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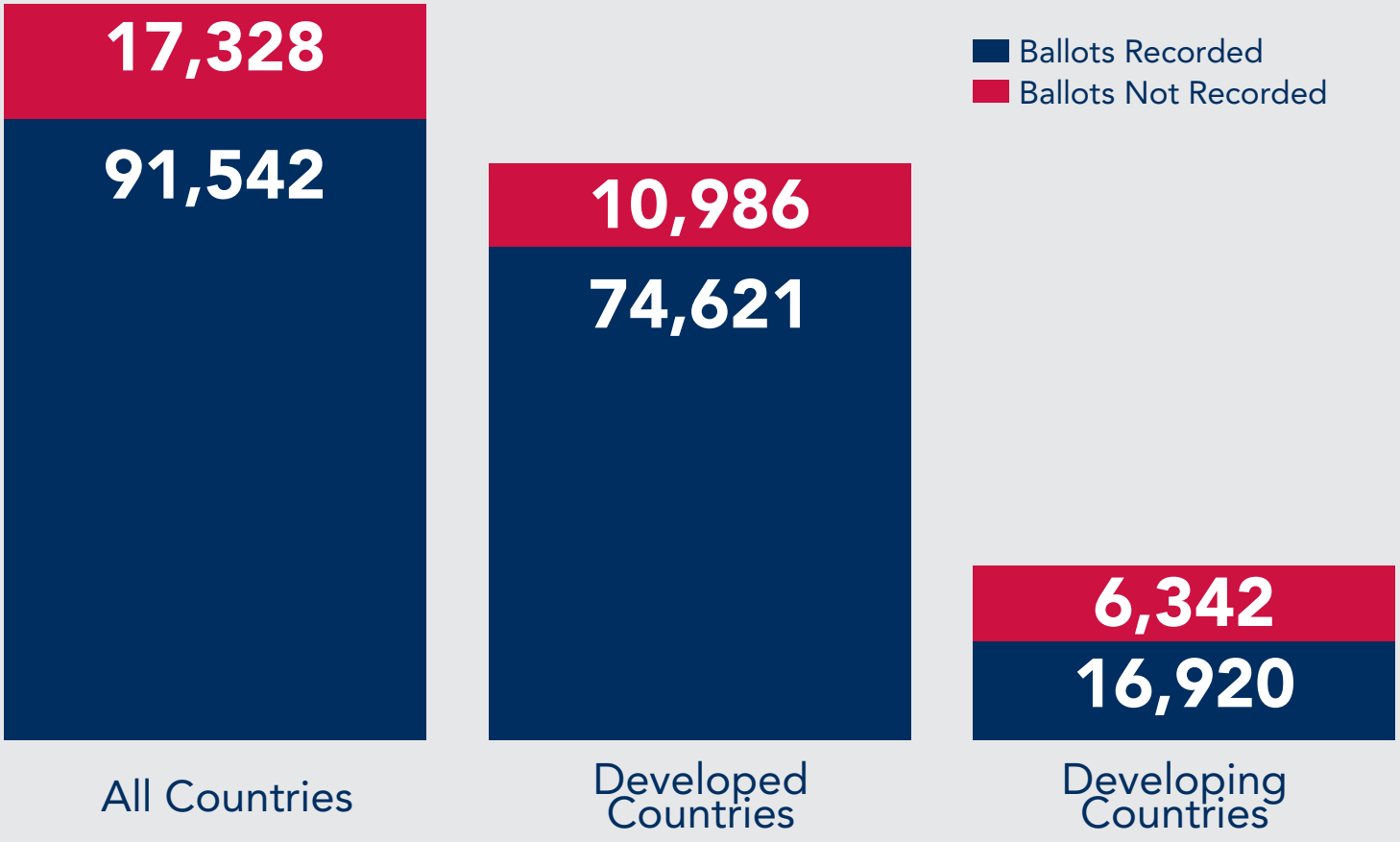
FEDERAL VOTING ASSISTANCE PROGRAM

INTERNATIONAL MAIL AND VOTING BY OVERSEAS U.S. CITIZENS

ESTIMATED BALLOTS NOT RECORDED

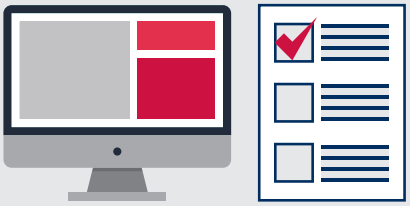


Without any postal obstacles, there would have been an estimated **15% more** ballots recorded from developed countries and approximately **37% more** ballots recorded from developing countries in 2014.

Postal Reliability: the time it takes for a letter from the U.S. to reach its recipient in a given country.

Countries with lower reliability tend to have lower levels of economic development (i.e., developing countries).

ALTERNATIVE BALLOTING OPTIONS



Some State ballot policies allow overseas citizens to circumvent postal obstacles to absentee voting

*This data should not be used to convey a position from FVAP in support or against States moving forward with such policies.

Federal Voting Assistance Program. (2016). International Mailing Systems and Voting by Overseas Citizens.

RESEARCH SUMMARY

INTERNATIONAL MAILING SYSTEMS AND VOTING BY OVERSEAS CITIZENS

The reliability of international mail systems remains a challenge for many U.S. citizens attempting to vote from overseas.

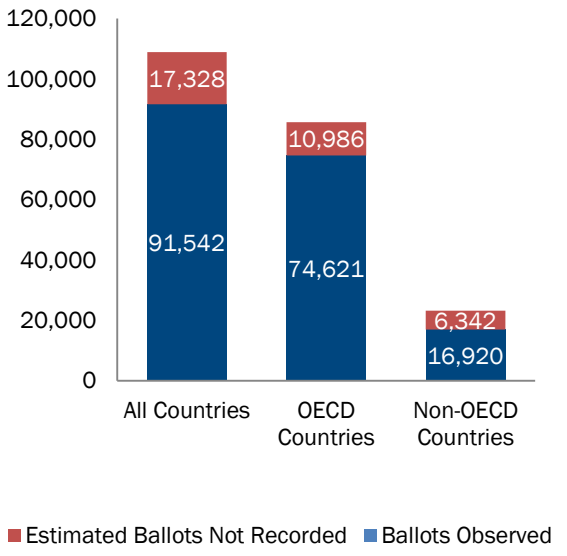
This research note examines the extent to which international postal reliability affects the ability of overseas U.S. citizens to cast absentee ballots, where these challenges are the greatest and the factors associated with potential international postal obstacles.

Background. The amount of time it takes for election materials to travel between a local election office (LEO) and a voter living overseas has long been a challenge for absentee voters.[1] The passage of the *Military and Overseas Voter Empowerment* (*MOVE*) *Act* addressed some issues related to the reliability of the absentee mailing process, but the quality of a foreign country's postal system can still affect the time it takes for a ballot to be transmitted and returned.

Methods. Using data from the Overseas Citizen Population Survey (OCPS), a proxy was created for how long it would likely take election materials to arrive to a person in a given country. This proxy for international postal reliability, voter file data, and country-specific measures of postal reliability obtained from the OCPS were used to calculate the effect of international postal reliability on the likelihood of voting following an overseas migration. In addition, State electronic ballot return policies were examined to determine if such laws impact voting in countries with low postal reliability.

1 Alvarez, R. M., Hall, T. E., & Roberts, B. F. (2007). Military voting and the law: procedural and technological solutions to the ballot transit problem. *Fordham Urban Law Journal, 34*, 935.

Results. Overseas citizens in countries with the most reliable postal systems are 65 percent more likely to have a vote recorded compared to those in countries with the lowest observed levels of postal reliability. Countries with the most reliable postal services are concentrated in Europe, and those with low reliability are concentrated in Africa, Asia and Latin America. In 2014, an estimated 17,000 ballots from U.S. citizens living overseas were not recorded as a result of international postal obstacles.



Conclusions. Overseas citizens, especially those living in developing countries, would benefit greatly from policies that mitigate these postal-related obstacles to absentee voting. Future research should examine the effectiveness of alternative modes of transmitting absentee ballots and assess policies intended to make government-run postal systems more reliable.

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FVAP RESEARCH NOTE

International Mailing Systems and Voting by Overseas Citizens

Introduction

The 2014 Overseas Citizen Population Survey (OCPS), the first survey to identify and interview non-Active Duty Military (ADM) overseas citizens who requested an absentee ballot, found that the vast majority of U.S. citizens abroad return their absentee ballot by mail. This research note hypothesizes that, similar to their military counterparts studied previously, U.S. citizens living overseas in countries with high-quality mailing services are significantly more likely to successfully cast an absentee ballot because they are better able to request, receive and return their absentee ballots by mail in a timely manner. Using OCPS survey data, along with vote history data for 2014 OCPS respondents and country-level information on the average time to begin the survey, analysis shows where international postal reliability—the delivery time for mail from the United States—presents an obstacle to successful absentee voting and identifies important mailing infrastructure correlates of these obstacles. Results indicate that in 2014, an estimated 17,000 votes were not processed on time due to international postal reliability issues. These challenges are especially great for voters in developing countries, from which nearly 40 percent more ballots would be expected if international postal obstacles were removed. Although international postal reliability remains a significant barrier for overseas voters, analysis in this research note also shows that policy changes and expanded opportunities for the electronic transmission of blank ballots may help overseas citizens overcome postal obstacles to absentee voting.

Past Research

One of the primary problems facing individuals covered by the *Uniformed and Overseas Citizens Absentee Voting Act* (*UOCAVA*) is the time it takes for election materials to travel between an overseas voter and his or her local election office (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 *UOCAVA* ballot receipt in order to be counted. If each step is conducted by mail, this can become a lengthy process because of the ballot transit time involved. The canvassing of military ballots in Florida during the 2000 General Election highlighted an array of problems associated with ballot transit times.[1] The Government Accountability Office (GAO) found that the transit time for first class mail sent to *UOCAVA* voters ranged from as little as five days to as much as a month, and that in the 2000 General Election, almost two-thirds of all absentee ballots disqualified nationally were rejected because election officials received them after the official deadline.[2]

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1 Barstow, D., & Van Natta Jr, D. (2001). How Bush took Florida: Mining the overseas absentee vote. *New York Times, 15*. Imai, K. & King, G. (2004). Did illegally counted overseas absentee ballots decide the 2000 U.S. Presidential Election? *Perspectives on Politics, 2*(3) 537–549.

2 Alvarez, R. M., Hall, T. E., & Roberts, B. F. (2007). Military voting and the law: procedural and technological solutions to the ballot transit problem. *Fordham Urban Law Journal, 34*, 935.; General Accounting Office. (2001*). Elections: Voting assistance to military and overseas citizens should be improved*. (GAO-01-1026); General Accounting Office. (2004). *Operation Iraqi Freedom: Long-standing problems hampering mail delivery need to be resolved*. (GAO-04-484).

In 2002, Congress passed the *Help America Vote Act* (*HAVA*), which requires States to accept all absentee ballot requests, even if they are received before the date when the State typically accepts them. This change allowed *UOCAVA* voters to request a ballot early in a given year, eliminating one of the time constraints on these voters. However, the transit time for ballots remained an issue, in part, because there was no statutory deadline for States to send out absentee ballots to *UOCAVA* voters, so ballots were frequently transmitted to voters too close to the election to be completed and returned ahead of deadlines.

In 2009, Congress again acted to address the ballot transit time problem by passing the *Military and Overseas Voter Empowerment* (*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.[3] Research had shown that, before the *MOVE Act*, *UOCAVA* voters in 25 States and the District of Columbia did not have enough time to cast their ballots because these jurisdictions sent ballots out to voters too close to Election Day.[4] The 45-day voting period was intended to address this problem by providing a lengthy period for voting, ensuring there would be enough time for ballot transit between the voter and LEO.

Provision of Mail Services Worldwide

Quality of mail service varies widely, and different countries have very different definitions of what constitutes "quality" postal service. The quality mail service provided by the United States Postal Service (USPS) helps ensure that U.S. mail is effectively moved into foreign mail systems, but the quality of the recipient country's mail system ultimately determines whether overseas citizens receive their election materials in a timely fashion.[5]

In the developing world, postal service quality varies greatly. Although some countries have made efforts to meet the postal quality standards seen in the E.U. and the United States, reform efforts are hampered by a lack of demand. The lack of demand has been exacerbated as alternate forms of communication, such as mobile technologies, have expanded. Likewise, because developing countries tend to have large rural populations, universal postal service is difficult to afford.[6]

3 Department of Justice. (2010). *Fact sheet:* MOVE Act. [Press Release]. Retrieved from https://www.justice.gov/opa/pr/fact-sheet-move-act

4 The Pew Charitable Trusts. (2009). *"No time to vote" for many Military personnel overseas, Pew study finds*. [Press release]. Retrieved from http://www.pewtrusts.org/en/about/news-room/press-releases/2009/01/06/no-time-to-vote-for-many-military-personnel-overseas-pew-study-finds

5 Ansonl, J., & Helblei, M. (2013). A gravity model of international postal exchanges. In M. A. Crew (Ed), *Reforming the postal sector in the face of electronic competition*. Edward Elgar Publishing.

6 Kenny (2006).

Defining Postal Reliability

Assessing the role of the international postal system on *UOCAVA* voting requires defining postal system reliability. This is made difficult by the complex nature of the international postal system and the interplay of a number of highly interrelated factors that affect overall postal system reliability. A measure of postal reliability should reflect the ability of the system to facilitate the timely delivery of absentee ballot requests from the voter's overseas location to the LEO in the United States, the delivery of the absentee ballot from the LEO to the *UOCAVA* voter's overseas location, and finally the return of the completed ballot back to the LEO. Aspects of this system can be measured with some degree of precision; the number of postal workers and facilities in a country, road density, economic development status, and other measures of governmental structure all influence mail system quality.[7] However, these institutional and infrastructure factors tend to be highly interrelated (e.g., countries with poor roads also have lower economic development), making it difficult to distinguish their individual effect on postal reliability.

Postal Reliability: Index that is higher as the average logged time it takes for a letter to travel between the United States and a destination country decreases.

This research used a common metric of postal reliability: the time it takes for a letter to travel between the United States and destination country.[8] For the 2014 OCPS, 36,000 individuals were sampled from all those who requested an absentee ballot, and these individuals were mailed an invitation to participate in a survey, instructing them to log on to a website to complete the survey. The number of days between the date when the invitation was sent from the United States and when the respondent started the web survey provides a proxy for the delivery time for the survey invitation. This analysis follows past studies by aggregating delivery time measures at the country level. This aggregation helps mitigate significant variability in factors such as individual-level differences in time to respond after receiving the invitation, which may make the time to respond to the survey a poor predictor of delivery times of ballots. Appendix B provides a detailed discussion of the calculation and validation of this measure.

It is difficult to determine which factor causes mail delivery problems. Previous research indicates that both infrastructure and institutional quality are predictors of postal efficiency. In this analysis, the following country-level characteristics were used to measure the quality of infrastructure and institutions:[9]

- Road network density
- Fraction of roads paved
- Internet connections per capita
- Organization for Economic Co-operation and Development (OECD membership, a proxy for development), and

7 Chong, A., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2014). Letter grading government efficiency. *Journal of the European Economic Association, 12*(2), 277–299.

8 Ibid.

9 Ibid.

- World Bank Voice and Accountability Index average (a proxy for government accountability/corruption)

Together, these factors explained much of the cross-national variation in postal reliability.[10] The correlation between these factors and postal reliability suggests that the postal reliability measure captured the collective influence of the many institutional and infrastructure factors typically associated with mail system quality on the underlying construct of interest—the delivery of election-related materials from the United States to the addresses of individuals who requested an absentee ballot. Furthermore, the postal reliability measure used here also corresponds with the respondents' subjective assessment of their host country's mail system. By contrast, differences between the time to respond of respondents in the same country is not explained by their sociodemographic characteristics, which one might expect if the postal reliability measure were capturing differences in the time respondents take to start the survey after having received the invitation to participate.[11] The postal reliability metric used in this study is not, therefore, likely to be an indication that voters within a country are more or less motivated to respond promptly to the survey, but rather provides a valid measure of the reliability of a nation's postal system with respect to mail moving between the country of residence and the United States.

FIGURE 1: POSTAL RELIABILITY BY COUNTRY

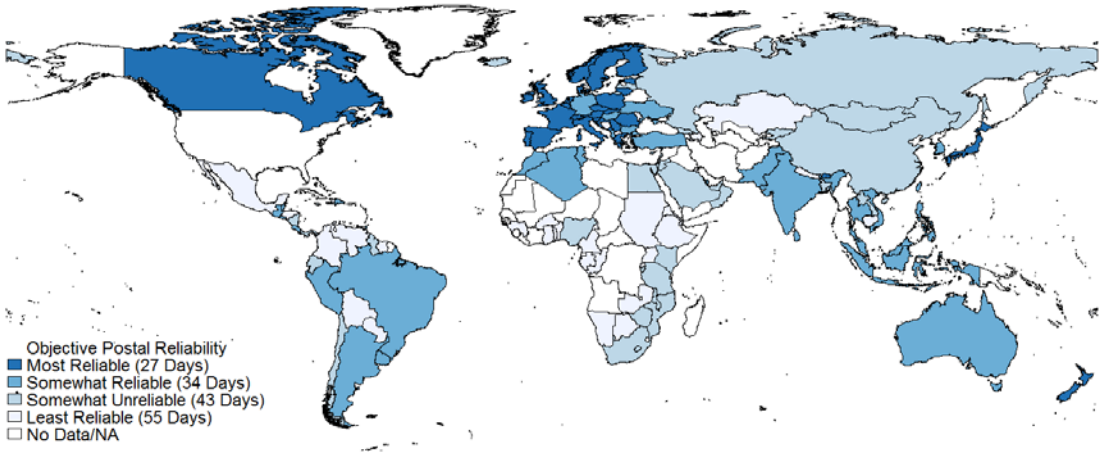
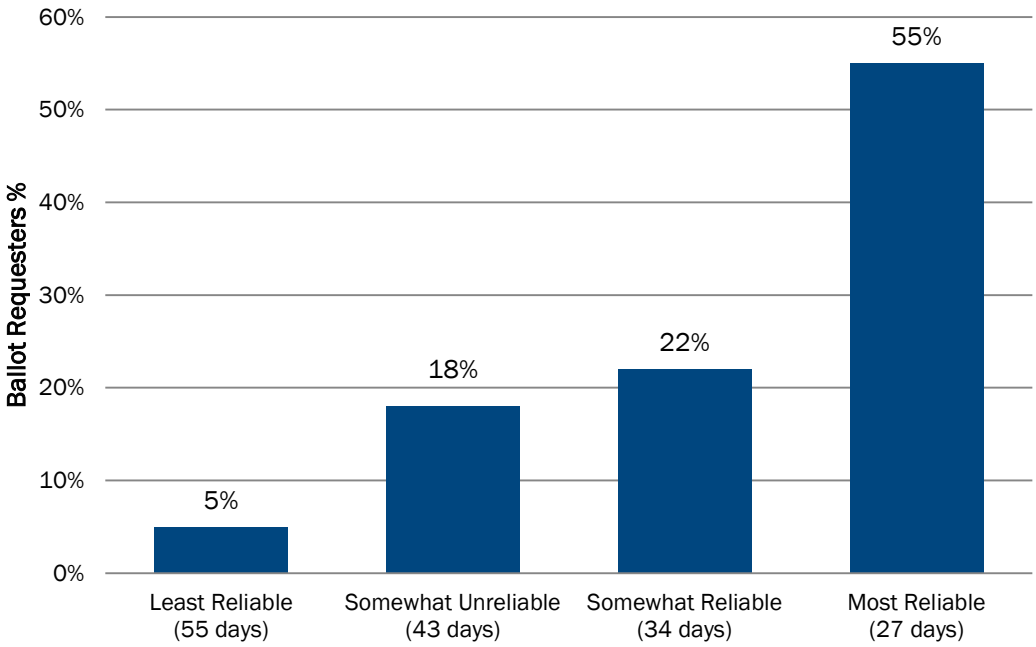


Figure 1 shows the geographic distribution of postal reliability. In order to establish country rankings according to postal reliability, countries are divided into quartiles of postal reliability in a way that each of the four categories has an equal number of countries. Darker shades of blue indicate greater postal reliability. Countries with the most reliable postal service are concentrated in Europe and Canada, whereas countries with low reliability are concentrated in Africa, Asia and Latin America.

10 See Table B3.

11 See Tables B1 and B4.

FIGURE 2: ABSENTEE BALLOT REQUESTERS BY POSTAL RELIABILITY



Note: Average of the mean time to respond for countries in quartile presented in parentheses.

Figure 2 shows the proportion of overseas absentee ballot requesters residing in countries with each level of estimated postal reliability in 2014. More than half of overseas U.S. citizens who requested an absentee ballot in 2014 resided in countries with the highest level of postal reliability, where the average of the mean time to start the survey was just 27 days. Only five percent of ballot requesters were located in countries with the least reliable postal services, where the average survey response time was 55 days. This finding is not surprising given that Americans tend to migrate to more developed countries, which generally have reliable postal service and the likelihood of successfully requesting an absentee ballot is greatest.[12] Far fewer Americans migrate to countries at the lowest level of postal reliability, and those who do have the most difficult time successfully requesting an absentee ballot.

Key Research Questions

The following questions guide this analysis:

1. Does the reliability of a country's postal system facilitate successful *UOCAVA* voting or are overseas citizens able to adapt their voting behavior so as to mitigate perceived international postal-related obstacles to voting?
2. Do more postal challenges arise in developing countries compared to more developed countries?

12 Federal Voting Assistance Program. (2016). *Overseas Citizen Population Analysis Volume 1: Voting Rate Estimation Prototype.*

Data and Methodology

The voting rate among overseas citizens is substantially lower than among the domestic civilian population.[13] There are a variety of situational factors that may contribute to lower propensity of overseas citizens to vote: complexity of the voting process, social context, information environment, mailing infrastructure, etc. The primary goal of this analysis is to better understand the extent to which international postal reliability is a barrier that inhibits voting by overseas citizens. The simplest and most intuitive means of analyzing the effect of international postal reliability on absentee voting would be to compare the absentee voting behavior for overseas citizens residing in countries with highly reliable postal systems to the absentee voting behavior of citizens residing in countries with low postal reliability. If the voting rate is lower for those residing in countries with less reliable postal systems, one could interpret that difference in absentee voting rates as the effect of postal reliability.

A limitation of such a simple approach, however, is that overseas citizens residing in countries with more or less reliable mail systems may significantly differ from each other in ways associated with the motivation or ability to vote. Differences in observed absentee voting rates may therefore be attributable to the differing characteristics of the residents, themselves, rather than the effect of international postal reliability on the ability to successfully request, receive and submit an absentee ballot.

To isolate the unique effect of international postal reliability, this analysis examined the extent to which postal reliability explains the change in an individual's likelihood of voting *before* versus *after* moving overseas. If international postal reliability is a barrier to successfully casting an absentee ballot from overseas, then moving to a country with an unreliable postal system should reduce voting more than moving to one with high postal reliability. To the degree that an individual's motivation to vote is relatively persistent, and thus has the same effect on voting behavior in both the pre-migration and post-migration period, then these voting-relevant characteristics should be uncorrelated with the difference in voting behavior before and after an overseas move. By contrast, international postal reliability only affects the ability to vote in the post-migration period; therefore, this factor should be associated with the difference in pre- and post-migration voting behavior.[14] Because individual background characteristics cannot explain the association between postal reliability and the difference between pre- and post-migration voting behavior, the relationship can more plausibly be interpreted as the effect of international postal reliability on absentee voting.

The data used in these analyses are from the 2014 OCPS, conducted by Fors Marsh Group and the Federal Voting Assistance Program (FVAP). The OCPS was implemented through a mixed-mode design in which individuals were pushed to respond via an online survey through mail and email reminders, and had the option to respond via paper survey with a postage-paid return envelope. Data was collected from September 18, 2015, to December 9, 2015. The OCPS is representative of

13 Ibid.

14 We assume that differences in postal reliability across countries are relatively stable. This is realistic given the likely slow moving nature of the bureaucratic cultural norms identified by Chong et al. (2014) as predictors of postal efficiency (see Roland, G. (2004). Understanding institutional change: fast-moving and slow-moving institutions. *Studies in Comparative International Development, 38*(4), 109–131.)

registered overseas voters who requested that an absentee ballot for the 2014 General Election be sent to an overseas address. Of the 36,000 individuals who were sent a survey, 8,078 eligible respondents completed the survey.[15] OCPS respondents were asked when they migrated overseas and how long they had been in their country of residence as of November 2014. These questions were used to determine the first election for which an individual was eligible to vote after moving overseas. Respondents were also asked whether they had voted in 2014 and earlier elections. However, self-reported voting does not take into account whether a returned ballot successfully reached the LEO. Since this critical step in the *UOCAVA* voting process is likely to be affected by international postal reliability, this analysis used an administrative measure of successful ballot return, defined as having a vote recorded in State voter history files.[16] These administrative data were used to determine whether survey respondents had a vote recorded in each general election during the 2000 to 2014 timeframe.

Using these data, the effect of international postal reliability on the relationship between migrating overseas and having a vote recorded for the 2000–2012 period was estimated for respondents who spent the entire period outside the United States in their 2014 country of residence.[17] A multivariate analysis was used to estimate the effect of international postal reliability on the pre-migration–post-migration voting gap. This approach makes it possible to examine the gap, controlling for differences across elections and between individual and country-level characteristics. State of legal residence and 2014 country of residence were known for all respondents, so relevant election and country characteristics were appended to the data to control for relevant confounds. Background characteristics of respondents (e.g., age, sex, race/ethnicity, education) were from responses to the completed survey or from the voter file. Descriptions of all variables used in the analysis are described in Appendix A.

Results

The analysis found that the more reliable a country's postal system, the more likely it is that American ballot requesters residing in that country successfully vote in U.S. elections.[18] A U.S. citizen who moves from a country with the lowest quartile of postal reliability to the highest quartile of postal reliability is 65 percent more likely to have a vote recorded.[19] The factors related to

15 Eligible respondents in the OCPS responded to the survey and (1) met the sample criteria, (2) were within the 36,000 cases from States that provided separate absentee request voter files, (3) resided overseas on November 4, 2014, (4) were U.S. citizens, and (5) completed at least 25 percent of the survey or gave valid answers to Q1 through Q6.

16 It is unclear whether the indicator of having a vote recorded in the State voter files also means that a vote was necessarily counted. Note that to the degree that late, completed ballots are credited, this would tend to reduce the effect of postal reliability on votes recorded versus votes counted. The results of this analysis may consequently underestimate the effect of postal reliability on having a vote counted.

17 Information from the 2014 election is not used in the fixed effects analysis for two reasons: (1) nearly all respondents were living outside the United States during the 2014 General Election, making it difficult to separate the effect of being overseas from the effect of factors specific to that election, and (2) because all respondents successfully requested an absentee ballot in that election, the effect of postal reliability on voting would not reflect any effect of postal reliability on successfully requesting an absentee ballot, but rather only successfully receiving ballot forms and submitting a completed ballot.

18 See Table C1

19 This effect remains even with more rigorous controls for differences in the effect of an overseas move across respondents of different ages, genders, race/ethnicity, educational attainment, and State of legal residence. To obtain

economic development and institutional quality explain the variation in postal reliability. [20] Individuals who live in OECD countries and in countries that rank highly in the World Bank's Voice and Accountability index (a proxy for the quality of a country's governance), were more likely to have voted. Transportation infrastructure, including the density of road networks and the percentage of roads that are paved, was unrelated to the postal reliability effect. The existence of a negative effect of international postal reliability on the probability that a respondent votes suggests that, on the whole, overseas U.S. citizens do not adapt their voting behavior (e.g., request/send their ballots early, submit their forms electronically) sufficiently to completely mitigate international postal-related obstacles to voting.

In less-developed countries, successful voting may also be hampered because of inadequate access to election information due to government censorship or limited access to news about the U.S. election owing to poor infrastructure or other factors. These limitations on access to information about the voting process might also account for lower rates of voting success among citizens in less-developed countries. Models showing the relationship between international postal reliability and various sources of information about the voting process and candidates are shown in Appendix C.[21] The analyses show that overseas citizens in countries with lower postal reliability were less likely to report receiving information about the *UOCAVA* absentee voting process from State or local election officials, the candidates' campaigns or social media. They were also less likely to learn about the candidates running for office through international media or the candidates' political campaigns. These results suggest that international postal reliability is a greater problem in less-developed countries and that citizens in these countries also have limited access to the information and support needed to help overcome this voting barrier.

> Overseas citizens in countries with low postal reliability are also less likely to have received voting information from State/local election officials, candidates or social media.

Estimating the Number of Additional Ballots Returned without Postal Obstacles

International postal problems present a substantial obstacle to voting that may result in ballots not being recorded. But how many *UOCAVA* voters did not return a ballot because their home country's postal reliability was not at the highest levels? The magnitude of this problem was estimated using a vote multiplier. Specifically, the estimated effect of postal reliability on country-level voting rates can be used to predict what the 2014 voting rate for a given country would have been if a country's mail system were equivalent to the country with the highest observed postal reliability (i.e. Croatia).[22] The ratio of this predicted voting rate to the actual 2014 voting rate observed was the

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this estimate, counterfactual scenarios in which all absentee ballot requesters were in countries in the lowest 25 percent and highest 25 percent of countries with respect to postal reliability were generated using the marginal effect of postal reliability reported in Column 2 of Table C1. For these scenarios, only postal reliability allowed to vary, whereas all other characteristics of absentee ballot requesters are held at their mean.

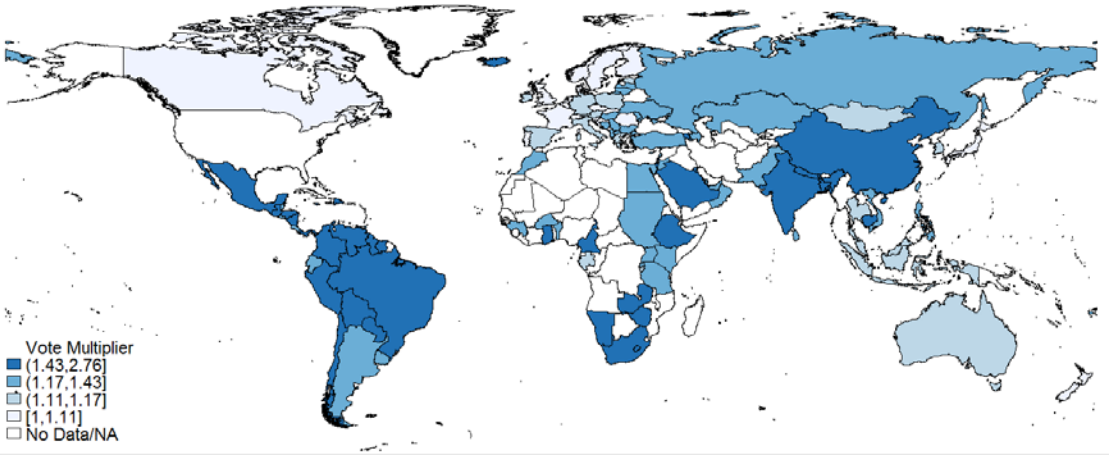
20 See Table C2

21 See Tables C4 and C5.

22 Several modifications to the baseline methodology are made to generate more accurate estimates of the effect of postal reliability in 2014. In particular, although the baseline models estimated a single postal reliability effect for the period 2000–2012, in the prediction model, that effect was allowed to vary across elections and States to account for the increased ability of *UOCAVA* to request ballots electronically due to changes implemented in the wakes of the HAVA and

country's vote multiplier. For each vote recorded from a country in 2014, the vote multiplier shows the number of additional ballots that would have been expected absent international postal reliability obstacles. Estimates of vote multiplier for each country are presented in Figure 3. The vote multiplier is highest in Latin America, Africa and Asia, reflecting the relatively low levels of postal reliability in these countries.

FIGURE 3: 2014 VOTE MULTIPLIER BY COUNTRY



The vote multiplier can also be used to estimate the number of ballots that would potentially have been recorded from each country if the country's postal reliability had been at the highest level. The estimated number of votes not recorded because of low international postal reliability is the difference between this estimated number of ballots and the actual number of ballots recorded from the country in 2014. Figure 4 shows the number of ballots observed and the estimated number of ballots not recorded because of international postal reliability issues in 2014—overall and from developed versus undeveloped countries. In 2014, approximately 92,000 ballots from overseas citizens were recorded in State voter history files from the countries for which we have postal reliability data. Based on the vote multiplier, approximately 17,000 ballots may not have been recorded due to international postal obstacles. Had these votes been recorded, the overseas ballot return rate in the 2014 election could have been 19 percent higher.

Vote multiplier: The ratio of the number of ballots estimated that would have been cast from a given country if that country's postal system had been at the highest level of postal reliability to the number that were actually cast.

MOVE acts as well as the adoptions by some States of laws that allow *UOCAVA* to submit completed ballots by email or fax. In addition, the estimation sample for this prediction model is restricted to midterm elections (2002, 2006 and 2010) and weighted such that respondents from countries where the postal reliability measure is less likely to suffer from measurement error are given more weight. Parameter estimates for this prediction model are presented in Table D2. See Appendix D for more information.

FIGURE 4: POSTAL RELIABILITY AND ABSENTEE VOTING IN 2014

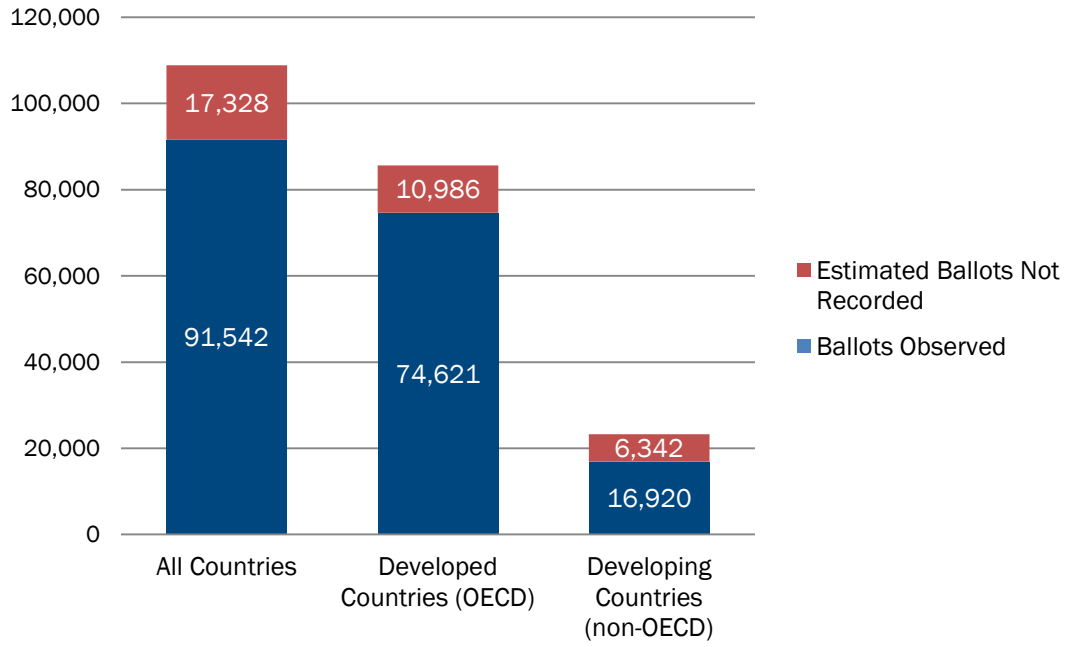


Figure 4 shows that the vote multiplier varies substantially based on levels of development. The majority of ballots not recorded, roughly 63 percent, were from developed, OECD countries, where postal reliability tends to be highest. This primarily reflects the large number of ballots originating in these countries. The relative number of ballots not recorded due to unreliable postal systems is much larger for developing countries. Although the number of returned ballots would have increased by approximately 15 percent in developed countries absent obstacles to voting, the number of returned ballots from developing countries in 2014 would increase by 37 percent were international postal reliability not an obstacle to voting.

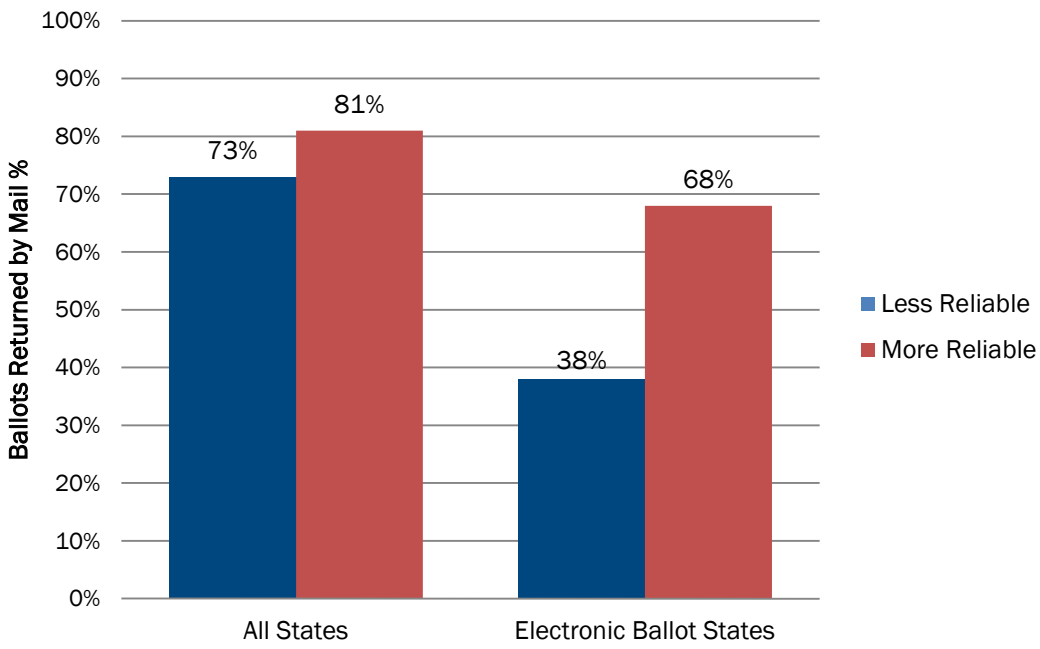
The Effect of Mail Alternatives

International postal reliability remains a significant barrier to voting for overseas citizens. In recent years, State and national policies have been adopted to address this voting obstacle. Notably, the *MOVE Act* requires all States to transmit blank ballots electronically. Some States allow overseas voters to avoid the mailing system entirely by returning voted ballots electronically. In 2014, 22 States allowed overseas citizens to return completed ballots electronically, by email, fax or through an online system.[23] Nonetheless, the vast majority of overseas citizens who reported voting in 2014 said that they returned their ballot by mail.[24]

23 States allowing electronic ballot return include Alaska, Arizona, Colorado, the District of Columbia, Delaware, Iowa, Indiana, Kansas, Massachusetts, Maine, Minnesota, North Carolina, North Dakota, Nebraska, New Jersey, New Mexico, Nevada, Oregon, South Carolina, Utah, Washington and West Virginia.

24 FVAP. (2016). *Overseas Citizen Population Analysis Volume 3: Tabulation of Survey Responses.*

FIGURE 5: POSTAL RELIABILITY AND MAIL VOTING IN 2014

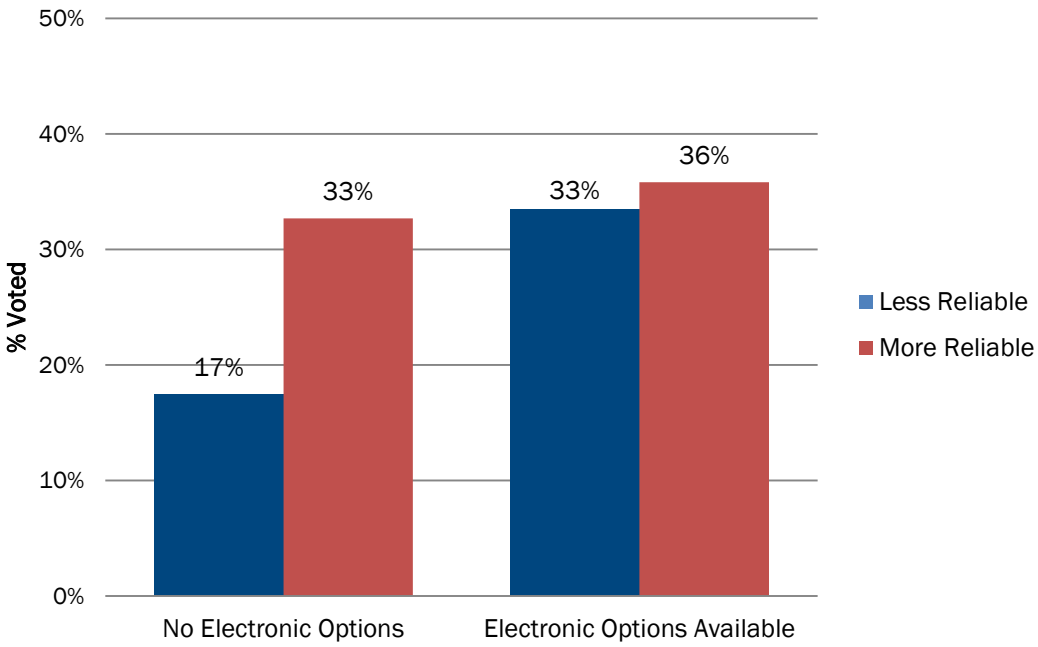


"More Reliable" refers to the 50 percent of countries with the highest postal reliability. "Less Reliable" includes the bottom 50 percent of countries. Percentages are derived from a Fixed Effect ordinary least squares (OLS) regression model predicting the mail ballot return among OCPS respondents who reported returning a ballot in 2014.

Figure 5 shows the percentage of self-reported overseas voters in countries with more or less reliable postal systems who returned their ballots by mail. Overseas citizens in countries with lower postal reliability were only slightly less likely than those in more reliable countries to report voting by mail. However, overseas citizens in low postal reliability countries are far more likely to take advantage of electronic options for ballot return when they are permitted to by their State of voting residence.[25]

25 Formal statistical tests of the relationship between postal reliability and the choice to vote by mail, both unconditionally and controlling for demographic and State fixed effects, are presented in Table E1. A potential avenue for future research is to examine why a significant number of respondents from States that allow electronic submission still choose to submit by mail. Possible explanations include response error, lack of awareness by the respondents that their State allows such policies, concerns with ballot security or habit formation by some overseas respondents with respect to the use of mail.

FIGURE 6: THE EFFECT OF ELECTRONIC ALTERNATIVES ON POSTAL RELIABILITY BARRIERS



"More Reliable" refers to the 50 percent of countries with the highest postal reliability. "Less Reliable" includes the bottom 50 percent of countries. Percentages are derived from a Fixed Effect OLS regression model predicting the ballot return among OCPS respondents.

Figure 6 shows the predicted likelihood that overseas citizens in countries with more or less reliable postal systems would have voted when their State of voting residence does or does not allow electronic (email or online) ballot return.[26] When voting in a State without electronic ballot return, overseas voters from countries with more reliable mail systems are nearly twice as likely to have voted as compared to those living in countries with low postal reliability. When returning ballots to States with electronic ballot return options, overseas citizens in countries with less reliable postal systems are only two percentage points less likely than those in countries with greater postal reliability to have voted.

26 These scenarios are estimated using parameter estimates from the midterm-election model in Table D2. Influences other than the effect of postal reliability and electronic submission policies are held constant at the means of absentee ballot requesters. The effect is more pronounced for midterm elections than for the full set of general elections.

Conclusion

This research note used data from the 2014 OCPS to assess the impact of international postal-related obstacles to voting on overseas *UOCAVA* citizens. Differences in the time it took 2014 OCPS respondents to start the survey after the invitations were mailed were used as a proxy for international postal reliability. The relationship between international postal reliability and the change in a respondent's probability of voting following overseas migration shows the significant effect of international postal reliability on voting. This estimated effect was in turn used to estimate the number of ballots lost due to international postal-related obstacles to voting in the 2014 General Election.

Results show that international postal reliability remains a significant barrier to voting for many U.S. citizens living overseas. In 2014, as many as 17,000 overseas ballots were not recorded as a result of unreliable international postal service. However, there is wide variation in the quality of international postal systems. Overseas citizens in countries with the most reliable postal systems are 65 percent more likely to have a vote recorded than those in countries with the lowest postal reliability.

Postal reliability presents the greatest challenge for overseas citizens in developing countries, where infrastructure and governance tend to be relatively weak. The number of ballots from developing, non-OECD countries would have been 37 percent greater in 2014 if international postal reliability were not an obstacle for overseas voters in these countries. Not only are U.S. citizens living in the countries more affected by international postal reliability, they also have less access to the information and assistance than might help them overcome these challenges.

Overseas citizens in developing countries likely benefited the most from recent policy changes enacted to help reduce the impact of international postal reliability barriers to voting. Citizens in countries with low postal reliability are particularly likely to take advantage of electronic ballot return options.[27] This could be an expression of the voter's perceived lack of confidence in the postal process and the recognition that no other viable option exists for ballot return. Other factors may influence a voter's propensity for returning a ballot electronically such as the usability of a dedicated system versus the return of an unsecured email attachment. Additional research is required to determine the impact of voter perceptions with the reliability of mail and electronic option given the inherent information security risks. Overall, results indicate the need for several measures aimed at reducing the impact of international postal-related obstacles to voting. In particular, potential future FVAP research and outreach efforts aimed at low postal reliability countries include:

- Encourage earlier submission of registration and ballot request in countries with the greatest need
- Conduct additional research and isolate how States and localities are implementing electronic ballot delivery and return options to further isolate influence of voter perception on reliability/security
- Inform citizens of all methods for receiving and returning their election materials; work with partners in the domestic and international communities to improve postal delivery and

[27] This research should not be used to convey a position in support or against States moving forward with such technology; it is important to remember that FVAP neither advocates for nor against the electronic/online transmission of voted ballots.

develop a better understanding of the realities contributing to voter perception

- Provide information on how to use the Federal Write-in Absentee Ballot (FWAB) as a backup if a State ballot is not received in time, and
- Seek better measurement of mail delivery times across multiple modes (foreign posts, private logistics services, embassy mail)

References:

Alvarez, R. M., Hall, T. E., & Roberts, B. F. (2007). Military voting and the law: procedural and technological solutions to the ballot transit problem. *Fordham Urban Law Journal, 34,* 935

Ansonl, J., & Helblei, M. (2013). A gravity model of international postal exchanges. In M. A. Crew (Ed), *Reforming the postal sector in the face of electronic competition*. Edward Elgar Publishing.

Barstow, D., & Van Natta Jr, D. (2001). How Bush took Florida: Mining the overseas absentee vote. *New York Times, 15*.

Chong, A., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2014). Letter grading government efficiency. *Journal of the European Economic Association, 12*(2), 277–299.

Department of Justice. (2010). *Fact sheet:* MOVE Act. [Press Release]. Retrieved from https://www.justice.gov/opa/pr/fact-sheet-move-act

Federal Voting Assistance Program. (2016). *Overseas citizen population analysis volume 1: Voting rate estimation prototype.*

Federal Voting Assistance Program. (2016). *Overseas citizen population analysis volume 3: Tabulation of Survey Responses.*

General Accounting Office. (2001). *Elections: Voting assistance to military and overseas citizens should be improved*. (GAO-01-1026).

General Accounting Office. (2004). *Operation Iraqi Freedom: Long-standing problems hampering mail delivery need to be resolved*. (GAO-04-484).

Government Accountability Office. (2014). *U.S. Postal Service: Delivery mode conversions could yield large savings, but more current data are needed*. (GAO-14-444).

Imai, K. & King, G. (2004). Did illegally counted overseas absentee ballots decide the 2000 U.S. Presidential Election? *Perspectives on Politics, 2*(3) 537–549.

Kenny, C. (2006). Questioning the monopoly-supported postal USO in developing countries. In M. A. Crew & P. R. Kleindorfer (Eds.), *Progress toward liberalization of the postal and delivery sector* (75–87). Springer.

Roland, G. (2004). Understanding institutional change: Fast-moving and slow-moving institutions. *Studies in Comparative International Development, 38*(4), 109–131.

The PEW Charitable Trusts. (2009). *"No time to vote" for many military personnel overseas, Pew study finds*. [Press release]. Retrieved from http://www.pewtrusts.org/en/about/news-room/press-releases/2009/01/06/no-time-to-vote-for-many-military-personnel-overseas-pew-study-finds

Appendix A: Variable Definitions

TABLE A1: VARIABLE DESCRIPTIONS

Variable	Description
Outcome Variables	
Voted	1 for a record in the vote history file for a respondent having voted in a general election, 0 for not voted.
Ballot Mailed	1 if respondent who reported voting and whose State of legal residence allowed electronic ballot submission mailed a ball, 0 if otherwise.
Mailed Ballot Voted	1 if there is a record of a returned ballot for a respondent who reported having received and absentee ballot and having voted by mail, 0 otherwise.
Treatment Variables	
Postal Reliability	Postal reliability is the average (logged) time it took all other respondents in the country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond.
Overseas	1 for the respondent being outside the United States during an election, 0 otherwise.
Election Effects	
Margin of Victory	Margin of victory for State in last presidential election.
Midterm	1 if election was a midterm, 0 if presidential.
Ln(State Income per Capita)	Logged income per capita for respondent's State of legal residence in prior election.
Post-*HAVA*	1 for election year taking place after the implementation of *HAVA*, 0 otherwise.
Post-*MOVE*	1 for election year taking place after the implementation of the *MOVE Act*, 0 otherwise.
Electronic Ballot Policy	1 if State allowed for submission of *UOCAVA* absentee ballots by email/fax during an election, 0 otherwise.
Country Characteristics	

Voice and Accountability (WGI)	Average of the country's Voice and Accountability Index for period 1996–2013, one of the World Bank's World Governance Indicators. Higher value indicates more open, accountable government.
Road Density	Mean of kilometer of road per 100 sq. km. of land area, 2000–2012. (World Bank's World Development Indicators).
% Paved Roads	Mean of % of Total Roads Paved, 2000-2012. (World Bank's World Development Indicators).
Internet Use	Mean of internet users per 100 people, 2000-2012. (World Bank's World Development Indicators).
Ln(Distance From United States)	Logged distance between closest U.S.-Country of Residence city pair.
OECD	1 if 2014 country of residence is a member of the OECD, 0 otherwise.
Demographic/Socioeconomic Characteristics	
Age	Continuous age of respondent on November 4, 2014.
Male	1 for male, 0 for female.
Race/Ethnicity	1 for White Non-Hispanic, 2 for Black Non-Hispanic, 3 for Hispanic, 4 for Other.
Education	1 for no college education, 2 for some college or associate degree, 3 for bachelor's degree in college, 4 for MA/PhD/professional degree.
Marital Status	1 for married, 0 for not married.
Has Children	1 for has children, 0 for does not have children.
Employed	1 if respondent reports being employed in 2014, 0 otherwise.
Years Since Moved Overseas	Number of years individuals has been overseas as of 2014.
Household Income	Reported income of respondent's household in 2014 (categorical).
# of U.S. Acquaintances	Reported number of U.S. citizens that respondent knows in country of residence as of 2014 (categorical).

Appendix B: Postal Reliability

Definition of Postal Reliability

Given the difficulty in obtaining data on various determinants of postal system reliability for all countries of interest, and that these determinants are likely strongly correlated, determining their separate effect on the ability of *UOCAVA* voters to successfully submit a ballot is outside the scope of this study. Consequently, this research note follows earlier studies by using a single aggregated measure of the reliability of the postal system based on the time it takes for a letter to travel between the United States and destination country. Failure to submit absentee ballots has been linked to long delivery times, so a metric based on delivery times captures the core issue, if not the underlying causes.[28]

Specifically, postal reliability is defined as:

$$\text{Postal Reliability}_{\text{Country}} = -\text{STDev}(\text{Mean}(\text{Ln}(\text{Time to Start Survey})_i)_{Country})$$

Time to Start Survey = Days that passed between September 15, 2016, and the day when the respondent who received survey invitation by mail started the web survey. STDev indicates that the postal reliability is standardized such that the country-level average is 0 and has a standard deviation of 1.

To mitigate bias in countries with small samples in the regression analysis, Postal Reliability for a given respondent is calculated excluding the respondent's own Time to Start Survey. To mitigate error due to a combination of small sample and extreme observations, Time to Start Survey is (natural) log transformed.

Decomposing Variance in Time to Respond to Survey

A potential concern with using time to respond to the survey as a proxy for delivery times and postal reliability is that it may reflect differences across countries in how long it took respondents to start the survey after receiving the invitation, rather than the time it took for the invitation to reach the respondent. Such a bias would arise if, for example, absentee ballot requesters in countries with low estimated postal reliability tended to be busier, and thus took longer to start the survey. To what degree does the postal reliability index represent the actual postal reliability, or simply how busy are the respondents in a given country?

To examine this question, the following model is estimated:

$$Ln(Time\ to\ Start\ Survey)_{ic} = \beta X_i + \theta_c$$

Where respondent *i* in country c, $Ln(Time\ to\ Start\ Survey)_{ic}$ is the logged time to start the survey after an invitation was sent by mail; X_i is a series of individual-level demographic, geographic (i.e.,

28 The Pew Charitable Trusts (2009).

State of legal residence), and socioeconomic variables obtained from a mix of administrative data as well as responses to the survey; and θ_c is a country of residence fixed effect. The results for this fitted model are presented in Table B1.

For simplicity, βX_i is interpreted as the part of logged time to respond that results from the time it takes the respondent to start the survey after having received the invitation by mail, while θ_c is interpreted as being a function of the time that passes between the invitation to participate in the survey having been sent by and when the respondent receives it. This assumption would be unwarranted if βX_i is correlated with a respondent being in a particularly inaccessible part of the country (which could be the case if postal reliability varies within country) or if θ_c is correlated with unobserved determinants of the busyness of a country's *UOCAVA* population.

Under these assumptions, the *explained*[29] variance in the time to start the survey that can be attributed to postal reliability within the estimation sample can be written as follows:[30]

$$\frac{Var(\theta_c)}{Var(\theta_c) + Var(\beta X_i)}$$

This fraction is approximately 85 percent, which indicates that the lion's share of individual-level variation in the time to respond is explained by geography (and thus potentially postal reliability) rather than the observed individual level characteristics of respondents.

Note that because the postal reliability index is a country-level mean of the (logged) time to respond, the influence of variation of time to respond after receiving the survey invitation on variation in the postal reliability index will likely be smaller than 15 percent, because postal reliability index will be influenced by variation in the mean of βX_i across countries, which may be smaller than the individual-level variation. To estimate the amount of variation of postal reliability in our estimation sample explained by variation in respondent delays in responding to the survey, the following ratio is calculated:

$$\frac{Var(Mean(\beta X_i)_c)}{Var(Mean(Ln(Time\ to\ Start\ Survey)_{ic})_c)}$$

This ratio is only about two percent, which increases confidence that variation in the postal reliability index in our sample is a function of variation in the characteristics of the respondent's country (including true postal reliability) rather than systematic differences in the tendency of respondents to delay responding to the survey.

Note, however, that although differences in respondent characteristics may not cause differences in the postal reliability index, both still may be correlated. To test this proposition, in Table B2 the correlations between respondent characteristics and the estimated postal reliability of their country

[29] Note that the unexplained variance dwarfs the explained variance for both models in Table B1. This unexplained variance is the idiosyncratic nature of both the delivery times for the invitations or the time to respond once the invitation is received. It should be noted, however, that the explained variance rises mechanically with the number of predictors. For this reason, the variance decomposition should be interpreted with caution.

30 For simplicity, covariance between the individual and country effects is ignored when calculating this ratio.

of residence are presented. The individual-level characteristics explain approximately 19 percent of the variation in postal reliability. The point estimates suggest that, holding other observables characteristics constant, respondents residing in countries with high measured postal reliability tend to have been overseas longer, be White, have higher reported household income, and have smaller social networks. When assessing the impact of postal reliability of successfully returning a ballot, it is important to control for these individual-level correlates of postal reliability.

The Relationship between Postal Reliability and Other Country Characteristics

TABLE B1: CORRELATES OF TIME TO RESPOND TO THE SURVEY

Dependent Variable: Ln(Time to Start Survey)				
	Pooled Across Countries		Within Country	
	Coefficient	Standard Error	Coefficient	Standard Error
Age	-0.002	(0.003)	-0.002	(0.002)
Age Squared	0.000	(0.000)	0.000	(0.000)
Male	-0.029	(0.016)*	-0.045	(0.017)**
Married	-0.048	(0.027)*	-0.043	(0.023)*
Children	0.003	(0.027)	-0.005	(0.023)
Married*Children	0.084	(0.039)**	0.058	(0.034)*
Employed	0.043	(0.017)**	0.031	(0.015)*
Years Since Moved Overseas	-0.008	(0.002)***	-0.004	(0.002)**
Years Since Moved Overseas Squared	0.000	(0.000)***	0.000	(0.000)
Race/Ethnicity (excluded: White)				
Black	0.152	(0.050)***	0.076	(0.049)
Hispanic	0.108	(0.043)**	-0.019	(0.026)
Other	0.072	(0.036)*	0.046	(0.028)
Education (excluded: HS or less)				
Some College	0.013	(0.028)	-0.010	(0.024)
College	0.024	(0.028)	0.000	(0.029)
Graduate	0.018	(0.026)	-0.005	(0.025)
Household Income (excluded: Under $1,000)				
$1,000–$4,999	0.075	(0.060)	0.044	(0.053)
$5,000–$9,999	0.082	(0.055)	0.067	(0.055)
$10,000–$19,999	-0.016	(0.054)	0.013	(0.047)
$20,000–$39,999	-0.023	(0.051)	0.016	(0.044)
$40,000–$49,999	-0.063	(0.046)	0.020	(0.041)

$50,000–$74,999	-0.066	(0.048)	0.016	(0.041)
$75,000–$99,999	-0.078	(0.051)	0.012	(0.044)
$100,000–$149,999	-0.042	(0.054)	0.069	(0.045)
$150,000+	-0.082	(0.052)	0.049	(0.038)
# of American Acquaintances (excluded: Zero)				
1 to 2	0.023	(0.027)	0.016	(0.027)
3 to 4	0.051	(0.023)**	0.031	(0.024)
5 to 10	0.035	(0.024)	0.014	(0.024)
11 to 20	0.085	(0.027)***	0.035	(0.024)
21 to 50	0.090	(0.034)***	0.037	(0.028)
51+	0.186	(0.044)***	0.049	(0.028)*
State Effects	Yes		Yes	
Country Effects	No		Yes	
N	4,760			
R-Squared	0.07		0.23	

Notes: Table presents OLS results in which the unit of observation is the respondent. The dependent variable is the log of the number of days it took the respondent to respond to start the web survey after invitations were sent out. Estimation sample is restricted to respondents who did not have a valid email address (and thus received the invitation to participate by mail). Standard errors are clustered on country of residence. *p<.10, **p<.05, ***p<.01.

TABLE B2: DEMOGRAPHIC AND SOCIOECONOMIC CORRELATES OF POSTAL RELIABILITY

Dependent Variable: Postal Reliability		
	Coefficient	**Standard Error**
Age	-0.004	(0.006)
Age Squared	0.000	(0.000)
Male	-0.046	(0.028)
Married	0.000	(0.037)
Children	-0.040	(0.035)
Married*Children	-0.055	(0.034)
Employed	-0.053	(0.029)*
Years Since Moved Overseas	0.015	(0.004)***
Years Since Moved Overseas Squared	0.000	(0.000)***
Race/Ethnicity (excluded: White)		
Black	-0.385	(0.153)**
Hispanic	-0.406	(0.105)***
Other	-0.185	(0.107)*
Education (excluded: HS or less)		
Some College	-0.040	(0.049)

College	-0.068	(0.055)
Graduate	-0.063	(0.060)
Household Income (excluded: Under $1,000)		
$1,000–$4,999	-0.042	(0.090)
$5,000–$9,999	0.054	(0.084)
$10,000–$19,999	0.180	(0.081)**
$20,000–$39,999	0.247	(0.073)***
$40,000–$49,999	0.329	(0.073)***
$50,000–$74,999	0.349	(0.076)***
$75,000–$99,999	0.410	(0.074)***
$100,000–$149,999	0.451	(0.082)***
$150,000+	0.498	(0.101)***
# of American Acquaintances (excluded: Zero)		
1 to 2	-0.026	(0.029)
3 to 4	-0.078	(0.032)**
5 to 10	-0.087	(0.038)**
11 to 20	-0.169	(0.054)***
21 to 50	-0.273	(0.086)***
51+	-0.508	(0.124)***
State Effects	Yes	
N	6,857	
R-Squared	0.19	

Notes: Table presents OLS results in which the unit of observation is the respondent. The dependent variable is the country's postal reliability. Postal reliability is the average (logged) time it took all other respondents in the country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Standard errors are clustered on country of residence. *p<.10, **p<.05, ***p<.01.

TABLE B3: COUNTRY-LEVEL CORRELATES OF POSTAL RELIABILITY

	Dependent Variable: Postal Reliability						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Voice and Accountability (WGI)	0.606						0.358
	(0.067)***						(0.116)***
Road Density		0.004					0.001
		(0.001)***					(0.000)**
% Paved Roads			0.015				0.004
			(0.002)***				(0.003)
Internet Users per Capita				0.029			0.016
				(0.003)***			(0.005)***
Ln(Distance From United States)					-.023		0.039
					(0.089)		(0.052)
OECD						1.252	-0.035
						(0.143)***	(0.223)
Constant	-0.107	-0.352	-0.806	-0.817	0.149	-0.319	-1.075
	(0.071)	(0.100)***	(0.136)***	(0.104)***	(0.727)	(0.086)***	(0.415)**
N	145	139	137	143	145	145	117
R-Squared	0.30	0.20	0.23	0.41	0.00	0.27	0.61

Notes: Table presents OLS results in which the unit of observation is the country. The dependent variable is the country's postal reliability. Postal reliability is the average (logged) time it took all respondents in the country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Independent variables include the Voice and Accountability WGI for 2000–2013 (World Bank); the length of roadway in the country over country land area (mean 2000–2012, World Bank); fraction of road length that is paved (mean 2000–2012, World Bank); internet connections per capita (mean 2000–2012, World Bank); logged distance of the destination country from the United States; and an indicator for whether destination country is a member of OECD. Robust standard errors in parentheses. *p<.10, **p<.05, ***p<.01.

The Relationship between the Postal Reliability Index and Other Proxies for Postal Reliability

The correlations identified in the previous section may reflect how these country characteristics influence the time to respond to the survey after receiving the invitation, rather than delivery times. For example, in countries with poor roads and few internet connections, obtaining access to an internet connection to start the survey may take a significant amount of time. As a final validation check on the postal reliability measure, the relationship between it and two more direct measures of the reliability/quality of the country's mail system are examined.

The first alternative measure is based on the country-level mean of the respondents' assessment of the reliability of their local mail system. Respondents rate the local postal system based on a five-point scale ranging from "Very Low Reliability" to "Very Reliable." This measure demonstrates some limitations relative to the primary measure of postal reliability, most notably being based on a subjective five-point scale of reliability that is inherently difficult to interpret and does not differentiate between domestic and international mail. However, if it *did* have a strong correlation with the preferred postal reliability proxy, the confidence in primary measure would be increased. The relationship between the two postal reliability measures is examined in Table B4. The subjective, survey-based measure of postal reliability is strongly and positively correlated with the preferred, objective measure and alone explains 34 percent of the cross-country variation in the objective measure. This positive relationship is robust, even controlling for the other country-level correlates, consistent with the objective postal reliability measure capturing information concerning delivery times, rather than simply delays in response.

The second alternative measure of postal reliability is taken from data collected by the Universal Postal Union (UPU). The UPU surveys postal officials in a large number of countries concerning characteristics of their postal system. One of the questions on the survey concerns the fraction of the country's population that receives mail service at home. This metric is likely to reflect the strength of the country's postal infrastructure, including the quality/density of roadways and the density of postal workers/facilities. Unfortunately, it is not available for all countries for which we have data on overseas absentee ballot requesters (including countries with large *UOCAVA* populations, such as Canada) and reflects the level of service for the country's population, which may not reflect services available to the U.S. population of those countries. Although this issue provides reason to favor the delivery-time based metric used in this study, a positive—if imperfect—correlation between the two measures would still be expected if the preferred metric is a good proxy for delivery times. This hypothesis is tested in Table 5. Like the subjective reliability measure, the UPU's metric is strongly and positively correlated with the preferred postal reliability metric, explaining 38 percent of variation in the latter. This relationship is robust to controlling for the other country-level characteristics which are not mail-specific.

Collectively, the results of the analysis undertaken in this section are consistent with the preferred postal reliability measure reflecting differences across countries in the time it takes the invitation to reach the country from the United States. It consequently may be a valid proxy for the reliability of the postal service faced by *UOCAVA* with respect to absentee voting materials delivered by mail.

TABLE B4: THE RELATIONSHIP BETWEEN OBJECTIVE AND SUBJECTIVE POSTAL RELIABILITY

	Dependent Variable: Postal Reliability							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Subjective Postal Reliability	0.564	0.388	0.476	0.467	0.275	0.563	0.410	0.222
	(0.071)***	(0.092)***	(0.078)***	(0.080)***	(0.100)***	(0.071)***	(0.100)***	(0.106)**
N	145	145	139	137	143	145	145	136
R-Squared	0.34	0.40	0.41	0.44	0.46	0.34	0.39	0.51
Control Variables								
Voice and Accountability (WGI)	No	Yes	No	No	No	No	No	Yes
Road Density	No	No	Yes	No	No	No	No	Yes
% Paved Roads	No	No	No	Yes	No	No	No	Yes
Internet Users per Capita	No	No	No	No	Yes	No	No	Yes
Ln(Distance From United States)	No	No	No	No	No	Yes	No	Yes
OECD	No	No	No	No	No	No	Yes	Yes

Notes: Table presents OLS results in which the unit of observation is the country. The dependent variable is the country's postal reliability. Postal reliability is the average (logged) time it took all respondents in the country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Subjective postal reliability is the country's mean on a 5-point scale indicating how reliable the respondents believed the local postal system to be. Subjective postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Control variables include the Voice and Accountability WGI for 2000–2013 (World Bank); the length of roadway in the country over country land area (mean 2000–2012, World Bank); fraction of road length that is paved (mean 2000–2012, World Bank); internet connections per capita (mean 2000–2012, World Bank); logged distance of the destination country from the United States; and an indicator for whether destination country is a member of OECD. Robust standard errors in parentheses. *p<.10, **p<.05, ***p<.01.

TABLE B5: THE RELATIONSHIP BETWEEN POSTAL RELIABILITY AND ACCESSIBILITY OF HOUSEHOLD SERVICES

	Dependent Variable: Postal Reliability							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
% of Population with Access to Postal Services at Home	0.016	0.013	0.014	0.013	0.009	0.017	0.013	0.009
	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***
N	132	132	127	125	131	132	132	124
R-Squared	0.38	0.46	0.44	0.43	0.51	0.39	0.45	0.55
Control Variables								
Voice and Accountability (WGI)	No	Yes	No	No	No	No	No	Yes
Road Density	No	No	Yes	No	No	No	No	Yes
% Paved Roads	No	No	No	Yes	No	No	No	Yes
Internet Users per Capita	No	No	No	No	Yes	No	No	Yes
Ln(Distance From United States)	No	No	No	No	No	Yes	No	Yes
OECD	No	No	No	No	No	No	Yes	Yes

Notes: Table presents OLS results in which the unit of observation is the country. The dependent variable is the country's postal reliability. Postal reliability is the average (logged) time it took all respondents in the country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. The primary postal proxy is the fraction of the country's population with access to postal services at home (United Postal Union, 2014). Control variables include the Voice and Accountability WGI for 2000–2013 (World Bank); the length of roadway in the country over country land area (mean 2000–2012, World Bank); fraction of road length that is paved (mean 2000–2012, World Bank); internet connections per capita (mean 2000–2012, World Bank); logged distance of the destination country from the United States; and an indicator for whether destination country is a member of OECD. Robust standard errors in parentheses. *p<.10, **p<.05, ***p<.01

Appendix C: The Relationship between the Postal Reliability Index and Other Proxies for Postal Reliability

TABLE C1: POSTAL RELIABILITY AND THE EFFECT OF MIGRATION, CONTROLLING FOR RESPONDENT CHARACTERISTICS

	Dependent Variable: Voted							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Overseas*Postal Reliability	0.057	0.052	0.044	0.052	0.048	0.052	0.051	0.046
	(0.015)***	(0.013)***	(0.013)***	(0.013)***	(0.013)***	(0.013)***	(0.013)***	(0.012)***
N	38,887	37,760	37,760	37,718	35,922	36,927	37,760	35,733
Respondents	5,748	5,587	5,587	5,581	5,315	5,461	5,587	5,287
Countries	130	127	127	127	126	126	127	126
Control Variables								
Respondent Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Election Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Overseas*Age	No	No	Yes	No	No	No	No	Yes
Overseas* Sex	No	No	No	Yes	No	No	No	Yes
Overseas* Race/Ethnicity	No	No	No	No	Yes	No	No	Yes
Overseas* Education	No	No	No	No	No	Yes	No	Yes
Overseas*State	No	No	No	No	No	No	Yes	Yes

Notes: Table presents Fixed Effects OLS results in which the unit of observation is the respondent-election. Elections include all general elections for the period 2000–2012. Estimation sample is restricted to respondents who spend entire overseas period in 2014 country of residence. The dependent variable is an indicator for whether there was a record in the vote history data for a respondent having voted in the election. Overseas is an indicator for whether the respondent indicated that he/she was overseas during a given election. Main effect of Overseas is included in all models but not shown. Postal reliability is the average (logged) time it took all other respondents in the respondent's country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Baseline, time-varying controls include: age, age squared, margin of victory in respondent's State for the most recent previous presidential election and its interaction with an indicator for whether the current election was a midterm, and Ln(State per capita income), and interactions between Overseas and whether a given election took place after the implementation of the *HAVA* and *MOVE* acts. Models 3–7 include interactions between Overseas and age (and age squared), sex, race/ethnicity (White, Black, Hispanic, Other), educational attainment (High School or Less, Some College, BA, Graduate Degree) and State of legal residence, respectively, whereas Model 8 includes all of the aforementioned trend interactions. Robust standard errors clustered on country in parentheses. *p<.10, **p<.05, ***p<.01.

TABLE C2: POSTAL RELIABILITY AND THE EFFECT OF MIGRATION, CONTROLLING FOR OTHER COUNTRY CHARACTERISTICS

	Dependent Variable: Voted						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Overseas*Postal Reliability	0.052	0.024	0.049	0.056	0.026	0.052	0.027
	(0.013)***	(0.019)	(0.014)***	(0.016)***	(0.017)	(0.013)***	(0.018)
N	37,760	37,760	37,001	36,691	37,263	37,760	37,760
Respondents	5,587	5,587	5,475	5,429	5,513	5,587	5,587
Countries	127	127	122	120	125	127	127
Control Variables							
Respondent Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Election Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Overseas*Voice and Accountability (WGI)	No	Yes	No	No	No	No	No
Overseas*Road Density	No	No	Yes	No	No	No	No
Overseas*% Paved Roads	No	No	No	Yes	No	No	No
Overseas*Internet Users Per Capita	No	No	No	No	Yes	No	No
Overseas* Ln(Distance From United States)	No	No	No	No	No	Yes	No
Overseas*OECD	No	No	No	No	No	No	Yes

Notes: Table presents Fixed Effects OLS results in which the unit of observation is the respondent-election. Elections include all general elections for the period 2000–2012. Estimation sample is restricted to respondents who spend entire overseas period in 2014 country of residence. The dependent variable is an indicator for whether there was a record in the vote history data for a respondent having voted in the election. Overseas is an indicator for whether the respondent indicated that he/she was overseas during a given election. Main effect of Overseas is included in all models but not shown. Postal reliability is the average (logged) time it took all other respondents in the respondent's country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Baseline, time-varying controls include: age, age squared, margin of victory in respondent's State for the most recent previous presidential election and its interaction with an indicator for whether the current election was a midterm, and Ln(State per capita income), and interactions between Overseas and whether a given election took place after the implementation of the *HAVA* and *MOVE* acts. Models 2–7 include interactions between Overseas and the Voice and Accountability WGI for 2000–2013 (World Bank); the length of roadway in the country over country land area (mean 2000–2012, World Bank); fraction of road length that is paved (mean 2000–2012, World Bank); internet connections per capita (mean 2000–2012, World Bank); logged distance of the destination country from the United States; and an indicator for whether destination country is a member of OECD. Robust standard errors clustered on country in parentheses. *p<.10, **p<.05, ***p<.01.

TABLE C3: POSTAL RELIABILITY AND THE ABSENTEE VOTING PROCESS

	Ballot Mailed (Electronic Ballot States)		Mailed Ballot Voted	
Postal Reliability	0.166	0.130	0.086	0.092
	(0.019)***	(0.026)***	(0.020)***	(0.020)***
N	1,656	1,138	4,542	3,374
Countries	113	102	129	122
Control Variables				
Demographic Controls	No	Yes	No	Yes
State Fixed Effects	No	Yes	No	Yes

Notes: Table presents OLS results in which the unit of observation is the respondent. The first dependent variable is an indicator for whether a responded voted in the 2014 General Election by mail, conditional on having voted and being in a State that allows submission of an absentee ballot by email or fax. The second dependent variable is an indicator for whether the individual successfully returned an absentee ballot, conditional on having voted by mail. Postal reliability is the average (logged) time it took all other respondents in the respondent's country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Demographic controls include: age, age squared; sex; indicators for whether the respondent was married, had children, and their interaction; employment status; race/ethnicity; educational attainment; household income indicators; number of U.S. acquaintances in the country; time since moved overseas and time since moved overseas squared. Robust standard errors clustered on country in parentheses. *p<.10, **p<.05, ***p<.01.

TABLE C4: POSTAL RELIABILITY AND SOURCES OF PROCEDURAL INFORMATION

	Dependent Variables:								
	State/Local LEO	U.S. Media	International Media	Family/ Friends	FVAP Website	Internet	Social Media	Candidates	Other
Postal Reliability	0.025	0.009	0.012	0.009	-0.022	0.010	0.023	0.037	-0.005
	(0.011)**	(0.010)	(0.009)	(0.010)	(0.013)*	(0.013)	(0.007)***	(0.009)***	(0.009)
N	6,217	5,446	5,416	5,395	5,496	5,453	5,227	5,356	4,628
Countries	135	132	133	132	133	133	131	134	128
	Control Variables								
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table presents OLS results in which the unit of observation is the respondent. The dependent variable is an indicator for whether a responded received procedural information from a given source in the 2014 General Election. Postal reliability is the average (logged) time it took all other respondents in the respondent's country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Demographic controls include: age, age squared; sex; indicators for whether the respondent was married, had children, and their interaction; employment status; race/ethnicity; educational attainment; household income indicators; number of U.S. acquaintances in the country; time since moved overseas and time since moved overseas squared. Robust standard errors clustered on country in parentheses. *p<.10, **p<.05, ***p<.01.

TABLE C5: POSTAL RELIABILITY AND SOURCES OF CANDIDATE INFORMATION

	Dependent Variables:								
	U.S. Media	International Media	Family/ Friends	Internet	Social Media	Candidates	Other	News on the Internet	Political News on Internet
Postal Reliability	0.014	0.035	0.039	0.016	0.011	0.035	0.014	0.060	0.013
	(0.017)	(0.014)**	(0.016)**	(0.011)	(0.012)	(0.013)***	(0.007)*	(0.055)	(0.010)
N	6,132	6,031	5,760	5,976	5,498	5,657	4,738	6,528	5,980
Countries	136	136	134	135	134	135	130	136	135
	Control Variables								
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table presents OLS results in which the unit of observation is the respondent. The dependent variable is an indicator for whether a responded received procedural information from a given source in the 2014 General Election. The last two dependent variables are indicators for whether the individual accesses new or political news on the internet, respectively. Postal reliability is the average (logged) time it took all other respondents in the respondent's country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Demographic controls include: age, age squared; sex; indicators for whether the respondent was married, had children, and their interaction; employment status; race/ethnicity; educational attainment; household income indicators; number of U.S. acquaintances in the country; time since moved overseas and time since moved overseas squared. Robust standard errors clustered on country in parentheses. *p<.10, **p<.05, ***p<.01.

Appendix D: Vote Multiplier

Technical Steps:

1) The marginal effect of postal reliability is estimated using a fixed effects linear probability model using data from 2002, 2006, and 2010 midterm elections, in which marginal effect of objective postal reliability is allowed to vary based on whether the election took place after the implementation of *HAVA*, after the implementation of the *MOVE Act* within a given State, and whether the State allowed ballots to be submitted by email or through a web portal for that election. The estimation sample is weighted by the inverses of the standard error for that country's measured level of postal reliability.
2) Using this model, for each country the difference between the 2014 observed voting rate and the 2014 voting rate predicted if the country had the level of postal reliability of the most reliable country. Specifically, two such differences are estimated, one in which all respondents are assumed to come from States with electronic ballot submission policies and those without.
3) A weighted average is then taken of the two differences based on the fraction of respondents in the country from States with and without such policies in 2014.
4) The counterfactual voting rate is then obtained by adding this averaged difference to the observed voting rate of respondents in the country. The vote multiplier is the ratio of this counterfactual voting rate and the actual voting rate of respondents from the country.
5) To obtain the counterfactual number of votes, the vote multiplier for a given country is multiplied by the actual number of votes originating in that country in the 2014 General Election as indicated in the Aristotle data set.

Caveats:

1) Because a linear probability model is used to estimate the effect of postal reliability, marginal effects are not allowed to vary based on baseline vote rate. May underestimate effects for countries with low baseline voting.
2) Postal reliability index subject to measurement error, which may bias the marginal effect downward (toward zero).
3) Voter file reflects ballots recorded versus ballots counted. To the degree that late ballots are recorded, the model will underestimate the marginal effect of postal reliability on votes counted, and thus underestimate the vote multiplier.
4) Sample based on those who successfully requested an absentee ballot while overseas. Consequently, postal reliability of sample may not reflect reliability of postal systems facing general overseas motivated voter population, because those who face greatest postal obstacles may not show up in absentee ballot files (e.g., sample may disproportionately come from developed countries, most developed parts of countries, or have State of legal residences that allow absentee voting). This selection effect will tend to bias the marginal effect of postal reliability, and thus vote multiplier, downward.
5) On the other hand, among successful absentee voters, underrepresent voters from States with electronic absentee policies, because absentee voters from such States do not provide overseas address. May bias vote multiplier upward.
6) Because each constituent of the vote multiplier (marginal effect, postal reliability, baseline postal reliability, voting rate, and proportion of respondents in a country from States who request an absentee ballot) are based on sample, there may be potentially significant sampling error in vote multiplier. Both the aggregate vote multiplier and country-to-country differences in the vote multiplier should consequently be interpreted with caution.

Mitigating Measurement Error in Postal Reliability

To mitigate biased coefficients owing to sampling-based measurement error, calculate the standard error of $\text{Postal Obstacles}_{\text{Country}}$ as:

$$\text{SE}\left(\text{Postal Obstacles}_{\text{Country}}\right) = \frac{\text{SD}(\text{Ln}(\text{Time to Start Survey}))_{\text{Country}}}{\sqrt{\text{n}_{\text{Country}}}}$$

Where $\text{n}_{\text{Country}}$ is the number of respondents used to calculate $\text{Postal Obstacles}_{\text{Country}}$. For the models used to generate predictions of the vote multiplier, respondents are weighted by the inverse of $\text{SE}\left(\text{Postal Obstacles}_{\text{Country}}\right)$.

TABLE D1: POSTAL RELIABILITY AND THE EFFECT OF MIGRATION, ACCOUNTING FOR STATE POLICY CHANGES (UNWEIGHTED)

Dependent Variable: Voted						
	All Elections			Midterm Elections		
	Coef.	S.E. (Country)	S.E. (State)	Coef.	S.E. (Country)	S.E. (State)
Overseas*Postal Reliability	-0.011	(0.020)	(0.020)	-0.03	(0.028)	(0.014)**
Overseas*Postal Reliability*Electronic Ballot Policies	-0.055	(0.037)	(0.030)*	-0.120	(0.046)**	(0.057)**
Overseas*Postal Reliability*Post-*HAVA*	0.066	(0.019)***	(0.011)***	0.067	(0.023)***	(0.024)***
Overseas*Postal Reliability*Post-*MOVE*	-0.039	(0.023)*	(0.026)	0.037	(0.033)	(0.034)
N	37,760			16,218		
Respondents	5,587			5,541		
Countries	127			127		
States	46			45		
Respondent Effects	Yes			Yes		
Election Effects	Yes			Yes		
Baseline Controls	Yes			Yes		

Notes: Table presents Fixed Effects OLS results in which the unit of observation is the respondent-election. Elections include all midterm elections for 2000–2012. Estimation sample is restricted to respondents who spend entire overseas period in 2014 country of residence. The dependent variable is an indicator for whether there was a record in the vote history indicating that a respondent voted in the election. Overseas is an indicator for whether the respondent indicated that he/she was overseas during a given election. Postal reliability is the average (logged) time it took all other respondents in the respondent's country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Electronic Ballot Policies is an indicator for whether the respondent's State of legal residence allowed absentee ballots to be submitted by email or fax during a given election. Post-*HAVA* is an indicator for whether an election took place after the implementation of the *HAVA Act*. Post-*MOVE* is an indicator for whether an election took place after the implementation of the *MOVE Act*. Main and two-way interactions between Overseas, postal reliability and their interactions with Electronic Ballot Policies, Post-*HAVA* and Post-*MOVE* were estimated but not shown. Because the implementation of the MOVE act followed that of HAVA, the three-way interaction between Overseas, Postal reliability, and Post-MOVE represents the effect of the changes in election policy that resulted from the passage of the MOVE act, and not the combined effects of the HAVA and MOVE acts. Baseline, time-varying controls include: age, age squared, margin of victory in respondent's State for the most recent previous presidential election and its interaction with an indicator for whether the current election was a midterm, Ln(State per capita income), and interactions between Overseas and whether a given

election took place after the implementation of the *HAVA* and *MOVE Acts*. Two sets of standard errors are presented. The first set is clustered on country of residence. The second set is clustered on State of legal residence. *p<.10, **p<.05, ***p<.01.

TABLE D2: POSTAL RELIABILITY AND THE EFFECT OF MIGRATION, ACCOUNTING FOR STATE POLICY CHANGES (WEIGHTED)

	Dependent Variable: Voted					
	All Elections			Midterm Elections		
	Coef.	S.E. (Country)	S.E. (State)	Coef.	S.E. (Country)	S.E. (State)
Overseas*Postal Reliability	0.011	0.025	0.023	-0.009	(0.033)	(0.018)
Overseas*Postal Reliability*Electronic Ballot Policies	-0.039	0.044	0.034	-0.088	(0.047)*	(0.064)
Overseas*Postal Reliability*Post-*HAVA*	0.047	0.020**	0.009***	0.048	(0.024)**	(0.021)**
Overseas*Postal Reliability*Post-*MOVE*	-0.039	0.021*	0.033	0.065	(0.041)	(0.028)**
N	37,716			16,199		
Respondents	5,579			5,533		
Countries	120			120		
States	46			45		
Respondent Effects	Yes			Yes		
Election Effects	Yes			Yes		
Baseline Controls	Yes			Yes		

Notes: Table presents Fixed Effects OLS results in which the unit of observation is the respondent-election. Elections include all midterm elections for the period 2000–2012. Estimation sample is restricted to respondents who spend entire overseas period in 2014 country of residence. The dependent variable is an indicator for whether there was a record in the vote history data for a respondent having voted in the election. Overseas is an indicator for whether the respondent indicated that he/she was overseas during a given election. Postal reliability is the average (logged) time it took all other respondents in the respondent's country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Electronic Ballot Policies is an indicator for whether the respondent's State of legal residence allowed absentee ballots to be submitted by email or fax during a given election. Post-*HAVA* is an indicator for whether an election took place after the implementation of the *HAVA* Act. Post-*MOVE* is an indicator for whether an election took place after the implementation of the *MOVE Act*. Main and two-way interactions between Overseas, postal reliability and their interactions with Electronic Ballot Policies, Post-*HAVA* and Post-*MOVE* were estimated but not shown. Because the implementation of the MOVE act followed that of HAVA, the three-way interaction between Overseas, Postal reliability, and Post-MOVE represents the effect of the changes in election policy that resulted from the passage of the MOVE act, and not the combined effects of the HAVA and MOVE acts. Baseline, time-varying controls include: age, age squared, margin of victory in respondent's State for the most recent previous presidential election and its interaction with an indicator for whether the current election was a midterm, and Ln(State per capita income), and interactions between Overseas and whether a given election took place after the implementation of the *HAVA* and *MOVE* acts. Two sets of standard errors are presented. Respondents are weighted by the inverse of the standard error of country's postal reliability. The first set is clustered on country of residence. The second set is clustered on State of legal residence. *p<.10, **p<.05, ***p<.01.

Appendix E: Postal Reliability and Electronic Ballot Return

TABLE E1: POSTAL RELAIBILITY AND THE ABSENTEE VOTING PROCESS

	Ballot Mailed (All States)		Ballot Mailed (Electronic Ballot States)	
Postal Reliability	0.095	0.077	0.167	0.130
	(0.014)***	(0.011)***	(0.019)***	(0.026)***
N	6,198	4,422	1,656	1,138
Countries	141	132	113	102
Control Variables				
Demographic Controls	No	Yes	No	Yes
State Fixed Effects	No	Yes	No	Yes

Notes: Table presents OLS results in which the unit of observation is the respondent. The first dependent variable is an indicator for whether a responded voted in the 2014 General Election by mail, conditional on having voted and being in a State that allows submission of an absentee ballot by email or fax. The second dependent variable is an indicator for whether the individual successfully returned an absentee ballot, conditional on having voted by mail. Postal reliability is the average (logged) time it took all other respondents in the respondent's country to start the survey after survey invitations were first sent out. This average is calculated for the subset of respondents without a valid email address (and thus received the invitation by mail). Postal reliability is rescaled such that it has a mean of 0, a standard deviation of 1, and higher values correspond with shorter average times to respond. Demographic controls include: age, age squared; sex; indicators for whether the respondent was married, had children, and their interaction; employment status; race/ethnicity; educational attainment; household income indicators; number of U.S. acquaintances in the country; time since moved overseas and time since moved overseas squared. Robust standard errors clustered on country in parentheses. *p<.10, **p<.05, ***p<.01.