# The Determinants of Electoral Registration Quality:

# A Cross-National Analysis[1]

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*Toby S. James*

*School of Politics, Philosophy, Language and Communication Studies*

*University of East Anglia*

*Norwich, UK*

*Holly Ann Garnett*

*Department of Political Science and Economics*

*Royal Military College of Canada*

*PO Box 17000, Station Forces*

*Kingston, Ontario, K7K 7B4 CANADA*

## Abstract

Electoral registers provide the definitive record of who can participate in an election, but there is often thought to be considerable variations in their quality cross-nationally. This leads to concerns about eligible voters being de facto disenfranchised on election day; but also ineligible voters or fictitious names appearing on the roll which can enable electoral fraud. In either case, the legitimacy of the election can be questioned and the electoral register is also used for other purposes such as drawing electoral boundaries. This article introduces some common international terminology for electoral register quality and a conceptualisation of the different ways in which an electoral register can be compiled. It then introduces a new global dataset on registration procedures (n=159). The article hypotheses that automatic voter registration, as well as organisational and structural factors, strongly affect accuracy and completeness. The results show that automatic voter registration increases the completeness of the electoral register and also has a positive impact on accuracy. The organisational performance of the electoral management body was also shown to have positive effects on completeness and accuracy, suggesting an additional means of improving electoral registers beyond the registration model, which also rest in the hands of policy makers.

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## 1. Introduction

Electoral registers provide the definitive record of who can participate in an election and are therefore a central building block for the practice of democracy. Yet, there are often thought to be considerable variations in their quality across countries. There have been concerns raised that eligible citizens are often missing from the electoral rolls on election day, meaning that they are unable to exercise their democratic right. There are also often claims that electoral registers contain citizens who are not eligible to vote, those who may have deceased – or fraudulent names which have been added to manipulate the result of the register. These problems can lead to an election being contested by candidates, incumbents, and voters, and very easily spill over into a broader decline of trust in democratic processes, post-election conflict – but potentially also alter the outcome of an election.

There has been a considerable amount of research on the quality of electoral registers in recent years, including studies on closing dates or same-day registration (Burden, Canon, Mayer, & Moynihan, 2009; Garnett, 2018; Hall, 2013; Neiheisel & Burden, 2012), online registration (Garnett, 2019c; Hicks, McKee, & Smith, 2016), and list-sharing between government agencies (Daniel & Eric, 1997; Fitzgerald, 2005; Knack, 1995). For the most part, however, these have been studies within countries of the problems faced, particularly in the American context, and there has been an absence of comparative research on the topic. Moreover, most research has sought to examine electoral registers from the perspective of whether they can influence voter turnout (Ansolabehere & Konisky, 2006; Brians & Grofman, 1999, 2001; Burden & Neiheisel, 2013; Fitzgerald, 2005; Highton, 2004; Knee & Green, 2011). Research overlooks the core issues about electoral register quality.

This article seeks to make a critical contribution to the debate by introducing new cross-national data on the way in which electoral registers are compiled worldwide. A typology is introduced to distinguish between countries which use *laissez-faire* systems where there is an onus on the *individual* to register to vote, and those where registration is *automatic*, or the *state* primarily registers the citizen on their behalf. The effects of the two systems are examined alongside a broader set of factors such as the organisational performance of the electoral authorities and state-level structural factors.

Part 2 of the article introduces the key concepts needed to evaluate electoral register quality before part 3 reviews the literature on the known determinants. Part 4 introduces the research question, theory and a typology of voter registration systems – separating out those in which an individual is responsible for registering themselves, against those where the state is responsible. Part 5 introduces some hypotheses and Part 6 the methods. The results and conclusions are provided in sections 7 and 8.

## 2. The study of voter registration

Electoral registers are the master list of who will be able to participate in an election. Voters may be legally eligible and enfranchised to vote, but the exercise of their democratic right is entirely contingent on appearing on the electoral roll. While there are some instances where voters can register on simply show up to a polling place and register on election day, they nonetheless, at some point in their voting process, are enrolled onto a list of eligible electors. However, this process of deciding 'who is eligible,' and putting together a list of these people is not an easy task. There are some common concerns raised in academic and public literature on electoral register quality.

*Defining electoral register quality*

Three concepts are crucial, though not often distinguished, in discussing and evaluating electoral register quality. Firstly, the *accuracy of the electoral register* can be usefully defined as the extent to which entries have no false, erroneous or missing data on the electoral registers. False entries could include errors in names (such as misspelling), incorrect dates of birth, nationality, eligibility flags, address or registration dates – but also the inclusion on the register of people who are not eligible.[2] Accuracy is therefore commonly measured as the percentage of entries on the registers which relate to

[2] The fields that are included on the electoral register will vary by country according to the legal requirements. Merivaki (2020a) provides an excellent discussion of the types of errors or missing data that might occur in the US context.

verified and eligible voters who are resident at that address.[3] Inaccurate register entries may relate to entries that have become redundant (for example, due to home movement or death), erroneous data through human mistakes or poor data processing techniques, duplicate registrations, ineligible electors, or fraudulent registrations. The cause of inaccurate voter registers could be autocrats and parties organising false names to be added onto the electoral register in order to conduct voter fraud, allow ineligible citizens voting and give parties/candidates a strategic advantage (Cheeseman & Klaas, 2018; Schedler, 2002). However, it also very possible that inaccuracies can be the result of unintentional registrations (perhaps because of confusing eligibility criteria), poorly designed voter registration systems, insufficient resources and human error (Minnite, 2010).

Secondly, the *completeness of the electoral register* is the extent to which every person who is entitled to be registered, is registered. The electoral register should include all citizens eligible to vote. Democracies are predicated on the assumption that all citizens are equal before the ballot box (see, for example: Beetham, 1994). The practice of compiling the electoral register should therefore simply be an administrative task for which the goal is one hundred percent completeness. The reality, however, is that a combination of organizational, demographic and political factors mean that millions of electors are often missing from the electoral rolls. The absence of names on the register has meant that many citizens may not be able to cast their vote on the days of the polls. We use the terms 'missing' and 'does not appear on the register' interchangeably to refer to citizens who are eligible to vote but which do not have an active registration status. The cause of their non

Thirdly, the *degree of equity in electoral registers* refers to the extent to which there is an even distribution in the completeness of the electoral register across educational, socio-demographic, ethnic, gendered or other groups. Under-registration is a problem for democracy because it means that people who are eligible to vote will not be able to do so. It becomes a more severe problem if there are some groups which less frequently appear on the register, however, because it means that they have disproportionately less influence. Existing research shows that there are such inequalities within states. In the UK, nearly all citizens over the age of 65 were registered in 2018 (94%), but the rates were as low as 25% for 16-17 year olds. Registration rates tend to also be much lower amongst those who have recently moved, are privately renting their property, are Commonwealth or EU citizens, are of Black or Asian ethnicity, lower socio-economic groups, lower education groups and live in urban areas (Electoral Commission, 2019; James & Bernal, 2020, p. 23; Rosenblatt, Thompson, & Tiberti, 2012; Wilks-Heeg, 2012). When policy makers wish to consider the 'inclusiveness' of electoral registers, they should therefore consider this to be comprised of both completeness and equity.

*The consequences of electoral register quality*

These three consideration of electoral registers are key for all electoral actors: voters, candidates and electoral administrators alike. For the voter, having an accurate electoral registration can be the difference between whether they can vote or not. Poll worker studies have found that citizens commonly turn up on election day, ask to vote, but are unable to do so when their name is missing from the electoral roll (James & Clark, 2020). Citizens usually receive information via the mail or other means about how and where to vote, so even if election day registration is possible, accurate registration records before the election will mean that those who are not on the list may not receive this information. This can be important to whether they choose to vote or not, since making the voter registration bureaucratic can discourage voting. A study from the United States, for example, demonstrated that citizens who are provided this type of information post-registration are more likely to vote, especially among the lower educated and younger citizens (Wolfinger, Highton, & Mullin, 2005). Likewise, research on preregistration of youth has demonstrated it to have a positive impact on future voting (Holbein & Hillygus, 2015).

Electoral registers are also often used as the basis for drawing electoral boundaries, meaning that they can cause inequalities in representation and also shape the effects of electoral systems. For candidates and political parties, registration lists can be used in their campaigning. In some theories of partisan

[3] This definition is used by the UK Electoral Commission (2016, p. 5).

politics, the outreach that parties provide throughout a campaign regarding issues and also where and how to vote can be understood as part of their educative function, contributing to a more informed and engaged citizenry (Aldrich, 1995).

For election administrators, accurate registration lists are key to planning for election day. This includes deciding where to put polling stations, how many ballots to print, and how many people to staff each polling station with. It can also assist with the aforementioned post-registration outreach that is part of the mandate of some electoral management bodies, to inform citizens where and how to vote. Without an accurate registration list, some eligible citizens may not benefit from these services and election administrators will not know where and how to target these population groups who are less likely to vote without assistance. It is thought that there is considerable variation in the quality of electoral registers according to these three criteria, but there has been limited cross-national exploration of this. UK-based studies have shown that local government registers were 85% complete and 89% accurate. This meant that between 8.3 and 9.4 million people in Great Britain who were eligible to be on the local government registers were not correctly registered. Meanwhile, there were between 4.7 and 5.6 million inaccurate entries on the local government register (Electoral Commission, 2019). This study involved a robust methodology where names properties were visited in person and residents were checked against names on the electoral register. Most estimates of the completeness and accuracy tend to be cruder and simply involve a comparison of the number of names on the electoral register against the voting ae population. For example, the U.S. Electoral Assistance Commissions has estimated that the total number of entries on the electoral roll accounted for 91.6 percent of the voting age population in 2018. This is as low as 66.3 percent in Wyoming, however, and as high 120.9 percent in Washington D.C. (US EAC, 2020, pp. 48-49). It also found registration rates above 100%, indicating that some names were likely to be duplications and that accuracy was therefore a major problem. Using this crude measure, James also shows that voter registration rates ranged from 178.9 per cent for the Micronesian 2017 parliamentary election, to 25.4 per cent for the Kuwaiti 2016 parliamentary election (James, 2020, p. 69).

## 3. The known determinants of electoral register quality

A number of studies have sought to examine the determinants of electoral register quality. Rosenstone and Wolfinger (1978) focussed attention by examining how voter registration practices such as same-day voter registration, regular office hours, evening/weekend registration and absentee registration could boost voter turnout. This research was followed by wave of studies which sought to evaluate the effects of the National Voter Registration Act 1993, which required US states to prompt citizens to register to vote when registering a motor vehicle. Franklin and Grier, for example, found that voter procedures increased registration rates by 2.3 percentage points and turnout by 2.1 percentage points (Franklin & Grier, 1997, p. 111). Subsequent studies, in the light of the 2020 Presidential election also looked at the role of election-day registration amongst other factors (Hall, 2013). As states began to introduce, some studies followed. Data has been collected on registrations and turnout statistics from all eight jurisdictions that implemented AVR in time for the 2018 general election to 2020 (Morris & Dunphy, 2019; Rakich, 2019). Through the AVR systems 2.2 million new voters were registered and the details of six million were changed (Rakich, 2019). The increase in registrations varied by as much as 9.4% in Washington DC to 93.7% in Georgia, but was always positive (Morris & Dunphy, 2019, p. 2). Experiences also pointed to how AVR required careful and successful implementation, and there have been made cases of problems. In the first year of implementation more than 100,000 registration errors were reported in California including 1,500 ineligible electors being added to the roll (Ernst and Young, 2019; Vasilogambros, 2019). A large volume of applications to register to vote in the US are often rejected or put 'on hold.' In addition to eligibility, this might be for administrative reasons such as missing or illegible information. More recent research has therefore sought to explain patterns of rejections. Research has found seasonal effects and administrative factors to play a key role (Merivaki, 2018). The nature of the missing information was also important. Applicants who failed to provide a signature being less likely to be left off the register than those who failed to provide a social security number, for example (Merivaki, 2020b, pp. 684-685).

Composite indices have also been drawn up in the US to identify the 'cost of voting.' Early work was undertaken by King (1994), which was built on by (Schraufnagel, Pomante II, & Li, 2018, 2020). Underpinning this research is the rational choice framework, which argues that citizens weigh up the costs and benefits of voting in terms of utility maximisation. Reducing the time 'costs' involved in registration could therefore increase voter registration rates and turnout. Data on voting and registration procedures 1996-2016 was then collated and used as an independent variable against reported voter turnout. The results showed that the cost of voting could make up to a 12 percentage point change in the odds of reported voter turnout (Schraufnagel et al., 2018, p. 244). Elsewhere, Norris (2017, pp. 234-255), also constructed an index of US state laws (the Convenience Elections Laws Index) for US states in 2013. The effects of this on the quality electoral register was considered, measured by expert perceptions of academics. A 'voter registration index' was used as the dependent variable, which comprised of three measures: whether some citizens were not listed on the register, whether the register was accurate and whether some ineligible electors were registered (p.251). This found that where state laws were more lenient registration and balloting, the 'performance of the voter register is perceived to be significantly better quality'; but also, ii) that 'there was no link between convenience and overall levels of electoral integrity' (p.253).

Research on voter registration has also taken place outside of the US and helped to explore electoral register quality. Undertaking canvassing visits to provide information about registration or helping citizens to register at home can improve registration and turnout, experimental evidence from France has shown (Braconnier, Dormagen, & Pons, 2017). Experiments from the UK have also varied the design of voter registration forms and found that this can save money, but not increase voter registration rates (Sweeney, John, Sanders, Wright, & Makinson, 2021). Allowing citizens to enter a free-prize draw when they register to doesn't seem to be a sufficient motivation to encourage registration, one study has found (John, MacDonald, & Sanders, 2015). Electoral registration has been on a household basis in many countries – but when they switch to registration on an individual basis, turnout has tended to decline (Black, 2003; James, 2014). Attention has also been drawn to the effects of identification requirements for voter registration for transgender and Gender Non-conforming individuals (Bowers & Whitley, 2020). Biometric voter registration has also been found to affect turnout, especially amongst marginalised groups (Adams & Asante, 2019), whose trust in the technology might be closely linked to their trust in broader state institutions (Hobbis & Hobbis, 2017). Social media usage of citizens can also affect registration rates, evidence from Zimbabwe shows (Mwonzora, 2020), at time when many voter registration drives are taken online. Regarding online registration, some research has demonstrated it to be a uniquely placed initiative to encourage the registration of young voters, who are often disconnected from the voting process (Garnett, 2019c).

Comparative, cross-national studies on voter registration, however, are limited. G. Bingham Powell Jr. (1986) was one of the few scholars to explore the effects of election administration using cross-national data. Using a sample of 17 countries, he found that automatic voter registration could boost voter turnout. Louis Massicotte et al. (2004), provided an extended coverage of electoral administration procedures from the turn of the century.

Overall, there have therefore been huge advances in the scholarship in recent years, but there are two principal lacunas. Firstly, there remains a US focus and too little comparative study of the determinants of the quality of electoral registers. Secondly, the dependent variable has often been voter turnout. It is, however, helpful to disaggregate turnout from registration rates – which many studies have done. It is also important to separate out accuracy and completeness of the electoral registers since they are very different problems, which are likely to have different causes and effects.

## 4. Research question and theory

This article will therefore seek to explore what the determinants of electoral register quality are from a comparative perspective. Following on from previous studies, we examine the effects of voter registration laws on the practice of elections, however, we do this from the perspective of voter asking 'what do they have to do to be registered? Underpinning this is the human reflexivity approach set out at the start of this special issue (James & Garnett, 2023). This approach conceptualizes agents as strategic actors who are capable of free-thinking. However, they are situated within a structural context

which might shape their experiences, incentives and choices. In this case, citizens are the agents under study whose outcomes might be shaped by the legal-institutional structures governing voter registration. These are likely to exert a strong influence because the easier the task of voter registration, the more likely that they are to do it. The logic of calculus at play is therefore similar to the rational choice approach commonly used elsewhere. However, actors are capable of responding more reflexively. They not only consider the amount of time and administrative effort involved – but will also respond to other actor. Moreover, voters are not the only actors of importance here. As James and Garnett (2023) set out in the introduction, other key stakeholders will include the parties and electoral administrators. The voter registration system might constrain and influence how parties and activists reach out to voters, but also create administrative consequences for those running the elections. More detail about the possible effects of the voter registration system on electoral registration quality is set out below in the hypotheses.

*A Typology of Voter Registration Systems*

In trying to distinguish the different ways in which the electoral register is compiled, we introduce a continuum, with two extremes, and a variety of models between the two. At one extreme is a model in which the *individual* is responsible for their own voter registration each election of their own initative. In this extreme case, existing lists would not be used, and each election would start afresh, with each eligible voter required to register themselves before a deadline in order to vote. The means used for this registration may vary, but the onus is placed on the individual to get themselves on the voter's list. Along this continuum, the ease of registration methods (be that online, canvassing, in-person registration), the deadlines, the types of identification required are all variables that contribute to the case's movement away from individual responsibility to an assisted model. There might, however, also be additional burdens introduced that can make registration process more bureaucratic. For example, requiring national identity numbers, the UK experienced showed, can pose challenges to some citizens, depending on frequently they are required by citizens (James, 2014). For example, voter registration is an individual responsibility in New Zealand, despite being compulsory. Citizens can register online but must provide either a drivers licence, passport or RealMe identity (a government service identity). They can also complete a voter registration application form and return in by post.

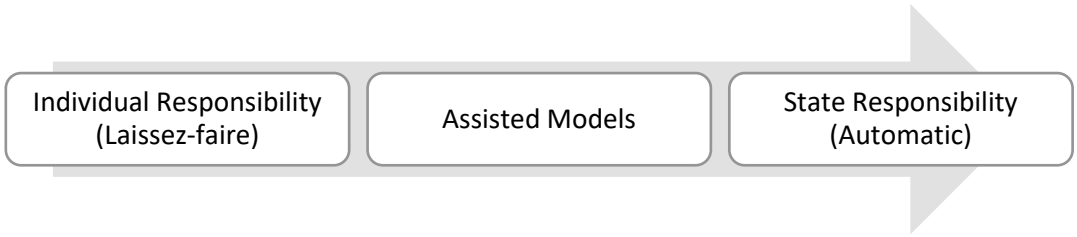
The other extreme is full *state responsibility* for registration. In this case the onus is on the state to register each citizen. They most conmonly do so through an automated voter registration system, where registration lists are compiled through other sources, such as municipal or state residence lists. We are not aware of any 'real' cases that fall under full state responsibility, since in any case, even where there is full automatic voter registration, there is usually some onus on the individual to keep their other records (ex. Municipal registration) up to date when they move. Electoral registers lists are also often published prior to an election in automated systems, with citizens encouraged to check that they are registered. However, this model provides the greatest ease for the voter, since the state actively insists on their voter registers being up-to-date and accurate.

In between the two extremes is the *assisted model*, which still places the onus on the individual, however, with considerable assistance from the state. This may come in the form of easy registration methods, generous deadlines, lenient forms of identification means required. House to house enumeration might take place to prompt electors to register to vote. It may also involve the use of existing lists, such as a previous voter's list, or list sharing with other govenrment departments and agencies (e.g. Motor Voter laws in the United States). These systems may also be referred to as hybrid systems. The extent to which there is some automation to provide assistance to get the voter registered (or to keep their registration current) influence how far to the right the case moves along the assisted model. For example, in Canada there is some list sharing between government agencies and with provincial electoral management bodies.[4] In some cases this is only done with express permission from the voter (for example by checking a box on their tax forms), and in other cases the sharing is done automatically (for example, provincial electoral registers in some provinces). This means that as

[4] See, https://www.elections.ca/content.aspx?section=vot&dir=reg/des&document=index&lang=e for more details.

individuals move, turn 18, or die, their registration may be automatically updated in Elections Canada's National Register of Electors. However, should this information not be automatically updated, the voter can still update their information via a variety of means, including online or at the polling station. In some cases voter registration is automatic at upon reaching the age of the franchise – but requires applications therefafter.

Figure 1: Continuum of Registration Models




As depicted in Figure 1, we therefore recognies that any registration system will fall somewhere between full individual responsibility and full state responsibility. There will always be some combination of the cooperation between the two. However, the rules, procedures and laws in place will contribute to where a case will fall along the continuum. As mentioned earlier, there are three key variables that will influence the placement of a case:

1. The data source that is used to compile the electoral register – and whether this involves some degree of automation.
2. Ease of registration for the voter (methods, deadlines, identification required, public administration capacity for a streamlined process)
3. Additional identity checks and requirements that might be imposed on the citizen to verify their identity.

For this article, we simplify the empirical analysis to dintinguish cases into two categories, those falling closer to the individual responsibility side of the continuum, those falling closer to the state responsibility side. Further details on how these were divided is presented in the methods section. The key test is whether citizens have to apply to register to vote (laissez-faire) or whether the state does this for them (automated). Some countries have no system of voter registration such as Iran and Latvia and they are considered automatic in that the individual needs take no steps to apply to register.

We should also note that there are other variations to the voter registration systems which fall outside of this typlogy. There are also additional systems used to register overseas voters who are eligible to cast their vote. There is variation in how the electoral register is published, which provide opportunities for citizens and parties to check and contest their registration details. The electoral register also often used for non-electoral purposes in some countries and is therefore commerically sold to enable credit-reference checking or used for the basis of jury service (James & Bernal, 2020).

## 5. Hypotheses

Based on the theory and discussion above, we therefore hypothesise that the voter registration system in place will have a substantial effect on the quality of the electoral register. We focus solely on the completeness and accuracy of the register – and do not consider within country equity. Two contrasting hypotheses could be developed. The fist is that automatic systems will bring more complete and accurate registers because there are less steps for the citizen to be added to the electoral register. Citizens with little interest in politics or intension to vote will therefore be less likely to register or maintain their electoral record. Likewise, accuracy will be increased because citizens who move, but may not be inclined to update their details, will end up with inaccurate entries on the register.

*H1: Automatic voter registration generates more complete & accurate registers*

There is also a counter-hypothesis, however, that automatic systems might increase completeness, but negatively affect accuracy. The consequences of automatic voter registration on register quality will depend on the quality of the data used to construct the reigsters. If this data is not accurate and complete, then the electoral register that it is used to create will also be of poor quality. Making citizens responsible for their voter registration record and reguarly wiping them at the end of an electoral cycle could prevent inaccurate accumulating within the system. This process could also provide the prompt for electors to re-register. The active ownership of a voter registration record that comes with 'individual responsibility' may encourage them to ensure that their record is uptodate. Policy makers have often made the argument that the individual responsibility model increases accuracy and completeness. The UK government (2010-22), for example, has consistently taken the view expressed by it's minister in the House of Lords, Lord True, during the passage of the Elections Act 2022:

> 'we are not persuaded by automatic registration…We think it contradicts the principle that individuals are properly responsible for registering themselves. That was one of the reasons we introduced individual electoral registration in 2014. The evidence shows that an individual system drives up registration and enhances the accuracy of the register' (Lord True, 2022).

We therefore provide the counter hypothesis, that:

*H2: Automatic voter registration generates less accurate and complete registers*

There are likely to be factors beyond electoral laws are likely to be important, however. The level of democracy is likely to be imporant in shaping electoral register quality. Democracies will have more flourishing civil society groups monitoring the quality of elections and greater accountability mechanisms to improve voter registration through the absence of restrictions on free speech. Voter registration and voting is also more meaningful for citizens, as it is likely to bring about policy change. Autocrats could also want to add or allow false names to electoral registers to enable ballot stuffing strategies (Schedler, 2002). Hence:

*H3: Higher levels of democracy will bring more accurate and complete registers.*

Higher accuracy and completeness might also be expected when states have the capacity to deliver better run elections. The capacity of the electoral management body (EMB) has often been shown to be important for the quality of electoral administration more broadly (Clark, 2014; Garnett, 2019a; James, 2020, pp. 252-265) – although the effects on voter registration in particular has not been mapped. Greater resources ensures that there is sufficient money to recruit and train staff, and provide the necessary infrastructure such as IT equipment to manage the electoral register and undertake outreach work. Hence:

H4: *Higher levels of economic development will bring more accurate and complete registers*

Some factors will also depend on the actions of the electoral management body. EMB peformance is known to vary worldwide (James, Garnett, Loeber, & van Ham, 2019). Although GDP is a one predictor of EMB performance, there are several outliers. For example, the USA has long had high levels of GDP, but problems with the running of elections (Gerken, 2009; Hasen, 2020). The public administration of elections can therfore make a critical difference. We would therefore expect that EMBs performance would be a critical factor because the quality of staffing, trainng and management will affect the service outcomes. Hence:

*H5: Higher overall levels of EMB performance will bring more accurate and complete registers*

## 6. Research Design and Method

For this article, we are interested in studying the impacts of registration models on registration quality, in cross-national perspective. To do so, we first need a measure of registration quality. For this, we use

the Perceptions of Electoral Integrity Index (Garnett, James, & MacGregor, 2022).[5] This expert survey consists of 49 indicators of electoral integrity across the 11-stage electoral cycle. These data have been collected for each national-level election between 2012-2021 (current data release 8.0 includes country means of this time period, which are used in this article).[6] We have chosen to use expert survey data, rather than official statistics or census data, since we know that official population registers (like voter registers) are not always up-to-date and accurate. Thus, any measure relying on 'official' records of registration accuracy and completeness necessarily would not capture the intended variables.

As mentioned earlier, there are two key variables used to gauge the quality of voter registration from the Perceptions of Electoral Integrity Index: *voter registration completeness* (measured by reglisted2 in PEI v7.0, 4-1b. Some citizens were not listed in the register, country level dataset) and *voter register accuracy* (ineligible2 4-3b. Some ineligible electors were registered, country level dataset).[7] Experts were asked to provide a response from strongly disagree (1) to strongly agree (5). However, since each of these variables are initially negative in direction, for ease of interpretation, we reverse coded so a higher number always denotes a higher level of electoral integrity. Thus, voter registration is *more* complete or *more* accurate when the rating is closer to 5. See Appendix A for a histogram depicting the distribution of these variables, which does run the range of the 1-5 scale.[8]

To measure registration model, we need comparative data on how voter rolls are compiled in each country. To do this, a new dataset was constructed. Undergraduate research assistants were tasked with collecting these data using the following process. The students were tasked with finding information on voter registration from the most recent national-level election possible, collecting information on the dates of the sources in the process. They were instructed to consider national-level elections, but not primary and sub-national elections. The question they were instructed to answer was: How are citizens registered? They were instructed to copy and paste the source of information into a spreadsheet.

Coders were instructed to find data from each of three different sources: election observation reports, EMB websites, and a country's laws or constitutions (See Appendix B for full coding procedure). However, as expected, not all three sources of data are available for each country (for example, not all EMB websites have complete information, and not all countries are visited by international observers).[9]

From there, the researchers both coded each source of data as indicating the registration system was more automatic or individual, according to the definitions set out above. Since most models, as mentioned earlier, fall somewhere between strict automatic or individual models, a level of judgement was required by the researchers. Thus, the researchers' codings were compared between the two researchers and between the three different sources of data. Where there were conflicts, or the researchers had marked the system as unclear (31 countries), the researchers discussed the sources of data and their findings until an agreement on the type of registration system was reached. From there, the researchers recorded the number of sources confirming the type of registration system selected. There were all three sources for 26% of countries; two sources for 53% of countries; and one source for 20% of countries.[10]

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[5] For more on this dataset, please see: https://dataverse.harvard.edu/dataverse/PEI

[6] There are limited cases where we found the registration system had changed during this. Because we use the mean across these 10 years of data, we expect that these rare cases should not dramatically alter the results.

[7] Note that 'vote register accuracy' is also measured and could be used as a test for robustness. Ineligible electors seems to be a clearer link to the measures above.

[8] We chose to use the PEI measures since they captured accuracy and completeness separately. The V-Dem measure: "In this national election, was there a reasonably accurate voter registry in place and was it used?" includes as an option for the lowest score that no registration is required, which captures some automatic systems, and thus was not suitable for our purposes.

[9] In more decentralized systems, such as the United States, there may be some forms of automatic registration in some regions, with individual registration in other regions. In this cases, we took a more conservative approach, suggesting the registration model tended towards the individual model.

[10] A second figure with the number of sources only from the period of study (2012-2021) was also recorded. Only 5 cases had data only from outside of this period. Other countries had data outside of this period, but other sources from within this period confirmed the choice of registration system.

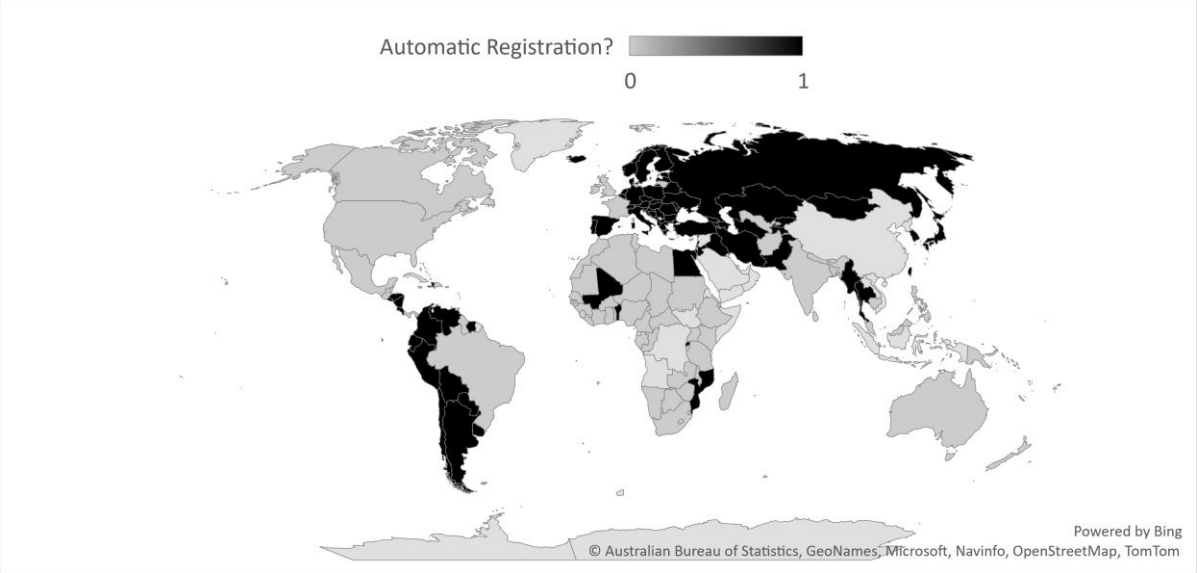
Control varaibles included were drawn from the Varities of Democracy dataset, using the country mean for the 10 years of study (2012-2021). Economic development is measured through GDP PC, level of democracy is measured through the V-Dem Polyarchy index. Finally, we used a measure of EMB performance from the PEI expert survey, namely question *11-4 The electoral authorities performed well*. A 5-category region variable is also used as a control to capture potential spillover or learning effects of registration system adoption of neighbouring countries.

## 7. Results

### 7.1 What models are used?

Figure 2 illustrates the voter registration system in place from the data collected to date.[11] Out of a sample of 159 countries for which data has been collected (see Appendix C), 81 (51%) were categorised as a having an individual system, while 78 (or 49%) were categorises as automatic.

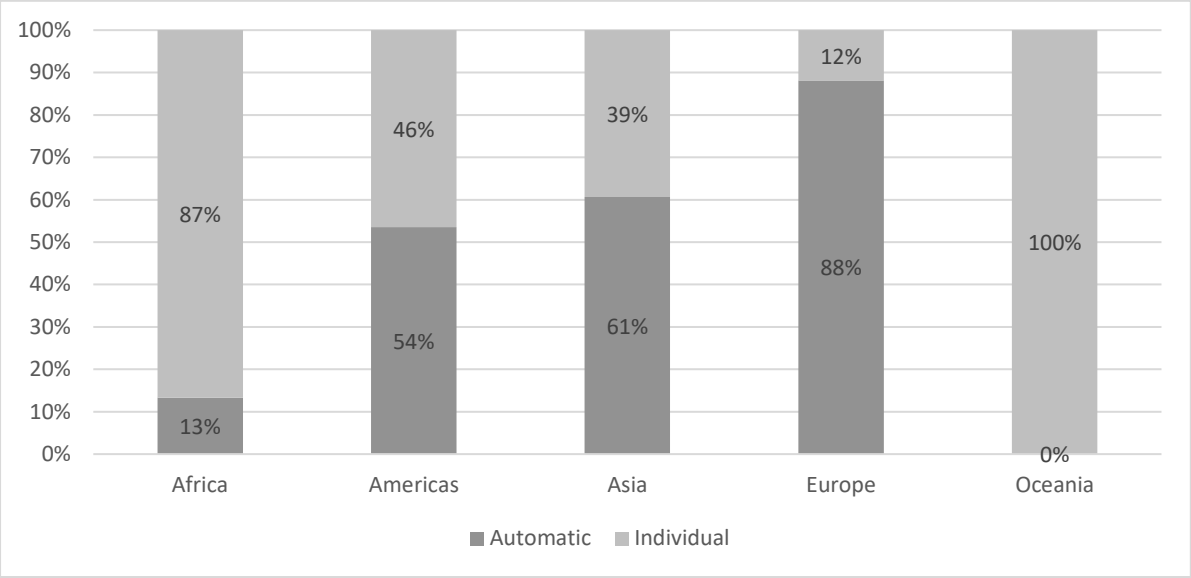
Figure 2: Registration Models Mapped




We noticed a clear regional disparity between systems, with more individual systems in Oceania and Africa, and more automatic systems in Europe. A full analysis is beyond the scope of this article, but voter registration systems are likely to be heavily shaped by colonial legacies. Civil population registers were more widely used within the Soviet period and this may explain their use for voter registration purposes today.

[11] Data collection is ongoing, scheduled to be completed in Spring 2021.

## Figure 3: Systems by Region




## 7.2 Testing Hypotheses

To test the hypotheses above, OLS regressions were run and the results are summarised in Table 1. The first model uses the completeness of the electoral register as the dependent variable, and the second used the accuracy of the electoral register. Both are measured on a 1-5 scale, where the higher number is more positive for electoral integrity.

## Table 1: Predicting Register Completeness

| | (1) Register Completeness | (2) Register Accuracy | (3) Register Completeness | (4) Register Accuracy |
|---|---|---|---|---|
| Automatic Registration System | 0.53*** | 0.32*** | 0.53*** | 0.30*** |
| | 0.13 | 0.11 | 0.12 | 0.10 |
| V-Dem Polyarchy Index | 1.71*** | 2.24*** | | |
| | 0.29 | 0.26 | | |
| EMB performance | | | 0.51*** | 0.61*** |
| | | | 0.06 | 0.05 |
| GDP PC PPP 2014 | 0.02*** | 0.02*** | 0.01*** | 0.01*** |
| | 0.00 | 0.00 | 0.00 | 0.00 |
| Americas | 0.02 | -0.23 | 0.22 | 0.04 |
| | 0.18 | 0.16 | 0.16 | 0.14 |
| Asia | 0.03 | 0.14 | -0.05 | 0.04 |
| | 0.16 | 0.15 | 0.15 | 0.13 |
| Europe | -0.01 | -0.29 | 0.11 | -0.12 |
| | 0.20 | 0.18 | 0.18 | 0.16 |
| Oceania | -0.41 | -0.23 | -0.48* | -0.28 |
| | 0.28 | 0.25 | 0.25 | 0.22 |
| _cons | 1.31*** | 1.61*** | 0.60*** | 0.82*** |
| | 0.16 | 0.14 | 0.20 | 0.17 |
| N | 151 | 151 | 151 | 151 |
| R-sq | 0.60 | 0.62 | 0.66 | 0.70 |

Standard errors in second row * p<0.10 ** p<0.05 *** p<0.01
OLS Regression. Y variable is on a 1-5 scale (not an ordinal scale, since country means used).
Baselines: Individual registration system, Region – Africa.
2 countries did not have corresponding country-level election data and are thus not included in this analysis.
Senegal did not have Register Accuracy Data, thus is missing.
V-Dem Polyarchy Index and EMB performance included in separate models due to high multicollinearity. These variables likely capture similar experiences of the quality of elections in a country, although we suggest that EMB performance is a more pointed measure of the capacity of an electoral management body, which is more likely to directly effect voter registration, whereas the Polyarchy index captures a broader sense of democratic quality.

There was strong evidence for part of H1 that automatic, or state-led, registration systems could increase the completeness of the electoral register. A system of automatic registration increases completeness by 0.53 points on the 1-5 scale, with results statistically significant at the p<.001 level. In other words, automatic systems help to ensure that citizens are listed on the electoral register. This evidence also contradicts H2.

There was a smaller, but still a positive effect of automatic systems on accuracy (0.32, p<0.001). This evidence is therefore counter to H2, that accuracy is negatively affected by AVR. Thus, the evidence does not support the argument that a possible disadvantage of automatic registration not providing the most up-to-date information, since voters are not amending their registration specifically for each election period, is generally the case.

Turning to other variables within the country that may impact registration quality, we first see support for H3, that the level of democracy would improve the completeness of the electoral register. While there are examples of countries with both high and low electoral integrity having (in)complete and (in)accurate registers, the trend certainly points to better quality registration lists in countries with higher levels of democracy. This supports suggestions that registration lists can be one way that (potential) autocrats can manipulate elections, using more 'invisible' methods that disenfranchise voters even before election day – and that there are greater accountability pressures on decision makers and electoral authorities in democracies.

We also hypothesized that EMB performance may also be predictors of the completeness and accuracy of the electoral register. While we note that EMB performance does tend to follow the aforementioned level of democracy, we argue here that the quality of the EMB will have its own impact on the completeness and accuracy of the electoral register. Models 3 and 4 in Table 1 demonstrate support for H5, that the performance of EMBs would affect the completeness and accuracy of the register. These models reveal statistically significant effects of about 0.5 – 0.61 point increase per point increase in EMB performance. This adds support to the argument that strong capacity of EMBs is crucial to electoral integrity (Garnett, 2019b) and extends specifically to the quality of electoral registers.

There is some evidence for H4, that a country's wealth may be related to registration completeness and accuracy. As hypothesized, wealthier countries may have more resources to capture the population in a registration list, but also may have less mobile populations with stable living conditions that allow them to keep better records of individuals. However, the magnitude of this relationship is small. The difference between the predicted value on the 1-5 registration completeness scale between the lowest GDP PC and highest is about 1.4 points. In other words, complete and accurate registers are not the reserve of the rich democracies, nor are incomplete or inaccurate registers the necessary plight of poorer democracies.

## 8. Conclusion

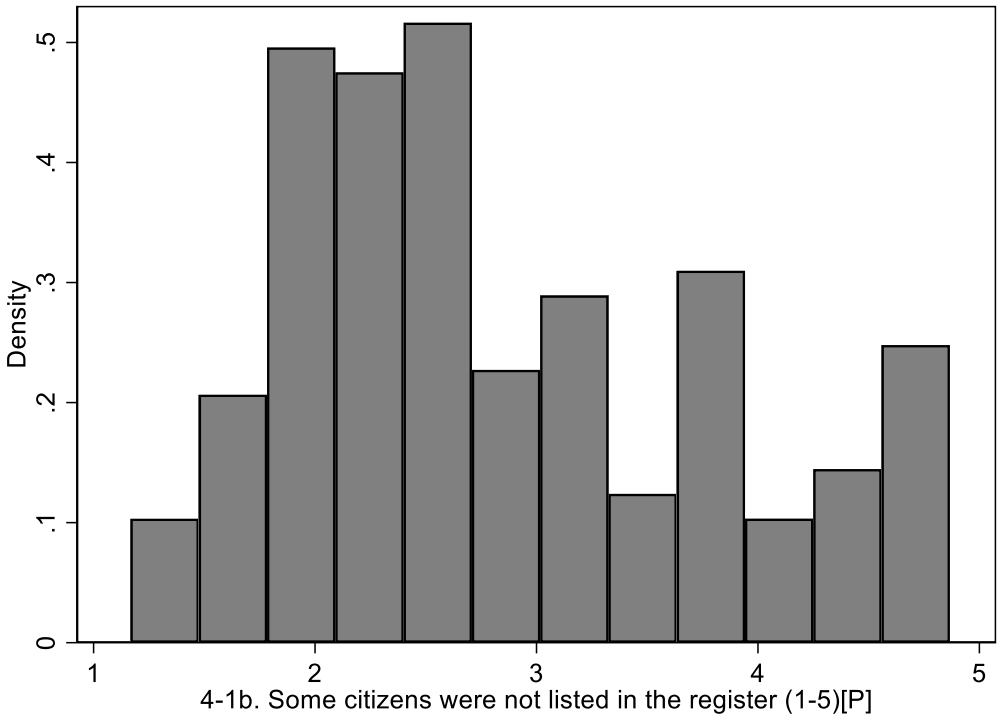
In conclusion, this article finds that automatic voter registration, a system of registering voters that is state-led, is key to the completeness and accuracy of electoral registers. This is finding important for current policy debates. It is commonly suggested that there is a trade-off between accuracy and completeness in policy debates about voter registration reform. Automated and easier registration has

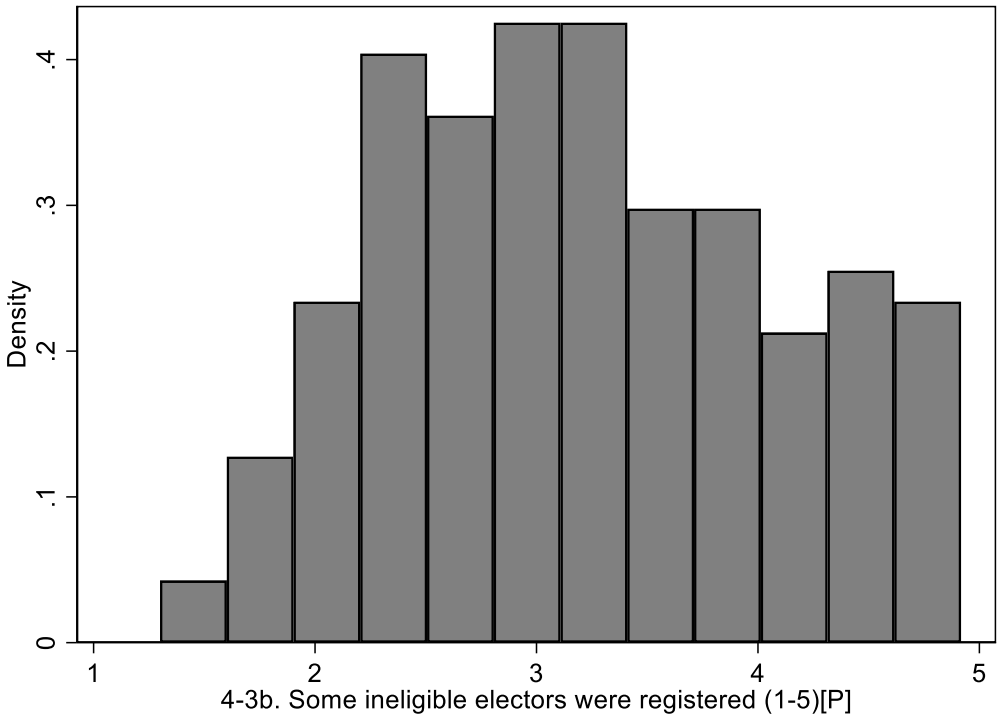
been suggested to lead to inaccurate registers and opportunities for voter fraud. We find no evidence that making registration easier and placing more of the onus on the state will jeopardize the accuracy of registration lists. Rather, there is evidence in this cross-national research that putting registration in the hands of the state can make the register both more complete and accurate.

The control variables in this study were also of interest. We found that level of democracy and GDP were each a significant predictor of registration list quality. Most notably, though we find that overall EMB performance also matters for the completeness and accuracy of voter registration lists. Therefore, one means of improving electoral register quality, beyond the model of registration chosen, is public investment in the capacity and workforces of electoral management bodies.

In sum, we conclude that the findings of this article present important policy lessons, namely that electoral registers can be influenced by the public policy decisions of how registers are compiled and investment in the capacity of EMBs to deliver this key aspect of high-quality elections. These reforms are within the power of policy-makers to implement and not the result of deeper rooted structural problems in societies. In other words, we argue that ultimately the determinants of the quality of electoral registers are laws and organisational factors, not levels of democracy and development. This points to an opportunity for inclusive and robust voter registration systems to be installed to improve electoral integrity and the voter experience worldwide.

## Appendix A: Distribution of Y Variables



## Appendix B: Coding Procedure for Research Assistants

*Authors Note: This is part of a larger project collecting registration and voting procedures cross-nationally. These instructions are abridged for this article only.*

### Data Gathering Instructions

**The Mission**

- The mission is to collect data on how elections are run around the world, divided into areas.
- For each topic, we have a number of questions for you to answer in an excel spreadsheet. Keep a careful note of where the data has come from, including a page number and the date it was published (more details below)
- We are looking for information from the most recent ***national***-level election possible. If you cannot find a piece of information for the most recent election, go to the next most recent etc. You can find out when the most recent election was here: http://www.electionguide.org/.
- To start, cover states with a population of over 200,000 only.

**Sources**

We are interested in data from a variety of types of sources. We would ideally be able to get a response from each of the three sources, but we recognize that data from each and every one of these may not be available.

Please create one spreadsheet for each type of data source.

**1. Election observation report**

Election observation reports detail how elections were run in countries. Not every country is observed and not every organization observes every country. Start at the top of the list and work down until you can find an observation report. There are some countries for which you won't find an observation report, you can leave this row blank. Note there is often a preliminary report and a full report – both are worth checking. Also some reports will quite old so check that you have the most recent one.

| **Organisation** | **Links**<br>(links not exhaustive – might be on other areas of their website) |
|---|---|
| OSCE | https://www.osce.org/odihr |
| OAS | http://www.oas.org/EOMDatabase/default.aspx?Lang=En |
| European Union | https://ec.europa.eu/info/strategy/relations-non-eu-countries/types-relations-and-partnerships/election-observation/mission-recommendations-repository/home |
| Commonwealth | https://thecommonwealth.org/ or https://thecommonwealth.org/member-countries |
| NDI | https://www.ndi.org/international-election-mission-chronological?gclid=CjwKCAiAy9jyBRA6EiwAeclQhKBmdsXoZdjckdw5SLgbiZgUIebIS8pQaiKm_a6X_qxy6-5aoW17JhoCbEMQAvD_BwE |
| Carter Center | https://www.cartercenter.org/news/publications/election_reports.html |
| IFES | https://www.ifes.org/ (Must search for observation reports) |
| EISA | https://www.eisa.org.za/epp-eom.php |
| Global Network for Rights and Development (GNRD) | https://www.ngo-monitor.org/ |
| Democracy International (DI) | http://democracyinternational.com/resources/ |

For another list of observation reports, see: https://aceproject.org/regions-en?set_language=en

**2. Election Management Body Websites**

There is a list of the organisation responsible for running the elections in each country in Appendix A of: https://www.idea.int/sites/default/files/pu8bli cations/electoral-management-design-2014.pdf

Also see: http://aceproject.org/epic-en/CDTable?view=country&question=VR004

Their websites may contain information about some of the variables we are searching for. Google Translate may be needed. You may also try googling "COUNTY electoral commission" or "country election management or administration" since some of these websites may have changed.

You can also use official national websites with electoral information.

**3. Election Laws/ Constitutions**

Look at the country's electoral laws or constitutions. Some places you may find them are:

- National Election Laws Database - http://globalcit.eu/national-electoral-laws/
- World Laws Database - http://www.worldlii.org/
- Constitutions from around the world - https://www.constituteproject.org/
- Library of Congress database - https://www.loc.gov/law/help/guide/nations.php

**For all pieces of information, you must also record (in blue in the spreadsheet):**

- Quote from data source
- Date information was published (ex. 2012)
- Date of Election referred to (ex. 2012 Presidential)
- Source of data (Text response) (IFES Election Observation Final Report)
- Source of data (Further text response, ex. page number) (pg 6) à *now in specify column*
- Source of data (website link)
- Date data was accessed (ex. May 1, 2020) à if multiple dates, say, May 1-2, 2020)

## Appendix C: Country Categorizations and Number of Sources

| Country | Registration Model | Number of Sources (All times) | Number of Sources (2012-2022 only) |
|---|---|---|---|
| Afghanistan | Individual | 3 | 3 |
| Angola | No information found | | |
| Albania | Automatic | 2 | 2 |
| Argentina | Automatic | 1 | 1 |
| Armenia | Automatic | 3 | 3 |
| Antigua and Barbuda* | No information found | | |
| Australia | Individual | 2 | 2 |
| Austria | Automatic | 3 | 3 |
| Azerbaijan | Automatic | 2 | 2 |
| Burundi | Individual | 2 | 2 |
| Belgium | Automatic | 3 | 2 |
| Benin | Automatic | 2 | 2 |
| Burkina Faso | Individual | 1 | 1 |
| Bangladesh | Individual | 2 | 1 |
| Bulgaria | Automatic | 3 | 3 |
| Bahrain | Automatic | 1 | 0 |
| Bahamas* | Individual | 3 | 3 |
| Bosnia & Herzegovina | Automatic | 3 | 3 |
| Belarus | Automatic | 1 | 1 |
| Belize* | Individual | 3 | 3 |
| Bolivia | Automatic | 2 | 2 |
| Brazil | Individual | 3 | 2 |
| Barbados | Individual | 2 | 1 |
| Bhutan | Individual | 2 | 0 |
| Botswana | Individual | 2 | 1 |
| Central African Republic | Individual | 2 | 2 |
| Canada | Individual | 3 | 3 |
| Switzerland | Automatic | 2 | 1 |
| Chile | Automatic | 1 | 1 |
| Côte d'Ivoire | Individual | 1 | 1 |
| Cameroon | Individual | 2 | 1 |
| Republic of Congo | Individual | 1 | 1 |
| Colombia | Automatic | 1 | 1 |
| Comoros | Individual | 1 | 1 |
| Cape Verde | Automatic | 2 | 2 |
| Costa Rica | Automatic | 2 | 2 |
| Cuba[+] | No information found | | |
| Cyprus | Individual | 1 | 1 |
| Czech Republic | Automatic | 1 | 1 |
| Germany | Automatic | 2 | 2 |
| Djibouti | Individual | 1 | 0 |
| Dominica*[+] | No information found | | |
| Denmark | Automatic | 3 | 2 |
| Dominican Republic | Individual | 1 | 1 |

| Country | Registration Model | Number of Sources (All times) | Number of Sources (2012-2022 only) |
|---|---|---|---|
| Algeria | Individual | 3 | 3 |
| Ecuador | Automatic | 2 | 2 |
| Egypt | Automatic | 2 | 2 |
| Spain | Automatic | 3 | 3 |
| Estonia | Automatic | 3 | 2 |
| Ethiopia | Individual | 3 | 2 |
| Finland | Automatic | 3 | 2 |
| Fiji | Individual | 3 | 3 |
| France | Individual | 2 | 2 |
| Micronesia* | Individual | 2 | 2 |
| Gabon | Individual | 3 | 3 |
| United Kingdom | Individual | 3 | 2 |
| Georgia | Automatic | 2 | 2 |
| Ghana | Individual | 2 | 2 |
| Guinea | Individual | 2 | 2 |
| Gambia | Individual | 2 | 2 |
| Guinea-Bissau | Individual | 1 | 1 |
| Equatorial Guinea | No information found | | |
| Greece | Automatic | 3 | 3 |
| Grenada* | No information found | | |
| Guatemala | Individual | 3 | 2 |
| Guyana | Individual | 2 | 2 |
| Honduras | Automatic | 2 | 2 |
| Croatia | Automatic | 2 | 1 |
| Haiti | Automatic | 2 | 2 |
| Hungary | Automatic | 3 | 3 |
| Indonesia | No information found | | |
| India | Individual | 2 | 2 |
| Ireland | Individual | 2 | 2 |
| Iran | Automatic | 1 | 1 |
| Iraq | Automatic | 1 | 1 |
| Iceland | Automatic | 2 | 2 |
| Israel | Automatic | 2 | 2 |
| Italy | Automatic | 1 | 1 |
| Jamaica | Individual | 2 | 2 |
| Jordan | Automatic | 3 | 3 |
| Japan | Automatic | 1 | 1 |
| Kazakhstan | Automatic | 2 | 2 |
| Kenya | Individual | 3 | 3 |
| Kyrgyzstan | Automatic | 3 | 3 |
| Cambodia | Individual | 2 | 1 |
| Kiribati* | No information found | | |
| Republic of Korea | Automatic | 2 | 1 |
| Kuwait | Individual | 2 | 1 |
| Laos | No information found | | |

| Country | Registration Model | Number of Sources (All times) | Number of Sources (2012-2022 only) |
|---|---|---|---|
| Lebanon | Automatic | 2 | 2 |
| Liberia | Individual | 3 | 3 |
| Libya[+] | Individual | 2 | 2 |
| Saint Lucia*[+] | Individual | 2 | 2 |
| Sri Lanka | Individual | 3 | 3 |
| Lesotho | Individual | 2 | 2 |
| Lithuania | Individual | 2 | 1 |
| Luxembourg | Automatic | 3 | 3 |
| Latvia | Automatic | 2 | 2 |
| Morocco | Individual | 2 | 1 |
| Moldova | Automatic | 2 | 2 |
| Madagascar | Individual | 1 | 1 |
| Maldives | Automatic | 1 | 1 |
| Mexico | Individual | 3 | 2 |
| Macedonia | Automatic | 2 | 2 |
| Mali | Automatic | 1 | 1 |
| Malta | Individual | 2 | 2 |
| Myanmar | Automatic | 3 | 3 |
| Montenegro | Automatic | 1 | 1 |
| Mongolia | Automatic | 2 | 2 |
| Mozambique | Automatic | 1 | 1 |
| Mauritania | Individual | 2 | 1 |
| Mauritius | Individual | 3 | 1 |
| Malawi | Individual | 2 | 2 |
| Malaysia | Individual | 3 | 2 |
| Namibia | Individual | 2 | 2 |
| Niger | Individual | 1 | 1 |
| Nigeria | Individual | 3 | 3 |
| Nicaragua | Automatic | 1 | 0 |
| Netherlands | Automatic | 2 | 1 |
| Norway | Automatic | 3 | 3 |
| Nepal | Individual | 1 | 1 |
| New Zealand | Individual | 3 | 2 |
| Oman | No information found | | |
| Pakistan | Automatic | 2 | 2 |
| Panama | Individual | 2 | 2 |
| Peru | Automatic | 1 | 1 |
| Philippines | Individual | 2 | 2 |
| Papua New Guinea | Individual | 2 | 2 |
| Poland | Automatic | 2 | 2 |
| Portugal | Automatic | 2 | 2 |
| Paraguay | Automatic | 2 | 2 |
| Qatar | No information found | | |
| Romania | Automatic | 2 | 2 |
| Russia | Automatic | 2 | 2 |

| Country | Registration Model | Number of Sources (All times) | Number of Sources (2012-2022 only) |
|---|---|---|---|
| Rwanda | Automatic | 2 | 1 |
| Sudan | Individual | 2 | 2 |
| Senegal | Individual | 1 | 1 |
| Singapore | Automatic | 2 | 2 |
| Solomon Islands | Individual | 3 | 3 |
| Sierra Leone | Individual | 2 | 2 |
| El Salvador | Automatic | 3 | 3 |
| Serbia | Automatic | 2 | 2 |
| Sao Tome and Principe | No information found | | |
| Suriname | Automatic | 2 | 1 |
| Slovakia | Automatic | 2 | 2 |
| Slovenia | Automatic | 2 | 1 |
| Sweden | Automatic | 3 | 3 |
| Swaziland | Individual | 3 | 1 |
| Syria | No information found | | |
| Chad | Individual | 1 | 0 |
| Togo | Individual | 2 | 1 |
| Thailand | Automatic | 2 | 2 |
| Tajikistan | Automatic | 2 | 2 |
| Turkmenistan | Automatic | 2 | 2 |
| Timor-Leste | Individual | 1 | 1 |
| Tonga* | Individual | 2 | 2 |
| Trinidad & Tobago | Individual | 2 | 1 |
| Tunisia | Individual | 2 | 2 |
| Turkey | Automatic | 2 | 2 |
| Taiwan | Automatic | 2 | 2 |
| Tanzania | Individual | 2 | 2 |
| Uganda | Individual | 2 | 2 |
| Ukraine | Automatic | 3 | 3 |
| Uruguay | Automatic | 1 | 1 |
| United States | Individual | 1 | 1 |
| Uzbekistan | Individual | 2 | 2 |
| Venezuela | Automatic | 2 | 1 |
| Viet Nam | No information found | | |
| Vanuatu | Individual | 2 | 1 |
| Samoa* | Individual | 2 | 2 |
| South Africa | Individual | 3 | 3 |
| Zambia | Individual | 2 | 2 |
| Zimbabwe | Individual | 3 | 3 |

**No V-Dem Data* $^{+}$ *No PEI Data*
*For both of the above cases, data dropped for analysis*

Bibliography


- Adams, S., & Asante, W. (2019). Biometric election technology, voter experience and turnout in Ghana. *JournaL of african ELEctions, 18*(1), 45-68.
- Aldrich, J. H. (1995). *Why Parties?* Chicago: University of Chicago Press.
- Ansolabehere, S., & Konisky, D. M. (2006). The Introduction of Voter Registration and Its Effect on Turnout. *Political Analysis, 14*(1), 83-100. Retrieved from http://pan.oxfordjournals.org/content/14/1/83.abstract
- Beetham, D. (1994). Key Principles and Indicies for a Democratic Audit. In D. Beetham (Ed.), *Defining Democracy* (pp. 25-43). London: Sage.
- Black, J. H. (2003). *From Enumeration to the National Register of Electors: An Account and an Evaluation*. Retrieved from Quebec:
- Bowers, M. M., & Whitley, C. T. (2020). Assessing Voter Registration Among Transgender and Gender Non-conforming Individuals. *Political Behavior, 42*(1), 143-164. doi:10.1007/s11109-018-9489-x
- Braconnier, C., Dormagen, J.-Y., & Pons, V. (2017). Voter Registration Costs and Disenfranchisement: Experimental Evidence from France. *American Political Science Review, 111*(3), 584-604. doi:10.1017/S000305541700003X
- Brians, C. L., & Grofman, B. (1999). When Registration Barriers Fall, Who Votes? An Empirical Test of a Rational Choice Model. *Public Choice, 99*(1/2), 161-176. Retrieved from http://www.jstor.org/stable/30024514
- Brians, C. L., & Grofman, B. (2001). Election Day Registration's Effect on U.S. Voter Turnout. *Social Science Quarterly, 82*(1), 170-183. Retrieved from http://dx.doi.org/10.1111/0038-4941.00015
- Burden, B., Canon, D., Mayer, K., & Moynihan, D. (2009). *The Effects and Costs of Early Voting, Election Day Registration, and Same Day Registration in the 2008 Elections*. Retrieved from
- Burden, B., & Neiheisel, J. R. (2013). Election Administration and the Pure Effect of Voter Registration on Turnout. *Political Research Quarterly, 66*(1), 77-90.
- Cheeseman, N., & Klaas, B. P. (2018). *How to rig an election*: Yale University Press.
- Clark, A. (2014). Investing in Electoral Integrity. In P. Norris, R. Frank, & F. Matinez I Coma (Eds.), *Advancing Electoral Integrity* (pp. 165-188). New York: Oxford University Press.
- Daniel, P. F., & Eric, E. G. (1997). Effects of Motor Voter Legislation : Voter Turnout, Registration, and Partisan Advantage in the 1992 Presidential Election. *American Politics Research, 25*(1), 104-117.
- Electoral Commission. (2016). *The December 2015 electoral registers in Great Britain*. Retrieved from London:
- Electoral Commission. (2019). *Accuracy and completeness of the 2018 electoral registers in Great Britain*. Retrieved from London:
- Ernst and Young. (2019). *Department of Motor Vehicles – Independent System Assessment Business Process Assessment Report*. Retrieved from Sacramento, CA:
- Fitzgerald, M. (2005). Greater Convenience But Not Greater Turnout. *American Politics Research, 33*(6), 842-867.
- Franklin, D. P., & Grier, E. E. (1997). Effects of motor vehicles legislation: Voter turnout, registration, and partisan advantage in the 1992 presidential election. *American Politics Quarterly, 25*(1), 104-117.
- Garnett, H. A. (2018). Advance voting with same-day registration: the impact on turnout in New Zealand. *Political Science, 70*(2), 102-116. doi:10.1080/00323187.2018.1561154
- Garnett, H. A. (2019a). Evaluating Election Management Body Capacity. *Interational Political Science Review, 20*(3), 335–353.

- Garnett, H. A. (2019b). Evaluating electoral management body capacity. *International Political Science Review, 40*(3), 335-353. doi:10.1177/0192512119832924
- Garnett, H. A. (2019c). Evaluating Online Registration: The Canadian Case. *Election Law Journal: Rules, Politics, and Policy, 18*(1), 78-92. doi:10.1089/elj.2018.0494
- Garnett, H. A., James, T. S., & MacGregor, M. (2022). *Perceptions of Electoral Integrity, (PEI-8.0)* [survey data]. Retrieved from: https://doi.org/10.7910/DVN/YSNYXD
- Gerken, H. K. (2009). *The democracy index: why our election system is failing and how to fix it*. Princeton, New Jersey: Princeton University Press.
- Hall, T. E. (2013). US Voter Registration Reform. *Electoral Studies, 32*(4), 589-596.
- Hasen, R. L. (2020). *Election Meltdown-Dirty Tricks, Distrust, and the Threat to American Democracy*: Yale University Press.
- Hicks, W. D., McKee, S. C., & Smith, D. A. (2016). A Bipartisan Election Reform? Explaining Support for Online Voter Registration in the American States. *American Politics Research, 44*(6), 1008-1036. doi:10.1177/1532673X16661818
- Highton, B. (2004). Voter Registration and Turnout in the United States. *PPS Perspectives on Politics, 2*(03).
- Hobbis, S. K., & Hobbis, G. (2017). *Voter integrity, trust and the promise of digital technologies: Biometric voter registration in Solomon Islands.* Paper presented at the Anthropological Forum.
- Holbein, J. B., & Hillygus, D. S. (2015). Making Young Voters: The Impact of Preregistration on Youth Turnout. *American Journal of Political Science*. Retrieved from http://dx.doi.org/10.1111/ajps.12177
- James, T. S. (2014). The Spill-over and Displacement Effects of Implementing Election Administration Reforms: Introducing Individual Electoral Registration in Britain *Parliamentary Affairs, 67*(2), 281-305. doi:doi:10.1093/pa/gss032
- James, T. S. (2020). *Comparative Electoral Management: Performance, Networks and Instruments*. London and New York: Routledge.
- James, T. S., & Bernal, P. (2020). *Is it time for automatic voter registration in the UK?* Retrieved from York:
- James, T. S., & Clark, A. (2020). Electoral integrity, voter fraud and voter ID in polling stations: lessons from English local elections. *Policy Studies, 41*(2-3), 190-209. Retrieved from https://doi.org/10.1080/01442872.2019.1694656
- James, T. S., & Garnett, H. A. (2023). The Voter Experience Around the World: A Human Reflexivity Approach *Representation*.
- James, T. S., Garnett, H. A., Loeber, L., & van Ham, C. (2019). Electoral Management and Organizational Determinants of Electoral Integrity. *International Political Science Review, 40*(3), 295-312.
- John, P., MacDonald, E., & Sanders, M. (2015). Targeting voter registration with incentives: A randomized controlled trial of a lottery in a London borough. *Electoral Studies, 40*, 170-175.
- King, J. D. (1994). Political culture, registration laws, and voter turnout among the American states. *Publius: The Journal of Federalism, 24*(4), 115-127.
- Knack, S. (1995). Does "Motor Voter" Work? Evidence from State-Level Data. *The Journal of Politics, 57*(3), 796-811.
- Knee, M. R., & Green, D. P. (2011). The Effects of Registration Laws on Voter Turnout: An Updated Assessment In P. M. Sniderman & B. Highton (Eds.), *Facing the Challenge of Democracy: Explorations in the Analysis of Public Opinion and Political Participation*. Princeton: Princeton University Press.
- Lord True. (2022). *Elections Bill. Volume 819: debated on Wednesday 23 February 2022, Column 315*. Retrieved from London: https://hansard.parliament.uk/Lords/2022-02-23/debates/C2C4E1E1-857D-432A-B3EC-916587E528CB/ElectionsBill?highlight=automatic%20voter%20registration#

- Massicotte, L., Blais, A., & Yoshinaka, A. (2004). *Establishing the Rules of the Game*. London and Toronto: Buffalo and University of Toronto Press.
- Merivaki, T. (2018). Access Denied? Investigating Voter Registration Rejections in Florida. *State Politics & Policy Quarterly, 19*(1), 53-82. doi:10.1177/1532440018800334
- Merivaki, T. (2020a). "Our Voter Rolls Are Cleaner Than Yours": Balancing Access and Integrity in Voter List Maintenance. *American Politics Research*, 1532673X20906472. doi:10.1177/1532673X20906472
- Merivaki, T. (2020b). Who Is Left Out? The Process of Validating Voter Registration Applications: Part of Special Symposium on Election Sciences. *American Politics Research, 48*(6), 682-686.
- Minnite, L. C. (2010). *The Myth of Voter Fraud*. Cornell University Press: Ithaca, New York.
- Morris, K., & Dunphy, P. (2019). *AVR Impact on State Voter Registration*. Retrieved from
- Mwonzora, G. (2020). Social media and citizen mobilisation in the biometric voter registration (BVR) process in Zimbabwe. *Journal of Contemporary African Studies, 38*(1), 103-120.
- Neiheisel, J. R., & Burden, B. C. (2012). The Impact of Election Day Registration on Voter Turnout and Election Outcomes. *American Politics Research, 40*(4), 636-664. doi:10.1177/1532673x11432470
- Norris, P. (2017). *Strengthening Electoral Integrity: The Pragmatic Case for Electoral Assistance* New York: Cambridge University Press.
- Powell, G. B., Jr. (1986). American Voter Turnout in Comparative Perspective. *American Journal of Political Science, 80*(1), 17-43.
- Rakich, N. (2019). What Happened When 2.2 Million People Were Automatically Registered To Vote. Retrieved from https://fivethirtyeight.com/features/what-happened-when-2-2-million-people-were-automatically-registered-to-vote/
- Rosenblatt, G., Thompson, P., & Tiberti, D. (2012). The Quality of the Electoral Registers in Great Britain and the Future of Electoral Registration. *Parliamentary Affairs, 65*(4), 861-876. doi:10.1093/pa/gss052
- Rosenstone, S. J., & Wolfinger, R. E. (1978). The Effect of Registration Laws on Turnout. *American Political Science Review, 72*(1), 22-45.
- Schedler, A. (2002). The menu of manipulation. *Journal of Democracy, 13*(2), 36-50.
- Schraufnagel, S., Pomante II, M. J., & Li, Q. (2018). Cost of Voting in the American States. *Election Law Journal: Rules, Politics, and Policy, 17*(3).
- Schraufnagel, S., Pomante II, M. J., & Li, Q. (2020). Cost of Voting in the American States: 2020. *Election Law Journal: Rules, Politics, and Policy, 19*(4), 503-509.
- Sweeney, M., John, P., Sanders, M., Wright, H., & Makinson, L. (2021). Applying behavioural science to the annual electoral canvass in England: Evidence from a large-scale randomised controlled trial. *Electoral Studies, 70*, 102277. doi:https://doi.org/10.1016/j.electstud.2020.102277
- US EAC. (2020). *Election Administration and Voting Survey: 2018 Comprehensive Report*. Retrieved from U.S. Electoral Assistance Commission:
- Vasilogambros, M. (2019, 17 October 2019). Glitches in California Embolden Automatic Voter Registration Foes. *Pew*. Retrieved from https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2019/10/17/glitches-in-california-embolden-automatic-voter-registration-foes
- Wilks-Heeg, S. (2012). *A literature review for the Cabinet Office Electoral Registration Transformation Programme*. Retrieved from London:
- Wolfinger, R. E., Highton, B., & Mullin, M. (2005). How Postregistration Laws Affect the Turnout of Citizens Registered to Vote. *State Politics & Policy Quarterly, 5*(1), 1-23.