I-Vote, Therefore I Am? Internet Voting in Switzerland and Estonia

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Since the 2000s, Switzerland and Estonia have used internet voting (i-voting) in national elections and referenda, along with other methods of voting. This paper finds that i-voting in Switzerland is demographically biased in favor of young, male, and college-educated voters, but has not affected electoral outcomes because it has not increased voter turnout. By contrast, i-voting has reinforced the ethnic cleavage in Estonia and reduced the vote share of the left by mobilizing new voters who are ethnically Estonian and vote for parties of the right.

Introduction: Network Politics

In the 21st century, government and politics are increasingly conducted on the internet. Governments provide information about public policies online and invite citizens to comment on draft laws. Voters email their representatives to request help in dealing with the government bureaucracy and are, in turn, solicited for votes. As more people use the internet, online opinion polls—such as those conducted by YouGov in Britain and the US—have become so accurate that they are beginning to replace phone surveys. Interest groups as varied as the World Wildlife Federation and the National Federation of Independent Business circulate petitions and raise money online. Nor is the use of the internet limited to conventional politics in advanced industrialized countries. Social movements in developing and post-Communist countries, such as the "Arab Spring" in the Middle East and North Africa, the "Euromaidan" in Ukraine, and recent popular protests in Russia and Hong Kong have used the internet to mobilize people against governments.

The most innovative and controversial use of the internet in politics, however, is internet voting (i-voting). Instead of walking or driving to the polling station and waiting in line to cast their ballots, voters log on to any computer that has an internet connection, open the online voting application, identify themselves with a digital ID card and/or personal identification number (PIN), and cast their vote. In the past 15 years, the United States Canada, Australia, and a number of European countries (Britain, France, the

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Netherlands, Finland, and Norway, Spain, Portugal, and Greece) have experimented with i-voting in order to cut the costs of elections, reduce mistakes in vote counting, and increase voter turnout.[1] Most of these projects have eventually been discontinued because of security problems, including the ease of hacking personal computers and the servers of electoral committees, as well as the weak encryption of electronic votes.[2] Equally important, the pilots have failed to increase electoral turnout, either because voters have little incentive to learn a new method of voting that may not be permanently adopted or because political interest has more influence on turnout than the convenience of voting.[3]

In the past 15 years, the United States Canada, Australia, and a number of European countries (Britain, France, the Netherlands, Finland, and Norway, Spain, Portugal, and Greece) have experimented with i-voting in order to cut the costs of elections, reduce mistakes in vote-counting, and increase voter turnout.

However, two small European countries—Switzerland and Estonia—have conducted binding elections and referenda online since the mid-2000s. In Switzerland, the cantons of Geneva, Zürich, and Neuchatel allow voters to vote online in local, state, and federal referenda and elections, and 10–20 percent of their voters (about 5 percent of the Swiss electorate) do so.[4] In Estonia, all voters can vote online in local, national, and European elections. In the most recent national election in 2015, 31 percent of Estonian voters cast their ballots on the internet, a world record.[5] Computer scientists remain critical of the technical vulnerabilities of the i-voting systems used in both countries, especially the ease with which both individual computers and the server of the electoral committee can be hacked in Estonia and the insecure transmission of votes in Zürich (Geneva and Neuchatel use a different system).[6] However, the fact that Estonia and Switzerland have used i-voting for 15 years in a variety of elections and referenda makes the two countries excellent cases to study the politics and sociology of i-voting. Does i-voting increase voter turnout? Does i-voting rectify or reinforce existing demographic and knowledge-based inequalities in voting? Finally, is i-voting politically neutral or does it benefit some parties at the expense of others?

I argue that the impact of i-voting on voter turnout has fallen short of expectations. In Switzerland, i-voting did not increase turnout because most voters were already voting by mail and saw no point in switching to more complicated online voting. In Estonia, i-voting did increase turnout because it seemed like a natural development of the existing e-government services. Additionally, many Estonians take pride in their country's technological development since the collapse of Communism. In both countries, online voters are relatively young, well-educated, and rich. Men are more likely to i-vote than women in Switzerland, while ethnic Estonians are more enthusiastic about i-voting than ethnic Russians. Over time, these demographic biases have diminished, but only

to be replaced by a new divide based on computer skills in Switzerland and trust in i-voting in Estonia. In Swiss elections, all political parties—or, at least, party families—do about equally well online and offline. By contrast, the main left-wing party in Estonia—the Center Party—receives significantly fewer votes online than offline, even controlling for demographics and computer skills, which suggests that i-voting can distort election results, particularly in close elections.

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The rest of the paper is organized as follows. The next section reviews the political science literature on i-voting in the broader context of electoral participation. The following section compares the Swiss and Estonian experiences with i-voting, focusing on voter turnout and demographic and political biases. The conclusion will summarize my findings and discuss their implications for other countries that are considering adopting i-voting.

The Debate: To I-Vote or Not To I-Vote

Since the 1970s, the world has experienced a "third wave" of democratization, as countries ruled by military dictators, ethnic clans, and Communist parties have introduced democratic elections.[7] At the same, however, voter turnout has steadily declined, especially in advanced industrialized countries and post-Communist societies.[8] In Western Europe and North America, voters have become disillusioned with the failure of politicians to respond to new challenges, such as immigration and globalization, that have undermined economic security and traditional notions of national identity.[9] In Eastern Europe and the former Soviet Union, where ordinary people took to the streets in peaceful revolutions against Communist autocracies, voters have lost faith in the ability of democracy to improve living standards and give ordinary people more influence over the elites.[10]

Declining voter turnout is a problem for two reasons. First, even with the rise of issue-based political campaigns and community-based activism, voting remains the most common way for citizens to participate in politics. If people do not vote, they will have little influence over who gets elected to office and what policies office-holders will pursue. In a direct democracy they will forfeit the ability to make public policy. This is particularly worrisome if the decline in voter turnout is concentrated among the poor, the less educated, and the young, who have few individual means (e.g., social connections and campaign contributions) of influencing politics and whose interests can now be overlooked by politicians.[11] Second, voting has an important symbolic dimension. When citizens enter the voting booth on election day, they demonstrate that they believe that their votes matter and that political leaders and institutions deserve their trust. If large numbers of citizens withdraw from politics, the legitimacy of the political system can be called into question.[12]

The root causes of the decline of voter turnout probably cannot be addressed by political action. Economic globalization and the concomitant loss of power by national governments has reduced the impact of elections. Moreover, there has been a weakening of organizations, such as political parties, labor unions, and churches, that used to mobilize people, especially poor people, to vote. Potential political and institutional remedies—such as automatic voter registration in the United States or the (re)introduction of compulsory voting in Western Europe—run against American worries about non-citizens and felons turning out to vote and an increasingly individualistic political culture on both sides of the Atlantic. As a result, reforms designed to increase voter turnout have focused on lowering the costs of voting for registered voters: if voters do not come to the polls, why not bring the polls to the voters?[13] In the 1990s, several US states and Switzerland, the country with the lowest voter turnout in Western Europe, expanded the availability of postal voting. With the development of information technology in the 2000s, attention turned to i-voting, the ultimate form of convenience voting.[14]

The main political argument for i-voting is that it increases voter turnout by making voting more accessible, convenient, and fun. Conventional voting requires people to walk, drive, or take the bus to the polling station, sometimes in bad weather or on congested roads. I-voting allows people to vote by turning on their computer and clicking through a few web pages. This makes voting easier for people whose physical mobility is limited (e.g., the elderly and the disabled) or who live far from the polling station (e.g., rural voters) or are out of town on the election day (e.g., soldiers, expatriates, and people traveling for work or family reasons).[15] I-voting should also be attractive to young people. Almost universally, young people vote less than older people—and the gap is widening.[16] However, they spend a lot of time on the internet, playing games, communicating with friends, and participating in internet chatrooms, as well as looking up information about jobs and educational opportunities. If we put voting online, they might try it from sheer curiosity.[17]

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Critics have questioned these arguments. I-voting may not increase turnout much, if at all. In most countries, the costs of voting are already low (with the exception of the US where voters need to register to vote): people who are busy or out of town on the election day can cast an absentee ballot or vote early. If people do not vote, it is not because they cannot get to the polls, but because they are not interested in politics or feel that no political party represents their

interests.[18] Moreover, i-voting may increase the costs of voting for some groups. In Eastern Europe, many voters rarely use the internet, so they could not i-vote even if they wanted to.[19] In North America and Western Europe, most people use the internet regularly. However, young, educated, and rich voters (as well as white voters in the US) have better computer skills than old, uneducated, and poor voters (and racial minorities).[20] Moreover, socioeconomic status has a great deal of influence over what people do on the internet: poor and less-educated people use the internet mainly for entertainment, while rich and educated people also use the internet to follow the news and participate in political discussions—activities that are more likely to lead to voting, online or offline, down the line.[21]

Switzerland: Much Ado about Nothing

Switzerland is the oldest modern democracy in Europe and has a decentralized political system. Along with the federal government, the 26 cantons (states) have their own constitutions, parliaments, and significant powers. Further-more, there are strong components of direct democracy: most important decisions are made by voters directly in cantonal and federal referenda. As a result, Switzerland has long struggled with low voter turnout despite a high level of trust in the political system. With different elections and referenda, often held separately, the average Swiss voter is called to the polls 6–7 times a year, compared with 1–2 times for American voters and even less for voters in most European countries. Paradoxically, the extension of suffrage to women in the 1970s—Switzerland was the last industrialized country to do so—reduced turnout further because women were (and are) less likely to vote than men. To stop further decline in voter turnout, the Swiss government introduced postal voting in the 1990s. This innovation was eagerly seized upon: about 80 percent of Swiss citizens now vote by mail, while voter turnout increased from about 50 percent to about 55 percent in federal referenda and elections.[22]

However, voter turnout continued to decline among young people (under age 35), raising worries about the future of Swiss democracy. Whether they were registered to vote or not, Switzerland's large expatriate community (about 10 percent of Swiss citizens live abroad, mainly in France, Germany, and Italy) also rarely voted, even by mail. To reach out to these and other groups, the Swiss government, with the support of all major parties, allowed the cantons of Geneva, Zürich, and Neuchatel to experiment with i-voting in cantonal and national referenda in the 2000s.[23] In 2011, Zürich imposed a moratorium on online voting because of security concerns, while the federal government denied eight other cantons that used the Zürich system permission to use online voting in the 2015 federal election.[24] However, Geneva and Neuchatel now use online voting in federal elections as well, while 12 other cantons allow expatriates to vote online.[25]

When the three cantons received permission to introduce i-voting, scholars estimated that it would increase turnout by 2–9 percent.[26] More re-cent studies suggest, however, that i-voting has not had any impact on voter

turnout, which continues to fluctuate between 40–60 percent in federal referenda and elections. After the initial enthusiasm generated by media exposure and government promotion cooled off, i-voting stabilized at 15–20 percent of the electorate in Geneva and Zurich and 10 percent in Neuchatel, where voters have to register in person to be allowed to vote online.[27] While municipalities that allow online voting have, on average, 2 percent higher turnouts than municipalities that do not, these municipalities had above-average turnouts before they introduced online voting, suggesting that the arrow of causality runs from active citizenry to the adoption of new methods of voting, not the other way around. Finally, while online voting is sticky—some 70 percent of voters who cast a ballot online will do so in the next two referenda—it cannot beat postal voting, which is now repeated by nearly 90 percent of voters.[28]

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Why has i-voting not increased voter turnout? Trechsel et al. argue that it still might do so as i-voting moves away from the experimental stage and becomes a permanent feature of the Swiss voting landscape.[29] The most likely explanation, however, is that voters for whom the inconvenience of going to the polling place was a barrier to voting took advantage of postal voting and saw little reason to switch to i-voting, especially because the Swiss postal service remains highly reliable and has kept open offices in the countryside and small towns. So, in rational choice terms, there was little value added by internet voting. Moreover, convenience is not the only factor that affects turnout; the importance of the issues that voters are asked to decide also matters. Thus, turnout has been higher in federal referenda where the political and symbolic stakes are high, and the outcome is uncertain—participation in the Schengen area for visa-free travel within Europe (2005, yes); government ban on the construction of new minarets (2009, yes); limits on mass immigration (2014, yes)—rather than for votes on administrative and fiscal issues.[30]

We would not expect to find large demographic disparities in i-voting in Switzerland because 82 percent of Swiss residents use the internet frequently, i.e., every day or almost every day.[31] Most Swiss voters also trust i-voting, with a mean of 6.6 on a scale of 0–10, compared to 8.2 for postal voting and 8.5 for voting in a polling station.[32] Nonetheless, there are small but statistically significant differences between i-voters and paper voters (in person or by mail). When i-voting was first introduced in the early 2000s, i-voters were generally young (under age 35), male, college-educated, and rich. Over time, these biases have decreased, especially for age bias as young internet enthusiasts have become

middle-aged, but not disappeared.[33] Moreover, while the demographic divide in internet voting is diminishing, another divide remains strong: as before, online voters have better computer skills and use the internet more often than paper voters, attributes which are correlated with higher education.[34] This suggests that giving people access to the internet is only the first step towards getting them to use it regularly, especially for complex—or private—activities such as voting.

Moreover, while the demographic divide in internet voting is diminishing, another divide remains strong: as before, online voters have better computer skills and use the internet more often than paper voters, attributes which are correlated with higher education.

A problem that has received relatively little attention in the literature is the question of political bias. Do online voters have different political preferences than paper-based voters? A 2005 study of Geneva found that supporters of the Greens (who, paradoxically, opposed i-voting because they thought that it would make voting less transparent) were more likely to vote online than supporters of the established liberal, conservative, and socialist parties, while supporters of the far-left Labor Party and far-right Freedom Party were less likely to vote online, but the differences were small.[35] A more recent 2013 study of Geneva found that the supporters of the Socialists, the main party of the left, and the Democratic Union of the Center, a conservative party, were about 5 percentage points less likely to vote online than offline.[36] Since these differences balance each other out and the supporters of all other major parties—the Liberal Radical Party, the Christian Democratic Party, and the Greens—are equally likely to vote online and offline, i-voting has not biased the results of Swiss (or, at least, Genevese) referenda.

Estonia: A Tale of Woe

A post-Soviet republic, Estonia might seem like an unlikely champion of technological innovation. However, building on Soviet-era infrastructure (e.g., the Institute of Cybernetics), the government of post-Soviet Estonia made the development of information technologies a national priority precisely in order to distinguish the country from other post-Communist societies.[37] Under a program called Tiger Leap, all Estonian schools were provided with computer classrooms and connected to the internet in the 1990s and computer science became a required subject. Businesses and local governments cooperated in making wireless internet available in public places free of charge. In the 2000s, many public services were moved online: Estonian residents can file their taxes, register a business, and apply for social benefits online.[38] Most importantly, the government required all citizens to hold a digital ID card, which replaced a plethora of other ID cards, from bank cards to health insurance cards, and can be used to authenticate a person's identity and to sign documents online.[39] As a result of these policies, 79 percent of Estonians are frequent users of the internet, more than in any other East European country.[40]

In this context, i-voting seemed like a natural extension of electronic government. In 2002, the parliament passed a law that introduced the possibility of i-voting in local, national, and European elections and referenda. The bill passed with minimal opposition because it was not clear when, if ever, online voting would become a reality and which parties would benefit from it. By 2005, however, a private company—established with the resources of the Institute of Cybernetics—developed the necessary software. The parliament then voted to allow i-voting in the 2005 local elections, 2007 national elections, and 2009 European elections. This time the political battle lines were clearly drawn. The governing Union of Pro Patria, a conservative party, Res Publica, the liberal Reform Party, and the social-liberal Social Democratic Party supported i-voting as a way of expanding electoral turnout, which had been falling since the early 1990s, and modernizing the electoral system. The opposition left-populist Center Party and the agrarian People's Union opposed i-voting because it would allow the government to falsify election results and disenfranchise poor and rural voters. The president, a member of the People's Union, referred the law to the Supreme Court for review, but was overruled, clearing the way for the use of online voting in all elections since 2005.[41]

For supporters of i-voting, the Estonian case shows that not only do voters prefer to vote on the internet if they are given the opportunity to do so, but that i-voting can reengage the public with democratic politics.[42] In national parliamentary elections, which matter the most in this small and centralized country, the share of online voters increased from 6 percent of the electorate in 2007 to 31 percent in 2015. At the same time, voter turnout increased from 58 percent in 2003, the last paper-only election, to 64 percent in 2015, the most recent election.[43] Of course, many factors besides electoral rules influence turnout. In particular, the elections since 2007 have been closely fought and involved important questions such as relations with Russia, the Great Recession, and the Middle Eastern migrant crisis. However, some individual-level evidence, too, suggests that i-voting has increased turnout or, at the very least, prevented it from declining further. Notably, 10–15 percent of online voters say that they would not have voted at all if they could not have done so online and, hence, have been mobilized by online voting.[44] Online voting is also more "sticky" than conventional voting: about 80 percent of i-voters will vote online in the next two elections, while about 60 percent of conventional voters will continue to vote in person at the polling station.[45]

Notably, 10–15 percent of online voters say that they would not have voted at all if they could not have done so online and, hence, have been mobilized by online voting.

Often overlooked in the commentary on the success of i-voting in Estonia, however, is the question of whether i-voters are demographically representative of the Estonian electorate, let alone the population as a whole.[46] Trechsel and Vassil, and Vassil et al find that in the 2007 and 2011 parliamentary elections, there were small but significant demographic biases in i-voting: first-time i-

voters were likely to be ethnic Estonians (rather than ethnic Russians), college-educated, rich, and early middle-aged (i-voting peaked between ages 35–45).[47] In the 2015 election, however, these biases had all but disappeared: Estonians and Russians, college graduates and high school graduates, the rich and the poor, and the young and the old were equally likely to vote on the internet. Surprisingly, even computer literacy, which used to be a strong predictor of i-voting, no longer mattered; people who considered their computer skills poor were as likely to i-vote as those who thought that they had good computer skills. From this, Vassil et al and Vassil and Solvak conclude that like past technological innovations, from the telephone to television, i-voting has spread from a small, elite group of early adopters to the broad mass of the population.[48]

However, as in previous elections, the best predictor of online voting was trust in i-voting. On average, trust in i-voting in Estonia is about as high as in Switzerland: on a scale of 0–10, over 60 percent of Estonian voters pick values between 6 and 10. However, 17 percent of voters do not trust i-voting at all (a value of 0), indicating a high level of polarization.[49] But what predicts trust in i-voting? In the Estonian context, we would expect ethnic Russians, who make up about 30 percent of the population and about 20 percent of the eligible voters, to trust i-voting less than ethnic Estonians, in part because the voting application was at first only available in Estonian. The initial lack of a Russian-language option gave rise to suspicions that the Estonian government had found another way to disenfranchise ethnic Russians, many of whom still do not have Estonian citizenship and resent Estonian language laws, which make Estonian the only official language.[50] This is precisely what we find: even controlling for higher education and acknowledging the feasibility of verifying one's vote, ethnic Russians are significantly less trustful of i-voting than ethnic Estonians.[51] Instead of bringing the two ethnic communities close together, i-voting seems to be driving them further apart.

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In addition to the bias based on trust and, ultimately, ethnicity, there is also a clear political bias in online voting in Estonia: the main left party, the Center Party, which opposed i-voting from the start and has challenged its legality in Estonian and European courts, has received three to four times fewer votes online than offline in the past three parliamentary elections.[52] Vassil argues that the "real" difference between the Centrist support online and offline is less than meets the eye because Centrist voters (mostly elderly, poor, high school-educated, and ethnically Russian) are demographically distinct from the supporters of other parties, especially the liberal Reform Party (mostly young, rich, college-educated, and ethnically Estonian), as well as more likely to place

themselves on the left of the political spectrum and to report weaker computer skills. Therefore, what seems like a political bias is really a difference between the demographic make-up, values, and skills of the Centrist supporters and those of other parties.[53] However, even controlling for demographics, left-right self-placement, and computer skills, i-voters were 6 percent less likely to vote for the Centrists than conventional voters in 2011 and 14 percent less likely to do so in 2015. (There was no difference in 2007.) Since i-voting has mobilized some new voters, i-voting may reduce the Centrist share of the vote and thus change the outcome of elections, especially in close contests such as the one in 2015, when the Reform Party received 28 percent of the total vote and the Center Party 25 percent.

Conclusion: Log Off

This paper has discussed the politics and sociology of i-voting in Switzerland and Estonia, the only countries in the world that have allowed large numbers of citizens to vote on the internet in national elections and referenda over a significant period of time (roughly, since 2005). I found that the impact of i-voting on electoral turnout depends on the availability of alternatives to conventional voting and attitudes towards new technology. In Switzerland, i-voting has had no impact on voter turnout because most voters who disliked going to the polls several times a year (roughly 80 percent of the electorate) had already switched to postal voting, and were, therefore, less interested in learning about i-voting. In Estonia, where over 30 percent of eligible voters now vote online, i-voting has contributed to the increase in voter turnout in national elections because postal voting was unavailable.[54] Many Estonians were also used to interacting with the government via the internet and took pride in their country's technological progress since the collapse of Communism, including the possibility of i-voting.

If increased voter turnout was the main hope of the promoters of i-voting, the main fear of the critics was that it would reinforce the existing differences in electoral participation between the privileged and the underprivileged. In both Switzerland and Estonia, i-voters are relatively young, well-educated, and rich. In Switzerland, which only granted suffrage to women in the 1970s, women are less likely to i-vote than men. Ethnic Russians, who feel discriminated against by the Estonian state that forces them to learn Estonian and denies many of them citizenship, avoid i-voting in Estonia. Over time, these demographic differences have diminished, only to be replaced by biases based on computer skills (in Switzerland) and trust in online voting (Estonia). This suggests that giving people computers and linking them to the internet is only the first step towards getting them to participate in politics online.

This brings us to the final question: is i-voting politically neutral or does it benefit some parties at the expense of others? In Switzerland, there was broad political consensus (except for the far right and the far left and, initially, the Greens) on experimenting with i-voting in three cantons and all parties—or, at least, party families—do equally well online and offline. In Estonia, however,

the main left party—the Center Party, which draws disproportionate support from ethnic Russians and older and poorer voters—voted against i-voting in the parliament and has challenged its constitutionality in Estonian and European courts. As a result, i-voters are much less likely to vote for the Center Party than conventional voters even controlling for demographic variables, left-right self-placement, and computer skills. Since i-voting has mobilized some new voters—as we saw, 10–15 percent of i-voters say that they would not vote at all if they could not do so online—this raises the troubling possibility that i-voting may affect election outcomes to the detriment of the left and the benefit of the right, especially in close elections.

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What lessons can the Swiss and Estonian experiences offer to other countries thinking about introducing or expanding i-voting? The European Union is considering introducing online voting in elections of the European Parliament to boost turnout, which has fallen from 62 percent in 1979 to 43 percent in 2014, undermining the legitimacy of the only institution of the EU elected by European voters.[55] This is almost certainly a bad idea. As this paper has emphasized, a necessary though not sufficient condition for successful i-voting is the voters' willingness and ability to use the internet, both of which vary widely across the European Union. Thus, the number of people who use the internet frequently ranges from 90–91 percent in Luxembourg, the Netherlands, Sweden, and Denmark to 59 percent in Greece, 58 percent in Croatia, 54 percent in Bulgaria, and 47 percent in Romania, with a European Union average of 72 percent.[56] The picture is even grimmer when we look at internet skills, including the ability to collect information, communicate, solve problems, and create digital content. While 85 percent of the citizens of Luxembourg, 76–77 per cent of Finns and Swedes, and 71 percent of Danes have at least basic digital skills, only 48 percent of Latvians, 46 percent of Poles and Greeks, 41 percent of Croatians, and 29 percent of Bulgarians and Romanians do so, for an EU average of 57 percent.[57] Under these conditions, i-voting would likely exhibit large socioeconomic and—in divided societies, such as Latvia, Bulgaria, Romania, and Croatia—ethnic and religious disparities, which may translate into political biases, as they have in Estonia.

Since most West European countries have cancelled or suspended i-voting pilots, the frontiers of i-voting and e-government are shifting to the post-Communist countries in Eastern Europe and the former Soviet Union. Lithuania has decided to introduce i-voting in the 2019 local and 2020 parliamentary elections, although it is now reconsidering the decision in light of the Russian meddling in the 2016 US presidential election.[58] With funding from the United Nations Development Program, USAID, the European Union, and

the technical assistance of Estonia's e-Governance Academy,[59] Georgia, Kosovo, and Moldova are considering introducing internet voting and have conducted feasibility studies for doing so.[60] These projects should be discontinued. Unlike Estonia, which uses proportional representation, Lithuania and Georgia have mixed electoral systems, where half or more deputies are elected in single-member districts, a system that Moldova also wants to adopt.[61] As a result, small changes in the vote shares of parties could lead to large differences in the distribution of seats in legislatures, and consequently, lengthy legal (and other) battles over the outcomes of elections. More important than electoral rules is the nature of politics in these countries. While Lithuania is a democracy, Georgia, Kosovo, and Moldova have semi-authoritarian governments, which hold competitive elections, but harass opposition parties, bribe and coerce voters, and miscount votes.[62] I-voting would be a new tool in their arsenal.

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