconsistencies in how states, counties, and towns maintain their voter files. Based on these searches, a record was created for each registered overseas voter that included his or her name and overseas address, the demographic information contained in the state or local voter record, and the voting history for that overseas citizen, as available.

2. Some states do not keep a permanent *UOCAVA* voter tag or maintain the overseas address where a ballot was sent in their voter file, but instead keep this information in a separate absentee ballot request file. Other states tag their voter file for overseas citizen ballot requests while also keeping an absentee ballot request file. Still other states may not explicitly maintain such a file, but may be able to obtain information on overseas ballot requests via database queries. To ensure that the absentee voter data set was as complete as possible, a custom data collection effort was conducted, which involved contacting every state (and counties and municipalities as needed) to obtain a list of individuals in the state or local absentee file for voters asking for an absentee ballot from an overseas location for the 2018 General Election. For each record collected from the absentee ballot request file, information from the individual's state or local voter record was appended to these records (as available).

For states (or localities) that had both a voter file and absentee request file, these data sets were merged and de-duplicated to produce a single comprehensive file, with information retained on whether the voter was identified via a voter file, absentee request file, or both. The final data set contained a voter's name, overseas address, domestic address, state of legal residence, voting history, key demographics (e.g., age, sex), and source of originating voter data (i.e., voter file, absentee requester list, or both). For purposes of this report, records that were identified via both types of records are classified as being identified via an absentee requester list, with remaining records classified as being identified via a voter file only.

For two jurisdictions, FMG collected absentee data in lieu of or as a supplement to the Aristotle-collected data:

- Minnesota (MN): For privacy reasons, the MN Secretary of State did not provide Aristotle with names and addresses of overseas citizens who requested an absentee ballot. However, the office provided this information directly to FMG on behalf of FVAP, with restrictions on sharing this data or using the data for any purpose other than modeling and survey implementation. In the study, the key variables in the MN data are analogous to those in the overseas absentee voter data gathered by Aristotle, except that MN voting history was only obtained for the last four election cycles (i.e., 2012, 2014, 2016, and

2018 Primaries and General Elections).

- District of Columbia (DC): For this study, the DC data were constructed in a manner comparable to other states, the only difference being that certain data elements (i.e., overseas addresses) were housed solely at FMG. More specifically, although the DC Board of Elections (DCBOE) provided Aristotle with an absentee voter file that provided a means of identifying overseas citizens who requested an absentee ballot, DCBOE withheld the overseas balloting addresses due to statutory requirements. However, DCBOE provided these addresses directly to FMG on behalf of FVAP; the addresses were used solely for modeling and survey implementation. FMG supplemented this information with the Aristotle-provided DC voter data, the latter of which were only missing the overseas addresses. As a result, the resulting DC data were analogous to the data from other states.

When obtaining absentee voter data, efforts were made to obtain absentee ballot requester lists from as many states and/or localities as possible. A key quality control effort that was implemented during the process of assembling the preliminary sampling frame entailed comparing record counts with OCPS 2014 and 2016 frame record counts and Election Administration and Voting Survey (EAVS) 2014, 2016, and 2018 estimates of ballot transmissions to overseas voters by state and/or locality as a means of identifying jurisdictions where additional effort in obtaining records was merited. This process led to tangible improvements in frame coverage for several states.

For many states, some of the voters represented in the data did not have an overseas address listed, and the reasons for this were varied. Individuals without an overseas address were excluded from the final OCPS sampling frame, given that they could not be contacted via mail and, in most cases, could not be verified as overseas citizens. As a result, survey results cannot be generalized to this excluded portion of the sampling frame.

Sampling Frame Overview

There are many ways to conduct a survey to understand the behaviors or attitudes of a given population. For small populations—such as 100 people working in an office—it may be possible to survey everyone. By surveying the entire population, inferences can be made about the behaviors or attitudes of the people in that population, since everyone is represented in the survey (assuming full survey participation). However, for larger populations, such as the population of registered overseas voters, given the cost and time constraints, it is typically necessary to survey a subset of people and have those people represent the larger population. The mechanism for selecting survey invitees is known as sampling, and it typically entails a random process in which every individual has a known probability of being selected into the survey. The conduct of such a sample survey starts with the identification of a sampling frame.

The sampling frame is the basis for inference in surveys; generalizations can only be made to the sampled population (i.e., individuals who have a chance of being selected for the survey). Although survey efforts typically wish to learn about a certain group of individuals, known as the target population, there are sometimes differences between the target population and the sampled population due to factors such as the inability to obtain a perfect sampling frame. For the purposes of this survey, the target population consists of U.S. citizens living outside the United States on November 6, 2018 who had requested an absentee ballot and who were not considered a Uniformed Services voter.

Generally, there is a need to ensure that the sampling frame does a good job of reflecting the

target population (i.e., has good coverage), which in this context means that it would ideally contain all states where voters are registered and all absentee requesters in these states. A sampling frame is perfect when there is a one-to-one correspondence between members of the sampling frame and members of the target population. In practice, nearly every frame will encounter problems relating to members of the target population who are not included in the frame and members outside the target population who are included in the frame.

For this survey, overcoverage refers to any individuals in the sampling frame who are outside of the target population, such as Uniformed Services voters, individuals who were in the United States on November 6, 2018, and individuals who had died before November 6, 2018. Undercoverage in this survey refers to individuals who should be on the list but who were not on the list; for example, individuals for whom both of the following are true: (1) the state, county, or municipality of registration did not provide a list of absentee ballot requesters, and (2) the state or local voter file does not otherwise indicate an overseas address for the voter.

Sampling Frame

The FMG team constructed the survey sampling frame by using the absentee voter data, which consist of the voter information described previously for known overseas citizens who requested an absentee ballot during the 2018 General Election. The preliminary sampling frame consisted of 483,526 records for voters registered in the District of Columbia and the 50 states.

As previously described, the preliminary sampling frame used two main sources of records:

- **Absentee records**, which comprise individuals who had an overseas mailing address and were on a state-, county-, or municipality-provided list of individuals who requested an absentee ballot to vote in the 2018 General Election (i.e., by virtue of an explicit ballot request or from having permanent absentee status); and

- **Unconfirmed requesters**, who comprise individuals who had an overseas address listed in their state or local voter file but for whom there was not a record of a specific request for an absentee ballot in 2018 (i.e., generally due to the state, county, or municipality not having provided a list of absentee ballot requesters).

After obtaining the sampling frame, several rounds of address processing and quality control checks were conducted, given that the formats of addresses varied across state and local voter files and given that different countries have different address formats. Particular attention was paid toward identifying and correcting any issues that could have meaningful statistical implications, overall or for country-specific estimates. One of the major focuses entailed improving the accuracy of the country classifications via both manual and semi-automated reviews, given the importance of these classifications in sample design and in weighting. The other major focus entailed cleaning the addresses themselves, with the goal of increasing the contact rate for the survey. Quality control checks were performed at multiple stages and were used to inform improvements to the address processing.

In order to create a final sampling frame that most accurately reflected the target population, exclusion criteria were applied to remove cases that were outside of the target population, could not be contacted via mail, or were duplicates. Categories of excluded cases were removed sequentially, in the following order:

1. **No international address**: If the absentee voting address was not overseas, or no overseas

address was available, the case was excluded. It appeared that some records may have been for domestic voters who had requested absentee ballots at a U.S. address, which could have resulted from an overly inclusive search for overseas absentee voters. This category also included voters who had an Army Post Office (APO) or Fleet Post Office (FPO) military address or a missing address. All records from Tennessee (*N* = 5,704) were excluded because no addresses were available for these individuals. Overall, among all cases with no international address, the vast majority (84.0%) had no address information or country information whatsoever, a sizable proportion (14.9%) had a U.S. or military address, a small proportion (1.0%) had partial address information but no country, and a very small proportion (0.1%) had a foreign country listed but no mailing information.[73]

2. **Unmailable addresses**: This category reflected cases in which there was a foreign country listed, and where the address field(s) were not completely blank, but where there was no usable address. For example, this included records in which the address field simply repeated country but provided no additional information; records in which there was a city and country but no street address; records in which the address fields did not contain a physical address, but instead contained a note indicating that a ballot had been emailed; and records in which the address fields contained a number but no street or city information.

3. **Bad country code**: This category reflected cases with mailing addresses in overseas countries or territories outside the scope of the data collection effort. For the current data collection effort, the only country treated as outside of scope was North Korea. All other foreign countries, territories of foreign countries, microstates, or other overseas areas (e.g., Antarctica, cruise ships) were treated as country-eligible.

4. **Duplicates**: Next, processing was conducted to remove duplicates in the frame. As a first step, a search was conducted to verify that there were no sources of voter data that were duplicated in their entirety. Next, the file was searched for duplicates on various combinations of identifying variables. In determining which record to keep for a given set of cases resolving to a single entity, absentee records with attached voter file data were prioritized over unconfirmed requester records; holding this constant, the record with the most recent voter registration date was kept under the assumption that this would be the most up-to-date. The de-duplication process was conducted iteratively, and results of each de-duplication step were examined manually to prevent the removal of non-duplicates who had common names. For each step, the matches only applied to cases with complete data; for instance, if two cases had missing birthdate, they would not be treated as an exact match on birthdate. Before de-duplication, data hygiene steps were applied to clean and standardize the variables used for detecting duplicates. At multiple points, searches were conducted using overly inclusive search criteria and random clusters of matching records were manually examined to ensure the adequacy of the de-duplication procedures; results were used to refine the procedures and to validate the final procedures. The final set of de-duplication criteria included the following search parameters:

    - Exact match of first name, last name, and email address for voters for whom the state (or locality) had provided an email address.

[73] In most cases, foreign country is a necessary field for sending international mail. Two main exceptions, as apply to this study, include U.S. embassy addresses and diplomatic post office (DPO) addresses. (A third exception is for military addresses, which are out of scope for this survey.)

- Exact match of first name, last name, voter identification number, and state.
- Exact match of first name, last name, and birthdate.
- Exact match of first name, last name, and domestic ZIP code.
- Exact match of Aristotle national voter file record ID.
- Approximate match of first name and last name and exact match of birthdate, domestic county, and state. Approximate matches on names were obtained by applying the soundex algorithm to each name, then ascertaining whether the soundex-transformed first and last names matched exactly. The soundex algorithm indexes names by their English pronunciation, which in this case allows for identifying similarly pronounced names (e.g., in case of misspellings in voter files), although this could result in false positives, which is why there were stricter criteria for other fields.
- Approximate match of first name and last name and exact match of birthdate, state, and country.

5. **Unconfirmed requesters from jurisdictions providing absentee record lists**: This category reflected voters who were not known to have requested an absentee record despite being in a jurisdiction in which such absentee request information was available. As previously described, the two sources of absentee voter data were absentee records (i.e., based on an explicit absentee ballot request or permanent absentee ballot status from the given jurisdiction) and unconfirmed requesters (i.e., based on having an overseas address available in the state or local voter file but for whom a specific absentee ballot request for 2018 could not be located). For states (or localities) where both types of records were available, only absentee records were used, under the assumption that such lists were authoritative when available. In such states, the existence of overseas addresses in the voter file could possibly reflect absentee ballot requests from previous elections.

Counts for the number of frame exclusions are provided in Table 3.1.

Table 3.1. Frame Exclusions for OCPS 2018

Reason for Exclusion	Number of Cases	Percentage of Exclusions
No international address	191,355	82.3%
Unmailable addresses	290	0.1%
Bad country code	77	<0.1%
Duplicates	1,600	0.7%
Unconfirmed requesters	39,153	16.8%
Total	**232,475**	**100.0%**

After removing 232,475 cases due to frame-level exclusions, the final sampling frame contained 251,051 records. Table 3.2 provides counts of the frame-level exclusions and final sampling frame by state and data source.

Table 3.2. Counts of Excluded and Included Records by State and Data Source

State	Excluded Records			Included Records		
	Records from Voter File	Absentee Records With Attached Voter Data	Total Exclusions	Records from Voter File	Absentee Records With Attached Voter Data	Final Total Frame Size
AK	686	715	1,401	0	480	480
AL	122	0	122	681	0	681
AR	208	515	723	0	90	90
AZ	117	86	203	2,769	3,140	5,909
CA	15,051	0	15,051	74,530	0	74,530
CO	1,121	5,748	6,869	0	13,745	13,745
CT	1,527	0	1,527	1,045	0	1,045
DC	0	396	396	0	884	884
DE	0	72	72	0	704	704
FL	517	0	517	35,129	0	35,129
GA	2,050	4,898	6,948	0	351	351
HI	0	126	126	0	473	473
IA	940	1,916	2,856	0	479	479
ID	647	5	652	0	592	592
IL	775	106,531	107,306	0	338	338
IN	6,965	1,732	8,697	0	1,943	1,943
KS	102	67	169	0	1,027	1,027
KY	1	0	1	42	0	42
LA	13	0	13	1,389	0	1,389
MA	0	951	951	0	1,458	1,458
MD	10,362	1,803	12,165	0	1,975	1,975
ME	48	0	48	4,985	0	4,985
MI	4,891	3,420	8,311	0	3,302	3,302
MN	0	862	862	0	5,752	5,752
MO	90	0	90	3,479	0	3,479
MS	3	0	3	66	0	66
MT	551	9	560	0	474	474
NC	0	102	102	0	6,031	6,031
ND	45	0	45	241	0	241
NE	18	0	18	696	0	696
NH	9	0	9	744	0	744
NJ	0	3,161	3,161	0	3,188	3,188
NM	104	0	104	2,577	0	2,577
NV	0	2,055	2,055	0	417	417
NY	9,927	1,737	11,664	0	33,622	33,622
OH	793	2,126	2,919	23	3,241	3,264

Table 3.2. Counts of Excluded and Included Records by State and Data Source						
	Excluded Records			Included Records		
State	Records from Voter File	Absentee Records With Attached Voter Data	Total Exclusions	Records from Voter File	Absentee Records With Attached Voter Data	Final Total Frame Size
OK	0	1,917	1,917	0	176	176
OR	789	27	816	0	4,697	4,697
PA	1,748	2,092	3,840	0	5,964	5,964
RI	3	0	3	76	0	76
SC	16	2,598	2,614	0	67	67
SD	24	0	24	253	0	253
TN	5,704	0	5,704	0	0	0
TX	964	38	1,002	0	5,441	5,441
UT	2,330	0	2,330	56	0	56
VA	0	4,403	4,403	0	2,695	2,695
VT	0	810	810	0	452	452
WA	2,577	9,511	12,088	0	16,895	16,895
WI	45	0	45	2,011	0	2,011
WV	0	6	6	0	60	60
WY	0	157	157	0	106	106
Total	71,883	160,592	232,475	130,792	120,259	251,051

Sampling Design Overview

The 2018 OCPS sample design aimed to yield a low margin of error (MOE) overall and lessen the impact of weighting while also meeting subgroup precision requirements. This was done via a single-stage stratified sample design, with equal probabilities of selection within design strata. For subgroups, the primary goal was to obtain a 5% MOE per world region. Therefore, the FMG team allocated the sample to world regions in a manner that aimed to achieve a low MOE overall while meeting domain precision requirements. This was done in a manner that accounted for the anticipated effects of weighting. Within world region, the sample allocation was then adjusted to account for differences in country characteristics that were closely related to response rates and key survey measures in the 2016 OCPS, so as to improve representativeness of the responding sample and reduce the anticipated effects of weighting.

The sample allocation process summarized above entailed stratifying the sampling frame by world region and country characteristics. Next, the sample implementation aimed to further reduce sampling variability by using a sampling algorithm that ensures that key characteristics of the sample approximately reflect population distributions within strata. This was done by implicitly stratifying the sample based on type of absentee voter data, voting history, country characteristics, and domestic ZIP code.

Sampling Design

Upon the completion of the construction of the final sampling frame, a single-stage stratified

sample of size 45,000 was drawn from the final frame of size 251,051. The three main steps for sampling are summarized below, with additional detail provided in subsequent sections:

1. **Strata assignment**: Sample stratification is a method that can be used in conjunction with a well-designed sample allocation to reduce sampling variance and ensure that precision goals for key subgroups are met. Explicit stratification was conducted by placing voters in one of several mutually exclusive groups, or strata, and then conducting sampling independently for each stratum. Stratification was based on the cross-classification of world region and WGI index score, the latter of which reflects country characteristics and is associated with response rates and key survey measures; cases with unknown world region (reflecting certain diplomatic addresses) were placed in a separate stratum.

2. **Sample allocation**: For this survey, sample allocation refers to how the total sample size of 45,000 was allocated to the different strata. This was done in a manner that compromised between domain estimation requirements (i.e., precision requirements for world region and other subgroups) and overall population estimation requirements. Half of records with unknown world region were sampled. Given that this stratum was very small, the main sample allocation decisions entailed how to allocate the remaining sample of size 44,611. An initial sample allocation was computed by world region in a manner that aimed to produce a low overall MOE after meeting a minimum MOE of 5% for each region (where possible). Within world region, the sample allocation was then adjusted by WGI index score category to increase the sampling rates for voters in countries that respond at lower rates, so as to reduce weight variability.

3. **Sampling implementation**: After allocating the sample to explicit strata, the next step was to draw the sample. This was done using a sampling algorithm that ensured equal probabilities of selection within explicit strata, while also incorporating implicit strata to reduce sampling variability. Implicit stratification was achieved by sorting the list based on type of voter record, voter participation history, WGI index score, and the ZIP code associated with the voter's U.S. address, and then taking the list ordering into account when drawing the sample. This allowed a more balanced sample to be achieved on these variables without explicitly dividing the sample along these lines. The sampling algorithm used was Chromy's method of sequential random sampling (Chromy, 1979), incorporating a constant measure of size, which resulted in equal selection probabilities within explicit strata. After selecting the sample, the final step involved experimental assignment for a small-scale survey mode experiment.

Strata Assignment

As noted above, sample stratification entailed assigning voters from the final sampling frame (N = 251,051) to mutually exclusive groups, or strata, so that sampling could be conducted independently for each stratum. Stratification can be used in conjunction with the sample allocation to meet subgroup precision requirements and reduce the sampling variance. For the 2018 OCPS, the sampling frame was stratified primarily by world region and secondarily by WGI index score category. Stratification by world region allowed the sample allocation to ensure adequate precision for estimates by world region. Within world region, further stratification by WGI index score category was applied to enable a sample allocation that would reduce weight variation. WGI index score is an average of the World Bank's Worldwide Governance Indicators, which reflect the quality of a country's governance. The WGI index score is associated with the quality of a country's infrastructure and was found to be meaningfully associated with response rates and with key survey measures in the 2014 and 2016 OCPS.

The primary stratification variable for the sampling frame was world region. World region was based primarily on the U.S. State Department classifications into six world regions. For stratification purposes, the Western Hemisphere was divided further into two regions based on proximity to the United States (Canada and Mexico vs. all others). Thus, the seven world regions were Africa, East Asia and Pacific, Europe and Eurasia, Near East, South and Central Asia, Canada and Mexico, and Western Hemisphere Other. Note that in the Sampling and Weighting chapters, world region refers to the above seven-way classification (unless otherwise noted), whereas elsewhere in this report, it may reflect a nine-way categorization. The main substantive difference between these two classifications are that the nine-way grouping divides East Asia and Pacific into three smaller regions (East Asia; South East Asia; Oceania).[74] Note also that a small number of frame records (*N* = 778) could not be classified by world region at the time of sampling, due to having an embassy or diplomatic post office (DPO) address with unknown foreign country. These records formed a separate category for sampling.

Each of the seven regions was then further divided into up to three different categories in a manner that reflected country characteristics.[75] The World Bank publishes six Worldwide Governance Indicators, which aim to quantify the quality of governance in different countries (Kaufmann, Kraay, and Mastruzzi, 2011). These indicators are continuous variables and the unit of each is that of the standard normal distribution, as per World Bank methodology. For this survey, WGI index score was computed by first averaging the World Governance Indicators by measure across years (1996–2017) and then across the six measures. Note that WGI index score was unavailable for 0.13% of population members with known region, who were in geographic areas that were not included in the World Bank's database (typically microstates or small territories of foreign countries). For purposes of stratification, missing WGI index scores were imputed to the region population mean. Next, the WGI index score was classified into three categories: WGI index score of less than 0; WGI index score of at least 0 but less than 1; and WGI index score of at least 1. The proportions of the frame population classified into these categories were 15.6%, 17.3%, and 67.2%, respectively.[76] For stratification, region was then cross-classified by WGI index score category. To avoid small strata, South and Central Asia was treated as a single stratum, due to the three WGI index score categories having frame population sizes of 3,846, 21, and 0, respectively.

Ultimately, the sampling frame had been partitioned into 17 mutually exclusive and exhaustive categories, including one category for cases with an unknown world region and 16 categories reflecting the cross-classification of world region by WGI index score category for the remaining population. Note that there were only 16 strata for world region by WGI index score category, given that some world regions did not have countries with WGI index scores at each of the three levels.

Sample Allocation

After the frame was divided into strata, the sample allocation process entailed allocating the total sample of 45,000 to the different strata. Given that a small proportion of frame records (0.3%) had unknown world region, a preliminary step entailed specifying a sampling fraction for this stratum at 50%, after which the focus was on allocating the remaining sample of size of 44,611 for frame records with known world region.

[74] In addition, the other six world regions were renamed, and a limited number of countries (reflecting less than 1% of the sample) were reclassified (with respect to the seven-way-classification).
[75] This step did not apply to records with unknown world region.
[76] These quantities are reflective of the frame distributions for records with known world region (*N* = 250,273) and incorporate region-based imputations.

Certain regions of the world are home to relatively small numbers of overseas citizens. As a result, it is necessary to apply higher selection probabilities for certain regions to ensure a sufficient number of respondents for estimating region-specific statistics. As a first step, a minimum region-specific sample size was specified as the lesser of: (1) the number of sample members necessary to produce the minimum MOE; and (2) the region frame population size (so as to avoid sampling rates of greater than 100%). Then, mathematical optimization methods were used to maximize the minimum sampling rate in any world region, subject to meeting the minimum region-specific sample size constraints and subject to achieving an overall sample size of no greater than 44,611. This resulted in a sampling rate of 100% for Africa and South and Central Asia (for each of which an anticipated MOE of 5% was not possible), sampling rates of 12.6% for the three most populous world regions (in terms of overseas citizens), and sampling rates that would yield an anticipated MOE of 5% for the other two world regions.

For sample allocation purposes, the anticipated margin of error was for a 95% confidence interval of a population proportion parameter of 50%, taking into account the anticipated effects of nonresponse and weighting. Various simplifying assumptions were made, such as the use of a stratified simple random sampling (STSRS) design and an ignorable finite population correction. Survey response rates for each world region were assumed to be 75% of the design-weighted survey completion rates from the 2016 OCPS, computed as the proportion of sample members who were eligible respondents. This multiplicative factor of 0.75 was applied to reflect that response rates may be lower in 2018 due to factors such as the reduction from eight survey contacts in 2016 to six in 2018, changes in the frame population, and external factors.

The world region MOE calculations above further reflected the anticipated effects of weighting, which were simulated via 2016 OCPS data. It was necessary to simulate these effects, rather than directly use the estimated design effects from 2016 data, given that the 2016 sample design entailed disproportional sampling within world region, based primarily on WGI mean category and availability for longitudinal sampling. Thus, the first step of anticipating these effects entailed drawing a probability proportional to size with replacement (PPSWR) sample of size 50,000,000 from the full 2016 sample (n = 45,000), with selection probabilities proportional to the 2016 design weights. After restricting the sample to respondents, an adjustment to the final survey weight was applied as the inverse of the PPSWR selection probability. This can be thought of as roughly approximating the effect of undoing the disproportional sampling, by adding an additional sampling stage wherein the probability of selection is inversely proportional to the original base weights. Kish's design effect from weighting[77] was then computed separately by world region for the adjusted final weights to approximate the anticipated effects of nonresponse and calibration adjustments, and this approximate design effect was incorporated into the MOE calculations.

After allocating the sample to world regions, the sample allocation was then modified by the WGI index score category to oversample groups that respond at lower rates. This step aimed to reduce weight variability for the final set of survey respondents. This step did not affect the overall sample size for each world region, but did result in disproportional sample allocations within region for all regions except for the two regions sampled with certainty (Africa; South and Central Asia). Within each applicable region (excepting Africa and South and Central Asia), the sampling rate for each WGI group was specified as being inversely proportional to the 2016 response rate by WGI group. If the response patterns in 2018 were similar to those in 2016, this would result in a proportional

[77] Kish's design effect from weighting, commonly known as the unequal weighting effect (UWE), is computed as $1 + L$, in which $L = n^{-1} \sum_s \frac{(w_i - \bar{w})^2}{\bar{w}^2}$ is the squared coefficient of variation of the sample weight w_i. This $1 + L$, termed the relative loss due to weighting (Kish, 1992) is used to evaluate weight variability and its effect on precision of the point estimates and is a reasonable approximation for the design effect (DEFF) in single-stage designs in which the weights are unrelated to the outcome of interest (see Spencer, 2000).

allocation to WGI group within region for the set of responding sample members in that region. In computing this allocation, the FMG team computed response rates as the design-weighted survey completion rates for the 2016 OCPS for each applicable cross-classification of world region and WGI category.[78]

The final strata, frame population sizes, and sample sizes are displayed in Table 3.3.

Table 3.3. Strata Definitions, Population Sizes, and Sample Sizes

World Region[79]	WGI Category	Population Size	Sample Size
Africa	WGI < 0	3,215	3,215
Africa	0 ≤ WGI <1	1,449	1,449
East Asia and Pacific	WGI < 0	11,353	2,036
East Asia and Pacific	0 ≤ WGI <1	4,907	709
East Asia and Pacific	1 ≤ WGI	29,752	3,062
Europe and Eurasia	WGI < 0	2,022	365
Europe and Eurasia	0 ≤ WGI <1	19,030	2,886
Europe and Eurasia	1 ≤ WGI	99,860	12,012
Near East	WGI < 0	2,410	1,016
Near East	0 ≤ WGI <1	11,946	3,078
South and Central Asia	Any	3,867	3,867
Western Hemisphere—Canada and Mexico	WGI < 0	7,035	1,663
Western Hemisphere—Canada and Mexico	1 ≤ WGI	36,330	3,811
Western Hemisphere—Other	WGI < 0	9,115	3,368
Western Hemisphere—Other	0 ≤ WGI <1	5,828	1,514
Western Hemisphere—Other	1 ≤ WGI	2,154	560
Unknown World Region		778	389
Total		**251,051**	**45,000**

Sampling Implementation

After allocating the sample to explicit strata, the final step was to draw the sample. This was done in a manner that ensured equal selection probabilities within explicit strata, while incorporating implicit strata to reduce sampling variability. More specifically, sampling was conducted using Chromy's method of sequential random sampling (Chromy, 1979), using the explicit strata and sample allocations from the previous step, and assigning a measure of size of 1 to each unit so as to result in equal probabilities of selection within strata. Further, implicit stratification was achieved by sorting the list based on type of voter record, voter participation history, WGI index score, and the ZIP code associated with the voter's U.S. address. As previously indicated, implicit stratification was used to improve the balance of the resulting sample with respect to the variables used in implicit stratification. Sampling was implemented in Stata using the FMG-written

[78] For Western Hemisphere Other, the 2016 OCPS response rate for WGI index of 0–1 was slightly higher than for the WGI index of greater than 1, which was contrary to patterns for other regions and may have resulted from sampling variability for estimating population-level response propensities. Therefore, these categories were pooled for response rate computations.

[79] Africa, Near East, and South and Central Asia do not have any countries with a WGI index score of greater than 1. Western Hemisphere—Canada and Mexico does not have any countries with a WGI index score between 0 and 1. South and Central Asia WGI categories of less than 0 and between 0 and 1 were combined to avoid small strata sizes.

ppschromy package (Mendelson, 2014).

Chromy's sequential selection algorithm implicitly stratifies the sample within each explicit stratum by selecting a sample sequentially after taking into account a sort ordering. This implicit stratification can yield benefits in terms of variance reduction by spreading the sample throughout the given explicit strata. Further, Chromy's algorithm uses hierarchic serpentine sorting within each explicit stratum, which is an improvement over simply sorting all variables in ascending order, by virtue of reversing the sort orderings for lower levels of sorting variables when the boundary for higher levels of sorting variables is crossed. This results in increased similarity of nearby cases in the sorted list.

Four sort ordering variables were used. These variables were selected primarily on the basis of their anticipated relationships with response propensity (i.e., an individual's likelihood to respond to the survey) and survey measures.

1. **Type of voter record** is a binary variable that refers to whether the record was from an absentee records list or unconfirmed requester data. This reflects the types of records that could be obtained from a given state or locality (as applicable). Type of voter record was previously found to be a strong predictor of estimated response propensity and key survey measures.

2. **Voter participation history** was computed based on whether voters had participated in the 2016 and/or 2018 General Elections, as indicated in the voter file. The categories created were: (1) voted in neither; (2) voted in 2016 but not in 2018; (3) voted in 2018 but not in 2016; (4) voted in both; and (5) missing voter participation history data. Voter participation history was previously found to be a strong predictor of estimated response propensity and key survey measures.

3. **WGI index scores** were obtained. As previously described, these index scores had been computed for each country as a measure of the effectiveness of governance, and they are strongly related to per capita economic output. These scores were used collectively as a sorting variable as they were previously found to relate strongly to estimated response propensities (e.g., level of infrastructure in a country could relate to contact rates) and survey measures. For purposes of implicit stratification, missing WGI index scores were imputed to the region population mean (where available) or to the global mean (for cases with unknown region).

4. **ZIP codes** were used as the final sorting variable. The ZIP codes reflected the low-level geography of the voters' U.S. addresses and, in most cases, the ZIP+4 code was available. Although ZIP codes do not provide a perfect way of reflecting geography in the United States, the first two digits reflect a state-level ordering, and a small numerical difference between ZIP codes typically indicates that the areas are nearby. For the small proportion of cases with missing ZIP code data, this variable was imputed as the median ZIP code for the state to make sure that these cases were grouped with others from their state.

By incorporating sorting variables that reflected individual-, country-, and state-level characteristics, the sort ordering enabled the implicit stratification of the sampling frame in a manner such that nearby cases were of high similarity. Implicit stratification on these measures was expected to reduce sampling variability and, therefore, to increase the precision of estimates; this effect might be particularly meaningful for smaller domains.

After selecting the sample, the final step entailed assignment for a small-scale survey mode experiment. This experiment aimed to quantify the potential implications of augmenting the sampling frame with commercially-appended email addresses for voters for whom a jurisdiction-provided email address quality was unavailable.[80] The OCPS uses a mixed-mode survey approach wherein sample members are invited via mail or email to complete a survey via the web. In this context, sample members are assigned to a mail-only contact condition (e.g., up to six survey contacts via mail) or to a mail-and-email contact condition (e.g., up to three contacts via mail and up to three contacts via email). The experiment was small-scale, in the sense that it only pertains to the portion of the sample (n = 3,237) for which a jurisdiction-provided email address was unavailable but where a commercially-sourced email address could be appended at the individual level.[81] For this portion of the sample, 1,648 were assigned to the mail-and-email condition and 1,589 were assigned to the mail-only condition using an STSRS design, with stratification by world region and WGI category. Within each stratum, roughly 51% of units were randomly assigned to the mail-and-email condition.

Note that the STSRS design was employed in the experimental assignment—and implicit stratification was not used—to simplify the analysis of the experimental condition. Implicit stratification typically reduces sampling variance while complicating the task of variance estimation. Specifically, the joint probabilities of selection must be computed for sample members to compute unbiased variance estimates, and the implicit stratification scheme used for the overall sample would complicate this task. A solution is often to ignore the implicit stratification, which results in higher (i.e., more conservative) variance estimates, and thus the benefits of this extra stratification are not reflected in the MOE. For the overall sample, the benefits of improved precision in point estimates were viewed as outweighing the cost in terms of the increased complication of variance estimation. However, with respect to the survey experiment, the complications associated with implicit stratification were viewed as outweighing its potential benefits.

[80] The commercially-appended email addresses were provided by Aristotle for the Aristotle-provided voter data (excluding Minnesota).
[81] The experiment does not apply to sample members with a jurisdiction-provided email address (n = 13,352), all of whom were assigned to the mail-and-email mode. Likewise, the experiment does not apply to sample members with neither type of email address available (n = 28,411), who were assigned to the mail-only mode.

(4) SURVEY WEIGHTING FOR THE OVERSEAS CITIZEN POPULATION SURVEY

Sample weighting was carried out to accomplish the following objectives:

- to adjust for differences in the probability of selection from the frame;
- to reduce possible biases that could occur because the characteristics of nonrespondents may have been different from those of the respondents; and
- to improve the precision of the survey-based estimates (Skinner, Holt, & Smith, 1989).

The survey weights were computed in several steps:

1. A disposition code was assigned to each sample member indicating whether the sample member was an eligible respondent, an eligible nonrespondent, an ineligible sample member, or a sample member whose eligibility status was unknown.
2. The base weights were computed as the inverse of each sample member's probability of selection from the frame.
3. The base weights were adjusted to account for sample members whose eligibility for the survey could not be determined (i.e., sample members with unknown eligibility). These sample members neither returned a questionnaire nor provided any other information that could be used to determine whether they were eligible or ineligible for the study.
4. The weights were adjusted to account for eligible sample members who did not respond to the survey (i.e., eligible nonrespondents). These sample members were eligible but did not have usable survey data because they did not complete the survey.
5. The weights were calibrated using a raking technique to control totals, which was computed as population counts or estimated population counts from the sampling frame. Calibration adjustments were used because they help correct for distortions in the sums of weights caused by nonresponse.

Assignment of Disposition Codes

Before the weights were calculated, each case was assigned a disposition code indicating whether the sample member was an eligible respondent, an eligible nonrespondent, an ineligible sample member, or a sample member whose eligibility status was unknown. These disposition codes were a key input in weighting and in the computation of response rates. Disposition codes were assigned in accordance with the standards defined by the American Association for Public Opinion Research (AAPOR, 2016).

Eligibility Status

For the sample member to be considered eligible, he or she needed to be a U.S. citizen who was registered to vote on November 6, 2018, was residing outside the United States on November 6, 2018, and was not a Uniformed Services voter. Eligibility was based on information from the sampling frame, information collected from the sample member or an acceptable proxy (e.g., a spouse or other household member) as part of the fielding process, and responses to three key survey questions. Individuals surveyed were assumed to be registered voters based on the source of the sampling records; eligibility based upon the remaining criteria was determined primarily in relation to responses to survey screening questions, which will be detailed in this section.

Question 1, which asked for sample members' primary residence as of the 2018 General Election, was used to determine whether the individual was residing outside of the United States on that date. If the sample member indicated being in a country other than the United States on November 6, 2018, then he or she was determined to be *overseas eligible*. Sample members who indicated that they resided in the United States or its territories during the November 2018 General Election were determined to be *overseas ineligible*. If the sample member did not provide an answer to Question 1, then he or she was considered neither *overseas eligible* nor *overseas ineligible*, but was treated as having *unknown overseas eligibility*.

Question 7, which asked for the primary reason that the voter was outside of the United States as of the 2018 General Election, was used to determine whether an individual was *civilian eligible*; that is, not a Uniformed Services voter (i.e., a military member, spouse, or dependent). Sample members were considered *civilian ineligible* if they indicated that the primary reason that they were outside of the United States on November 6, 2018 was that the sample member, a partner, or a family member was serving in the military. Sample members who selected other options were determined to be *civilian eligible*. Given that nearly all individuals replying to Question 7 were determined to be *civilian eligible* (99.9%), individuals who did not provide a response to Question 7 but who met all other survey eligibility criteria were assumed to be *civilian eligible*.

Question 33, which asked for the voter's country or countries of citizenship, was used to determine whether an individual was *citizenship eligible*. An individual who indicated being a citizen of another country and did not affirmatively indicate being a citizen of the United States was treated as *citizenship ineligible*. Sample members who did not select any of the main response options (i.e., indicated neither U.S. citizenship nor foreign citizenship) were treated as having *unknown citizenship eligibility*.

Completion Status

In order for the questionnaire to be considered complete, the sample member needed to complete at least 25% of the total questionnaire. For the purposes of computing completion status, any question allowing the sample member to select multiple responses (e.g., Question 31) was counted as one item instead of as multiple items.

Case Dispositions

Final case dispositions for weighting were determined using information from field operations and returned surveys. Case dispositions were assigned for weighting purposes based on eligibility and completion of the survey.

1. **Questionnaire returned—Complete/Eligible:** The sample member completed at least 25% of the questionnaire and was determined to be eligible.

2. **Explicit refusal of survey (by proxy):** An acceptable proxy (e.g., a spouse or other household member) contacted the FMG team to indicate that the sample member was not willing to participate in the survey.

3. **Explicit refusal of survey (by sample member):** The sample member contacted the FMG team to indicate that he or she was not willing to participate in the survey.

4. **Returned too incomplete to process:** The survey was returned with less than 25% completed.

5. **Unavailable during entire fielding:** The sample member, or an acceptable proxy, contacted the FMG team to indicate he or she was unavailable to complete the survey during the fielding period.

6. **Technical issues:** The sample member contacted the FMG team to indicate that he or she was unable to complete the survey due to technical issues, such as a lack of internet access.

7. **Nothing ever returned:** No reply was received from the sample member, nor were the survey materials returned by the postal system.

8. **Refused by addressee:** Delivery of the survey materials was explicitly refused at the point of delivery.

9. **Cannot be delivered as addressed:** The survey materials did not reach the sample member. They were returned by the postal system as "return to sender."

10. **Sample member moved, no forwarding address:** The survey materials were returned by the postal system because the sample member moved and no forwarding address was available.

11. **Email returned undelivered:** The email inviting the sample member to participate bounced back from the receiving email server with a notification that the email could not be delivered.

12. **Unknown citizenship eligibility:** The sample member did not provide an answer to the question determining citizenship eligibility.

13. **Unknown overseas eligibility:** The sample member did not provide an answer to the question determining overseas eligibility.

14. **Ineligible—Not overseas on November 6, 2018:** The sample member (or an acceptable proxy) corresponded with the FMG team to indicate that the sample member was not overseas on November 6, 2018.

15. **Ineligible—Uniformed Services voter:** The sample member (or an acceptable proxy) corresponded with the FMG team to indicate that he or she was living out of the country on November 6, 2018 due to being in the military or due to his or her partner or family member being in the military.

16. **Ineligible—Not U.S. citizen:** The sample member (or an acceptable proxy) corresponded with the FMG team to indicate that he or she was not a U.S. citizen as of November 6, 2018.

Final Disposition Code (DISP)

Collapsing across the case dispositions resulted in the final disposition code (DISP) for each case with the categories below.

- **ER—Eligible respondents**: This group consisted of all sample members who returned a nonblank questionnaire that indicated they were eligible and completed 25% or more of the survey.
- **ENR—Eligible nonrespondents**: This group consisted of all sample members who explicitly refused to participate in the survey, returned an incomplete questionnaire, were unavailable during the fielding period, or were unable to complete the survey due to technical issues.
- **IN—Ineligible sample members**: This group consisted of sample members who were not overseas, were Uniformed Services members, or were not U.S. citizens as of November 6, 2018. This was determined using information from survey questionnaires or through some other communication.
- **UNK—Other sample members whose eligibility was unknown**: This group consisted of sample members for whom nothing was ever returned, for whom delivery was refused, whose survey materials could not be delivered as addressed, who moved without leaving a forwarding address, whose email was returned undelivered, or for whom U.S. citizenship status or overseas residency on November 6, 2018 could not be established.

Table 4.1 provides the frequencies for the case dispositions for each final disposition code.

Table 4.1. Case Dispositions and Final Disposition Codes[82]			
DISP	Case Disposition	Number of Cases	% Sample Cases
Eligible Respondents			
ER	Questionnaire returned: Complete/Eligible	6,923	15.38%
Eligible Nonrespondents			
ENR	Explicit refusal of survey (by proxy)	1	<0.01%
ENR	Explicit refusal of survey (by sample member)	44	0.10%
ENR	Returned too incomplete to process	806	1.79%
ENR	Unavailable during entire fielding	3	0.01%
ENR	Technical issues	68	0.15%
Ineligible			
IN	Ineligible: Not overseas on November 6, 2018	262	0.58%
IN	Ineligible: Uniformed Services voter	4	0.01%
IN	Ineligible: Not a U.S. citizen	42	0.09%
Unknown Eligibility			
UNK	Nothing ever returned	30,278	67.28%
UNK	Refused by addressee	258	0.57%
UNK	Cannot be delivered as addressed	3,184	7.08%
UNK	Moved, left no forwarding address	91	0.20%
UNK	Email returned undelivered	2,677	5.95%
UNK	Unknown citizenship eligibility	340	0.76%
UNK	Unknown overseas eligibility	19	0.04%
	TOTAL	45,000	100.00%

Calculation of Base Weights

After the disposition codes were determined, the first step in computing the weights was to calculate the base weight for each sample member. The base weight was equal to the inverse of the probability of being selected from the frame. Given that the probability of selection varied by world region and WGI index score category, this step allowed for unbiased estimates that reflected the sample design before any nonresponse.

The sampling frame of N = 251,051 units was partitioned into H = 17 nonoverlapping strata. Each stratum consisted of N_h units, so that:

$$\mathrm{N} = \sum_{\mathrm{h}=1}^{\mathrm{H}} \mathrm{N_h}$$

[82] Figures may not add up to displayed total due to rounding.

A sequential random sample of n_h units was selected without replacement from each stratum population of N_h, with individuals within a given stratum having an equal probability of selection. Given this design, the base weight for the *i*th sampled unit in a given stratum *h* was calculated as:

$$d_{hi} = \frac{N_h}{n_h} \qquad i = 1, \ldots, n_h$$

Thus, for each person classified in stratum h, the base weight was computed as the ratio of the total population for that stratum to the number sampled for that stratum. Note that n_h is the number of units initially sampled in stratum h without regard to whether they ultimately participated in the survey.

Nonresponse Weighting Adjustments

In an ideal survey, all the units in the inferential population would be eligible to be selected into the sample, and all those selected to participate in the survey would actually do so. In practice, however, these conditions rarely occur. Often, some of the sampled units do not respond, some sample units are discovered to be ineligible, and the eligibility status of some units cannot be determined. If these problems are not addressed in the weighting scheme, the estimates of the survey may be biased. Thus, nonresponse weighting adjustments are used to deal with sample members with unknown eligibility and eligible nonrespondents.

To compensate for unit nonresponse, the weights were adjusted in two stages: first, for sample members with unknown eligibility; next, for survey completion among eligible sample members. The first stage of nonresponse adjustment accounted for the fact that the eligibility status of some sample members could not be determined. The second stage of nonresponse adjustment addressed the fact that some sample members known to be eligible did not complete the questionnaire, for instance, by returning an incomplete questionnaire. At each stage, the weights of usable cases were inflated to account for ones that were unusable.

For the first nonresponse adjustment, a logistic regression model was estimated to predict each sample member's probability of having known eligibility for the survey (known eligibility vs. unknown eligibility). The logistic model was weighted by the base weights. The predictors used in the final model were voter participation history,[83] world region,[84] age,[85] age squared, World Governance Indicator (WGI) index score,[86] and state.[87] These variables were selected because they had a meaningful association both with estimated response propensity and with key survey metrics; special care was taken in accounting for the patterns of missing data.

83 Voter participation history was treated as categorical and included four substantive categories and three categories reflecting missing data. The substantive categories reflected the four-way cross-classification of whether individuals voted in the 2016 and/or 2018 General Elections. Sample members with missing voter participation history were initially distinguished based on the source of voter data (e.g., absentee records vs. unconfirmed requesters). A third missing data category was created to reflect all voting history records for Texas, which were treated as if they were missing regardless of their initial values, given that these data were of unclear veracity and did not appear to be associated with response rates.

84 The world region categories were based on the seven-way classification described in the sampling chapter. Imputation for records with unknown world region (due to diplomatic addresses) was applied using a hot deck procedure. In applying imputation, four donor cells were formed based on address characteristics (i.e., embassy-style address versus DPO-style addresses, with the latter divided into three categories based on the state abbreviation [AA, AE, or AP] associated with the individual's ZIP code).

85 Individuals with missing age data had their age imputed to the mean and then were reflected separately in the model via indicator variables, reflecting the pattern of missing data.

86 Individuals in countries with no WGI index score had their score imputed to the world region population mean for individuals in the world region. For individuals with unknown world region (i.e., diplomatic addresses with unknown country), this was done in a manner that incorporated the previously imputed values for world region.

87 A categorical variable was included in the model for state. States with fewer than 250 sample members were combined into a single category, which was then split into two categories based on the source of voter data (e.g., absentee records vs. unconfirmed requesters).

Before computing nonresponse adjustments, additional steps were taken at the frame-level to validate and improve the initial country classifications. With respect to validation, a comparison of initial country classifications with survey responses for Question 3, which asked for country of residence, did not suggest the need for any edits for cases with a known country.[88] Thus, efforts were focused on improved classifications for diplomatic addresses, which entailed a review of all diplomatic addresses in the frame. This resulted in a reduction of item-missing data for country (and world region) from 0.3% to 0.1%, after which the updated country and region classifications were used for nonresponse and calibration weighting adjustments. Although country is ordinarily a required part of international addresses, this is not the case for two types of diplomatic addresses: (1) embassy addresses (e.g., diplomatic pouch addresses), which are generally identifiable by use of the ZIP codes 20189 or 20521; and (2) diplomatic post office (DPO) addresses, which are analogous to the military's Army Post Office (APO) and Fleet Post Office (FPO) addresses. Although initially missing for most embassy addresses, a country could be identified in most cases by matching the addresses to lists of official embassies from the State Department and/or based on the foreign city name contained in the address (where it was unambiguous).[89] Note that country was generally not identifiable for DPO-style addresses if not already available in the frame, although approximately half of these records had country flagged in the originating voter data.[90]

Adjustment factors were computed for cases with known eligibility as the inverse of model-estimated probabilities. The weights of cases with known eligibility were multiplied by this adjustment factor, whereas the weights of cases with unknown eligibility were removed, thereby redistributing the weights of cases with unknown eligibility to cases with known eligibility.

For the second nonresponse adjustment, the weights of eligible nonrespondents were redistributed to eligible respondents to account for eligible sample members who did not complete the survey. A logistic regression model was estimated predicting the probability of survey completion (i.e., an individual being an eligible respondent) among eligible individuals (i.e., eligible respondents and eligible nonrespondents), weighted by the known-eligibility-adjusted weights. The predictors considered for inclusion were the same as those included in the known eligibility model, except with simplifications to the voter participation history and state variables to reflect the smaller number of cases entering the model.[91] The predictors in the final model were voter participation history, age, age squared, WGI index score, and an indicator variable for missing age data;[92] world region and state had been dropped due to lack of significance. After estimating the probability of survey completion, the known-eligibility-adjusted weights for eligible respondents were multiplied by the multiplicative inverse of this model-estimated probability, whereas the weights of eligible nonrespondents were removed, thereby redistributing the weights of eligible

88 This review did not identify any systematic issues relating to country misclassification, and overall concordance was very high.

89 Among the 690 embassy addresses in the final sampling frame, this process reduced the item-missing rate for the country variable from 98% to 20%.

90 Among 203 DPO addresses in the final sampling frame, the item-missing rate was 49%, both before and after this process.

91 For voter participation history, the three categories of cases with missing data were combined into a single category. For state, the minimum sample size threshold for allowing a state to receive its own indicator variable (rather than being combined into one of the two "other" categories) was increased from 250 to 1,000 members of the original sample.

92 These are variables that are observed for everyone in the sample and are potential predictors of both nonresponse and outcomes of interest. As per Little & Rubin (2002), the modern statistical literature distinguishes between three types of missing data: data that are missing completely at random (MCAR), missing at random (MAR), and not missing at random (NMAR). Methods for accounting for unit nonresponse in surveys via weighting, both in this survey and more generally, typically assume that the mechanism for unit-missing data is MAR—that is, conditional on observed characteristics, that the data missingness is independent of the outcome measures. However, respondents and nonrespondents may also differ with respect to other, unobserved outcome-relevant characteristics for which data are not available for the full sample, violating this MAR assumption. One potential example of such an unobserved characteristic would be English-language proficiency, which potentially affects response propensity due to the survey instrument only being available in English, as well as outcomes of interest such as exposure to election-oriented media. Consequently, the weighted sample of respondents may still differ from the full sample with respect to outcomes of interest, leading to biased estimates of population average outcomes.

nonrespondents to eligible respondents. Ineligible individuals received an adjustment factor of 1 (i.e., their weights were not modified).

Applying nonresponse adjustments resulted in the final weights before calibration. Distributions of the base weights, adjustment factors, and final weights before calibration by final disposition code are shown in Table 4.2.

Table 4.2. Distribution of Weights and Adjustment Factors by Final Disposition Code

Disposition Code Category	Statistic	Base Weight (d_i)	Eligibility Status Adj. Factor (f_i^{A1})	Complete Status Adj. Factor (f_i^{A2})	Final Weight Before Calibration (w_i^{NR})
Eligible Respondents	N	6,923	6,923	6,923	6,923
	MIN	1.00	1.67	1.05	2.71
	MAX	9.72	69.28	1.99	255.38
	MEAN	6.60	5.53	1.13	35.20
	STD	2.97	4.59	0.06	25.88
Eligible Nonrespondents	N	922	922	922	922
	MIN	1.00	1.73	--	--
	MAX	9.72	56.11	--	--
	MEAN	6.06	6.21	--	--
	STD	3.06	5.39	--	--
Ineligible	N	308	308	308	308
	MIN	1.00	1.73	1.00	2.94
	MAX	9.72	67.12	1.00	204.06
	MEAN	5.47	7.07	1.00	31.09
	STD	3.18	7.27	0.00	27.08
Unknown Eligibility	N	36,847	36,847	36,847	36,847
	MIN	1.00	--	--	--
	MAX	9.72	--	--	--
	MEAN	5.38	--	--	--
	STD	3.15	--	--	--

Thus, after both adjustment stages, the nonresponse-adjusted weight for sample member (*i*) could be written as $w_i^{NR} = d_i \cdot f_i^{A1} \cdot f_i^{A2}$. The weight w_i^{NR} was the final weight before calibration. Note that after the two stages of nonresponse adjustments, only the eligible respondents (*ER*) and ineligible sample members (*IN*) had nonzero weights. The weights of sample members with unknown eligibility (*UNK*) had been removed during the first adjustment stage, and the weights of eligible nonrespondents (*ENR*) had been removed during the second adjustment stage. The ineligible sample members (*IN*) represented a unique and well-defined group whose weights could not be redistributed to the other eligibility categories.

Calibration of Weights

The final step in the calculation of the weights involved the modification of the nonresponse-adjusted weights so that the sample distribution of important demographic characteristics was similar to the known distribution in the population. This is referred to as calibration and can be used to decrease variance and improve the efficiency of estimators (Valliant, Dever, and Kreuter, 2013).

Calibration adjustments were calculated using raking (i.e., iterative proportional fitting). Raking is an iterative method that results in consistency between complete population counts and sample data for a series of marginal distributions. Raking is used in situations in which poststratification to the full cross-classification of all adjustment variables would result in cells that are too small for efficient estimation or in which some cells have unknown population counts.

The weights were raked on the four raking dimensions toward population totals or estimated population totals from the frame. Each raking dimension incorporated a cross-classification with voter participation history given that this was strongly associated both with response rates and with key survey measures. Categories with insufficient numbers of respondents were collapsed with other similar categories where necessary. Voter participation history was initially computed by cross-classifying the individual's general election voter participation history from 2016 and 2018, forming four categories:

1. voted in neither the 2016 nor 2018 General Election;
2. voted in the 2016 General Election only;
3. voted in the 2018 General Election only; and
4. voted in both the 2016 and 2018 General Elections.

There were too few cases in Category 3, above, to fully cross-classify this category within every raking dimension. Thus, Categories 2 and 3 were combined.

The four raking dimensions used were:

1. voter participation history by country (Raking Dimension 1);
2. voter participation history by state (Raking Dimension 2);
3. voter participation history by sex (Raking Dimension 3); and
4. voter participation history by age group (Raking Dimension 4).

In certain cases, there were limited amounts of missing data that had to be taken into account during the weighting process. One option for accounting for missing data in weighting is to allow such cases to form their own raking cells. However, in some cases, this would produce small cell sizes that could substantially drive up design effects; further, in "zero cells" in which there are population members but zero respondents, it is impossible to directly apply adjustments. Another option for dealing with missing data is to combine groups with other similar groups where they exist. An additional option is to use an imputation approach for purposes of assigning cases to the raking categories.

The general approach taken for missing frame data was to avoid collapsing cells where possible; in limited cases in which similar cells were available and it was necessary to do so, this option was used. However, in cases in which a similar cell was not available and the number of respondents

was very low, a hot deck imputation approach was used. This imputation approach took into account the frame distribution of the variables for individuals in a given category (e.g., voter participation history group), and each missing value in the frame was replaced with a non-missing value from a random donor in the frame with non-missing data within the category (with replacement of donors). This ensured that the distribution of the imputed variables within a given category was approximately equal to the distribution of non-missing data within that category. Given that internal consistency of control totals is important in allowing the raked weights to converge, for raking dimensions in which imputation was necessary, imputed values were incorporated into estimated population totals to ensure internally consistent control totals across raking dimensions.

The decision rules for creating raking categories, collapsing cells, and conducting imputation were as follows:

- Voter participation history: As previously indicated, the three main voter participation categories of interest were (1) those who voted in neither the 2016 nor 2018 General Election; (2) those who voted in the 2016 General Election only or the 2018 General Election only; and (3) those who voted in both the 2016 and 2018 General Elections. Those with any missing voter participation history data were allowed to form a separate category.[93]

- Raking Dimension 1 (voter participation history by country): For each country[94] for which at least 600 individuals were sampled, the voter participation history categories were cross-classified by country. Countries with fewer than 600 sample members were combined by world region into an "other" category before cross-classifying with voter participation history. Records with unknown world region incorporated the previously-computed world region imputations,[95] after which they were grouped by voter participation history with the relevant "other" category. Cells were collapsed as follows:

    - Due to a small number of individuals who had missing voter participation history data, these individuals were cross-classified by world region rather than by country. Further, these missing-voter-participation-history-by-region categories were combined across world regions for two world regions (Africa; South and Central Asia), due to small cell sizes.

    - For China and Netherlands, the category of individuals who had voted in neither the 2016 nor the 2018 General Election was combined with the category of individuals who voted in only one of the 2016 and 2018 General Elections, due to small cell sizes.

- Raking Dimension 2 (voter participation history by state): For each state for which at least 450 individuals were sampled, the voter participation categories were cross-classified by state. States with fewer than 450 sample members were combined into a single category, which was then divided by record source (e.g., absentee records versus unconfirmed requesters) before cross-classifying by voter participation history. After cross-classifying

93 As described in the context of nonresponse adjustments, all Texas voting history records were treated as missing, regardless of their initial values, due to the unclear veracity of these data.
94 For purposes of simplicity in reporting, we use the term "country" in this chapter to refer to any country, microstate, overseas territory of a foreign country (e.g., French Polynesia), or other foreign area (e.g., Antarctica).
95 As described earlier, this entailed the use of hot deck imputation, using four donor cells that reflected address characteristics (embassy addresses; DPO AA addresses; DPO AE addresses; and DPO AP addresses).

state (or group of states) by voter participation history, changes were made to this dimension as follows:

  - For Arizona, Maine, Michigan, Missouri, New Jersey, New Mexico, North Carolina, Ohio, Pennsylvania, and Virginia, the category of individuals in the given state who had voted in neither the 2016 nor 2018 General Election was combined with the category of individuals who voted in only one of the 2016 or 2018 General Elections, due to small cell sizes.

  - Individuals with missing voter participation history in Colorado, Maine, Michigan, New Jersey, New York, Ohio, Oregon, Virginia, and Washington were combined into a single category across states, due to small cell sizes. This category was further combined with the category of unconfirmed requesters with missing voter participation history in smaller states (i.e., with fewer than 450 sample members), due to the latter category only containing three sample members.

- Raking Dimension 3 (voter participation history by sex): Voter participation history was cross-classified by sex. For individuals whose sex was not recorded on the voter file, imputation was applied as follows:

  - Initially, sex was missing for 5.31% of records in the frame. For these records, sex was imputed deterministically based on first name and birthdate (where available) using Social Security Administration (SSA) baby name data, and these predictions were used to reduce the proportion of missing data to 0.56%.[96]

  - Among the remaining individuals with unknown sex and whose first name could not be used to predict sex, but who had a middle name that could be classified based on predicted sex, the predicted sex from the middle name was used in forming donor cells to apply hot deck imputation. This step further reduced the proportion of missing data to 0.39%.[97]

  - The remaining individuals with unknown sex had their sex randomly imputed, with donor cells formed based on voter participation history group.

- Raking Dimension 4 (voter participation history by age group): Voter participation history was cross-classified by age group (18–29; 30–39; 40–49; 50–59; 60–69; 70+; and missing).

96 More specifically, SSA baby name data were used to estimate the probability that individuals with a given first name were male or female based on birth year. Sex was imputed to male if the estimated probability of being male was above 50%; likewise, sex was imputed to female if the estimated probability of being female was above 50%. In order to validate this step, the same imputation procedures were applied to predict the sex of all members of the sampling frame for whom sex was already known, under the assumption that the frame variable was correct. Of these individuals, 97.3% of females and 96.8% of males were correctly classified based on first name, with generally high accuracy regardless of birth year.

97 This step, which entailed stochastic imputation based on middle name, was in contrast to the previous step for deterministic imputation based on first name. The overarching reason for this was that the SSA-based probabilities are based on first names, and have lessened predictive accuracy for scoring middle names, especially for females. With respect to the latter, scoring frame members' sex based on middle names, and classifying sex deterministically based on a cut-point of .5, would result in females' estimated misclassification rate (13.7%) markedly exceeding those of males (5.0%), based on records with non-missing sex.

Population sizes for Raking Dimensions 2 and 4 and estimated population sizes[98] for Raking Dimension 1 and 3 are in Appendix A.

At the conclusion of the raking step, the FMG team evaluated the weights to determine whether weight trimming should be implemented. The goal of weight trimming is to reduce the mean square error by trimming extreme weights (Potter, 1993). To evaluate the effects of weight trimming, weights greater than four standard deviations from the mean were trimmed, after which the weights were rescaled via a flat multiplicative adjustment in order to preserve the sum of the weights, and the data were re-raked to population totals. However, this step did not produce any meaningful reduction in weight variation. Therefore, the final calibrated weights before trimming were used.

Ineligible sample members reflected a portion of the frame population whose weights could not be redistributed to the other eligibility categories and who were reflected in the population benchmarks. Therefore, ineligibles were included in the raking process. However, ineligibles were not of analytic interest and were, therefore, not included in the analysis data set. In effect, the weighting approach implicitly treats eligible individuals as a subpopulation of the frame population, with calibration adjustments conducted for the full population represented by the frame.

After the conclusion of the weighting process, there were $n = 6{,}923$ eligible respondents receiving weights.

Computation of Variance Estimates

Variance estimation procedures are developed to characterize the uncertainty in point estimates while accounting for complex sample design features such as stratification, selection of a sample in multiple phases or stages, and survey weighting. The two main methods for variance estimation are Taylor series linearization and replication. Taylor series linearization involves approximating a statistic by applying the Taylor series expansion to the relevant non-linear function, and substituting this approximation into the appropriate variance formula for the given sample design; this method is commonly used in estimating variances for statistics such as means and proportions. Replication methods such as jackknife repeated replication (JRR), balanced repeated replication (BRR), or bootstrap methods are also sometimes used, depending on the complexity of the sample design and type of statistic. Although replication methods can be designed to reflect the impact of multiple steps of weighting adjustments, they also add computational complexity.

In this survey, Taylor series linearization methods were used to estimate variances. Taylor series linearization generally relies on the simplicity associated with estimating the variance for a linear statistic even with a complex sample design, and is valid in large samples. In this formulation, the variance strata, primary sampling units (PSU), and survey weights must be defined. For this survey, the variance strata were defined based on the explicit strata used in the sampling process. Specifically, as displayed in Table 4.3, the variance strata were based on world region and WGI index score category, as specified in the sampling chapter.

98 As mentioned previously, imputed values were incorporated into the raking totals in order to ensure internally consistent benchmark totals and improve raking convergence. Thus, Raking Dimension 1 and 3 consist of estimated totals due to imputation for cases with missing world region and/or sex.

Table 4.3. Variance Strata		
Variance Stratum	World Region	WGI Category
1	Africa	WGI < 0
2	Africa	0 ≤ WGI <1
3	East Asia and Pacific	WGI < 0
4	East Asia and Pacific	0 ≤ WGI <1
5	East Asia and Pacific	1 ≤ WGI
6	Europe and Eurasia	WGI < 0
7	Europe and Eurasia	0 ≤ WGI <1
8	Europe and Eurasia	1 ≤ WGI
9	Near East	WGI < 0
10	Near East	0 ≤ WGI <1
11	South and Central Asia	All
12	Western Hemisphere—Canada and Mexico	WGI < 0
13	Western Hemisphere—Canada and Mexico	1 ≤ WGI
14	Western Hemisphere—Other	WGI < 0
15	Western Hemisphere—Other	0 ≤ WGI <1
16	Western Hemisphere—Other	1 ≤ WGI
17	Unknown World Region	n/a

Finite Population Correction

Surveys often include a finite population correction (FPC) in order to give credit for a reduction in sampling variance obtained from sampling from a finite population without replacement. For example, in an extreme scenario, if a census is conducted and there is no nonresponse, then there would be zero sampling error. Although there is some debate on when and whether to apply FPCs (Rust et al., 2006), applying an FPC could lead to underestimates of variance when measurement error is a factor (Kalton, 2002) and might also over-characterize the certainty of estimates in not accounting for variability relating to missing data or to the weighting process. Thus, in order to provide more conservative confidence intervals, an FPC is not applied in this survey.

Margin of Error

The margin of error (MOE) is a measure of sampling variability that indicates the half-width of a confidence interval. Whereas variance estimates can differ for each quantity being estimated, the MOE is commonly reported as a single, study-wide measure, so as to provide a rough measure of precision across the entire survey. For the 2018 Overseas Citizen Population Survey (OCPS), Table 4.4 indicates the MOE by subgroup for a 95% confidence interval and a proportion of 50%.[99] The MOE was computed as:

$$MOE \approx 1.96\sqrt{\frac{p(1-p)}{n/(1+L)}}$$

in which the population proportion p was assumed to be 50%, n is the number of eligible respondents, and $1 + L$ is Kish's design effect from weighting (1992) and was used to

99 A proportion of 50% was assumed, given that this produces the most conservative MOE.

approximate the effects of the sampling and weighting design on the sampling variance.[100] This formula was applied separately for each subgroup.[101]

Table 4.4. Margin of Error by Subgroup

Subgroup	Margin of Error
Overall	1.5%
Age	
Age 18 to 24	6.8%
Age 25 to 34	3.9%
Age 35 to 44	3.6%
Age 45 to 54	3.4%
Age 55 to 64	3.2%
Age 65 and up	2.8%
Sex	
Male	2.1%
Female	2.1%
Region[102]	
North America	3.6%
South/Central America / Caribbean	6.1%
Europe	2.2%
Sub-Saharan Africa	5.3%
Middle East / North Africa	4.6%
North/Central/South Asia	6.7%
East Asia	6.2%
South East Asia	7.3%
Oceania	5.9%
Income	
$0–$19,999	4.5%
$20,000–$74,999	2.5%
$75,000+	2.2%
Race	
White	1.7%
Black	11.1%
Hispanic	6.7%
Other Race	4.9%
Education	

100 Kish's design effect from weighting, commonly known as the unequal weighting effect (UWE), is computed as $1 + L$, in which $L = n^{-1} \sum_s \frac{(w_i - \bar{w})^2}{\bar{w}^2}$ is the squared coefficient of variation of the survey weights w_i. This $1 + L$, termed the relative loss due to weighting, is used to evaluate weight variability and its effect on precision of the point estimates and is a reasonable approximation for the design effect (DEFF) in single-stage designs when the weights are unrelated to the outcome of interest (e.g., see Spencer, 2000).

101 More specifically, the approximate MOE for a given subgroup was computed as $MOE_g \approx 1.96\sqrt{p_g(1-p_g)[n_g/(1+L_g)]^{-1}}$, where p_g was assumed to be 0.5, n_g was the sample size for the given subgroup, and L_g was the squared coefficient of variation of the survey weights for the given subgroup. This formula assumes an ignorable finite population correction.

102 For purposes of computing MOEs, world regions were defined based on reporting categories from Volume 2 of this report.

Table 4.4. Margin of Error by Subgroup	
Subgroup	Margin of Error
Less Than Bachelor's	3.8%
Bachelor's Degree	2.6%
More Than Bachelor's	2.1%
Marital Status	
Married	1.8%
Never Married	3.3%
Other	4.2%

Note that the table of MOEs above is only intended as a rough tool for summarizing precision across the entire survey, and will provide less accurate confidence intervals than those obtained using the variance estimation procedures described earlier in this section. Importantly, survey results will be less precise for questions not asked of all individuals in a given group (i.e., because of skip logic or item nonresponse). For questions that are asked of the entire group, the confidence intervals will tend to be overly conservative, particularly for proportions close to 0% or 100%, although it is possible that some confidence intervals may be overly narrow (because of the use of approximations in the MOE formula). Further, nearly every survey effort has the potential for non-sampling errors of a systematic nature, such as nonresponse bias and measurement bias, which will not be reflected in the MOE, although the study design is aimed to mitigate such issues.

Calculation of Outcome Rates

The outcome rates for this survey were computed in accordance with the standards defined by AAPOR (2016). Table 4.5 shows the AAPOR outcome rates obtained; Table 4.6 shows weighted outcome rates by world region; and Table 4.7 shows the frequencies of final disposition codes used to calculate outcome rates. The following section describes what these rates represent and how they were calculated. The base weights developed from the frame and the sample were used for the calculations of the weighted rates to adjust for differences in the probabilities of selection from the frame.

Table 4.5. AAPOR Outcome Rates		
	Unweighted	Weighted[103]
Response Rate 3	15.99%	18.79%
Contact Rate 2	18.11%	21.08%
Cooperation Rate 1	88.28%	89.14%
"e" (% eligible among unknowns)	96.22%	96.82%

103 Weighted rates use the base weight.

Table 4.6. AAPOR Outcome Rates by World Region[104]							
Outcome Rate	Africa	E. Asia & Pacific	Europe and Eurasia	Near East	S. & Cent. Asia	Canada and Mexico	W. Hemisphere (Other)
Response Rate 3	10.13%	20.31%	19.39%	17.01%	11.89%	22.11%	7.80%
Contact Rate 2	11.63%	22.81%	21.60%	19.48%	13.94%	24.80%	9.27%
Cooperation Rate 1	87.13%	89.05%	89.79%	87.27%	85.30%	89.19%	84.10%
"e" (% eligible among unknowns)	93.71%	96.74%	96.57%	97.83%	93.32%	97.84%	95.34%

Table 4.7. AAPOR Final Disposition Code Categories[105]					
Final Disposition	Symbol	Sample Count	Sample Percent	Weighted Count	Weighted Percent
Eligible respondents	ER	6,923	15.38%	45,680	18.20%
Refusals	R	851	1.89%	5,109	2.03%
Noncontacts	NC	3	0.01%	23	0.01%
Other eligible nonrespondents	O	68	0.15%	454	0.18%
Unknown eligibility	UNK	36,847	81.88%	198,101	78.91%
Ineligible	IN	308	0.68%	1,684	0.67%
Total		**45,000**	**100.00%**	**251,051**	**100.00%**

Response Rate

The response rate is the number of eligible sample members who returned completed questionnaires divided by the estimated number of eligible individuals in the sample. For this survey, Response Rate 3 (RR3) was calculated. RR3 was chosen to account for sample members whose eligibility could not be determined. The formula for RR3 is:

$$RR3 = \frac{ER}{(ER + R + NC + O + e \cdot UNK)}$$

An important element of RR3 is *e*, the estimated proportion of unknown eligibility cases that are eligible. By incorporating "e" into the formula above, the denominator reflects the estimated number of eligible members of the sample (or population, if weighted). In this survey, "e" was calculated using the proportional allocation method, which assumes that the ratio of eligible to ineligible cases among the cases with known eligibility also applies to the cases with unknown eligibility.[106] Using this method, the formula for calculating "e" is:

104 Rates are weighted by the base weight. World region reflects the final corrected frame classifications and does not include records with unknown region.

105 Sample counts and percentages are unweighted. Weighted counts and percentages use the base weight. Totals may not add up to 100% or displayed total because of rounding.

106 There is no single method to most accurately calculate "e" across all surveys, given that the proportion of unknown eligibility sample members who are eligible depends on design elements of the specific study (Smith, 2009). Thus, the AAPOR standards

$$e = \frac{(ER + R + NC + O)}{(ER + R + NC + O + IN)}$$

For this survey, "e" was equal to 96.82% (weighted; 96.22% unweighted), indicating that approximately 96.82% of the population represented by the sample can be assumed to be eligible. Therefore, RR3 was equal to 18.79% (weighted; 15.99% unweighted).

Contact Rate

The contact rate represents the proportion of eligible sample members who were actually contacted. This is equal to the number of eligible respondents and eligible nonrespondents who were contacted, divided by the estimated number of eligible individuals in the sample. Contact Rate 2 (CON2) was calculated using the following formula:

$$CON2 = \frac{ER + R + O}{(ER + R + NC + O + e \cdot UNK)}$$

Contact Rate 2 was determined to be 21.08% (weighted; 18.11% unweighted).

Cooperation Rate

The cooperation rate represents the proportion of contacted eligible sample members who agreed to complete the survey. This is equal to the number of eligible respondents who returned complete questionnaires divided by the number of sample members who had been reached. Cooperation Rate 1 (COOP1) was calculated, for which the formula is:

$$COOP1 = \frac{ER}{(ER + R + O)}$$

Cooperation Rate 1 was determined to be 89.14% (weighted; 88.28% unweighted).

Design Effect

The design effect is a statistic that indicates the effect of using the selected sampling and weighting methodologies. This statistic demonstrates the impact that the survey design and weighting have on the variance of the point estimates relative to a simple random sample. The design effect is calculated separately for each point estimate. Two pieces of information are necessary to calculate the design effect:

(1) The variance achieved using the selected design; and

(2) The variance that would have been achieved using a simple random sampling design.

The design effect is calculated as the ratio of these two pieces of information (Kish, 1965). Holding all else constant, it is desirable for the design effect to be as small as possible. A design effect of less than 1 means that the selected design resulted in a smaller variance (and smaller standard error) than would have been achieved with a simple random sample. A design effect

indicate that researchers should simply use the best available scientific information in calculating "e." Smith (2009) notes that the proportional allocation or Council of American Survey Research Organizations (CASRO) method is easily used and tends to produce conservative estimates (i.e., estimates that do not inflate the response rate).

greater than 1 means that the selected design resulted in a larger variance (and larger standard error) than would have been achieved using a simple random sample. It is important to note that the design effect is only one measure of the usefulness of a design plan; for instance, budget and feasibility must also factor into design decisions. Likewise, oversampling of small groups to achieve domain precision goals (as was necessary in this study) typically leads to design effects greater than 1. Note that since the variances are unknown, the design effect must be estimated.

Table 4.8 shows the design effects for five key estimates for all respondents. Table 4.9 shows the design effects for world region subpopulation estimates. The design effects were above 1 because of disproportional allocation, differential nonresponse, weighting adjustments for nonresponse, and calibration adjustments.

Table 4.8. Estimated Design Effects[107]

Question	Overall
Voted in 2018 General Election (% voted)[108]	2.10
Requested Absentee Ballot for 2018 General Election (% yes)[109]	1.76
Received a ballot for 2018 General Election (% yes)[110]	1.95
Aware of FVAP (% yes)[111]	1.53
Interested in 2018 General Election (% very)[112]	1.73

107 For all metrics, item-missing data and non-substantive answers (e.g., "not sure") are excluded from the denominator.

108 Question 8. "Did you vote in the November 6, 2018 General Election?" (Design effect is reported for the proportion of individuals who reported voting.)

109 Question 9. "Did you request an absentee ballot for the November 6, 2018 General Election?" (Design effect is reported for the proportion of individuals who reported "yes.")

110 Question 10. "Did you receive an absentee ballot from an election official for the November 6, 2018 General Election?" (Design effect is reported for the proportion of individuals who reported "yes.")

111 Question 16. "Before taking this survey, were you aware of the Federal Voting Assistance Program (FVAP) or its services?" (Design effect is reported for the proportion of individuals who reported "yes.")

112 Question 26. "How interested or uninterested were you in the election held on November 6, 2018?" (Design effect is reported for the proportion of individuals who reported being "very interested.")

Table 4.9. Estimated Design Effects by World Region[113]							
Question	Africa	E. Asia & Pacific	Europe and Eurasia	Near East	S. & Cent. Asia	Canada and Mexico	W. Hemisphere (Other)
Voted, 2018 GE	0.44	2.36	2.26	1.06	0.35	2.16	2.14
Requested Absentee Ballot	0.39	1.77	1.90	1.08	0.39	1.85	1.85
Received Absentee Ballot	0.44	1.99	2.14	1.09	0.38	2.05	1.89
Aware of FVAP	0.40	1.72	1.61	0.89	0.33	1.49	1.75
Interested in 2018 GE	0.41	1.93	1.83	0.94	0.35	1.80	1.83

113 For all metrics, item-missing data and non-substantive answers (e.g., "not sure") are excluded from the denominator. World region reflects the final corrected frame classifications and does not include imputed values of records with unknown world region.

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APPENDIX A: POPULATION BENCHMARKS FOR RAKING

Table A1. Raking Dimension 1: Voter History by Country

Voter Participation History (2016–2018)	Country (or Region)	Population Estimate
Neither	Australia	2,481
2016 or 2018 only	Australia	4,779
Both	Australia	4,652
Neither	Canada	5,588
2016 or 2018 only	Canada	11,978
Both	Canada	17,298
Less than both	China	2,330
Both	China	1,087
Neither	France	2,211
2016 or 2018 only	France	4,925
Both	France	6,679
Neither	Germany	2,476
2016 or 2018 only	Germany	6,252
Both	Germany	7,968
Neither	India	1,113
2016 or 2018 only	India	1,140
Both	India	653
Neither	Israel	3,652
2016 or 2018 only	Israel	3,699
Both	Israel	2,155
Neither	Italy	1,541
2016 or 2018 only	Italy	2,328
Both	Italy	2,344
Neither	Japan	1,147
2016 or 2018 only	Japan	2,327
Both	Japan	3,205
Neither	Mexico	1,897
2016 or 2018 only	Mexico	2,354
Both	Mexico	2,255
Less than both	Netherlands	3,023
Both	Netherlands	2,374
Neither	South Africa	374
2016 or 2018 only	South Africa	449
Both	South Africa	387
Neither	Spain	1,466
2016 or 2018 only	Spain	2,471

Table A1. Raking Dimension 1: Voter History by Country		
Voter Participation History (2016–2018)	Country (or Region)	Population Estimate
Both	Spain	2,879
Neither	Switzerland	1,000
2016 or 2018 only	Switzerland	2,214
Both	Switzerland	2,806
Neither	United Kingdom	5,814
2016 or 2018 only	United Kingdom	13,171
Both	United Kingdom	15,528
Neither	Africa—Other	940
2016 or 2018 only	Africa—Other	1,348
Both	Africa—Other	1,336
Neither	East Asia and Pacific—Other	5,986
2016 or 2018 only	East Asia and Pacific—Other	8,370
Both	East Asia and Pacific—Other	8,022
Neither	Europe and Eurasia—Other	5,258
2016 or 2018 only	Europe and Eurasia—Other	9,849
Both	Europe and Eurasia—Other	11,296
Neither	Near East—Other	1,474
2016 or 2018 only	Near East—Other	1,575
Both	Near East—Other	1,501
Neither	South and Central Asia—Other	278
2016 or 2018 only	South and Central Asia—Other	374
Both	South and Central Asia—Other	352
Neither	Western Hemisphere–Far—Other	6,396
2016 or 2018 only	Western Hemisphere–Far—Other	5,737
Both	Western Hemisphere–Far—Other	4,540
Missing data	Africa or South and Central Asia	255
Missing data	East Asia and Pacific	1,675
Missing data	Europe and Eurasia	5,179
Missing data	Near East	337
Missing data	Western Hemisphere—Close (Canada and Mexico)	1,996
Missing data	Western Hemisphere—Far	507
Total		**251,051**

Table A2. Raking Dimension 2: Voter History by State		
Voter Participation History (2016–2018)	State(s)	Population Count
Less than both	AZ	2,548
Both	AZ	2,905
Missing data	AZ	456
Neither	CA	20,140
2016 or 2018 only	CA	29,972
Both	CA	23,850
Missing data	CA	568
Neither	CO	2,061
2016 or 2018 only	CO	4,776
Both	CO	6,905
Neither	FL	11,808
2016 or 2018 only	FL	12,049
Both	FL	11,272
Less than both	ME	2,935
Both	ME	1,988
Less than both	MI	1,076
Both	MI	2,210
Neither	MN	1,612
2016 or 2018 only	MN	2,650
Both	MN	1,490
Less than both	MO	2,395
Both	MO	1,084
Less than both	NC	1,966
Both	NC	3,897
Missing data	NC	168
Less than both	NJ	1,232
Both	NJ	1,941
Less than both	NM	1,710
Both	NM	867
Neither	NY	6,315
2016 or 2018 only	NY	13,181
Both	NY	14,112
Less than both	OH	1,001
Both	OH	2,245
2016 or 2018 only	OR	565
Both	OR	4,024
Less than both	PA	2,006

Table A2. Raking Dimension 2: Voter History by State		
Voter Participation History (2016–2018)	State(s)	Population Count
Both	PA	2,668
Missing data	PA	1,290
Missing data	TX	5,441
Less than Both	VA	1,227
Both	VA	1,445
Neither	WA	2,890
2016 or 2018 only	WA	5,913
Both	WA	8,068
Missing data	CO/ME/MI/NJ/NY/OH/OR/VA/WA or Other states—unconfirmed requesters	305
Neither	Other states—absentee records	741
2016 or 2018 only	Other states—absentee records	3,221
Both	Other states—absentee records	6,863
Missing data	Other states—absentee records	1,721
Neither	Other states—unconfirmed requesters	2,980
2016 or 2018 only	Other states—unconfirmed requesters	2,815
Both	Other states—unconfirmed requesters	1,483
Total		**251,051**

Table A3. Raking Dimension 3: Voter History by Sex		
Voter Participation History (2016–2018)	Sex	Population Estimate
Neither	Male	25,196
Neither	Female	28,154
2016 or 2018 only	Male	38,495
2016 or 2018 only	Female	49,940
Both	Male	43,986
Both	Female	55,331
Missing data	Male	4,462
Missing data	Female	5,487
Total		**251,051**

Table A4. Raking Dimension 4: Voter History by Age Group		
Voter Participation History (2016–2018)	Age Group	Population Count
Neither	18–29	10,230
Neither	30–39	10,728
Neither	40–49	9,559
Neither	50–59	8,144
Neither	60–69	6,448
Neither	70+	7,112
Neither	Missing data	1,129
2016 or 2018 only	18–29	18,578
2016 or 2018 only	30–39	18,364
2016 or 2018 only	40–49	15,882
2016 or 2018 only	50–59	13,666
2016 or 2018 only	60–69	11,025
2016 or 2018 only	70+	9,435
2016 or 2018 only	Missing data	1,485
Both	18–29	15,402
Both	30–39	18,263
Both	40–49	16,294
Both	50–59	16,587
Both	60–69	16,989
Both	70+	14,702
Both	Missing data	1,080
Missing data	18–29	1,192
Missing data	30–39	1,412
Missing data	40–49	1,180
Missing data	50–59	1,026
Missing data	60–69	1,075
Missing data	70+	733
Missing data	Missing data	3,331
Total		**251,051**