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ELECTION FRAUD: DETECTING AND DETERRING ELECTORAL MANIPULATION

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P R O C E E D I N G S

MR. MANN: Good afternoon. Thank you all for coming. I'm Tom Mann, a Senior Fellow here at Brookings, and with Norm Ornstein of AEI, I co-direct the AEI-Brookings Election Reform Project, together with John Fortier, a colleague at AEI, Tim Ryan and Molly Reynolds who are here as well. We gathered 6 or 8 weeks ago to discuss another book that the Brookings Institution Press just released in this broad area of election administration called "Voting Technology" by Paul Herrnson and colleagues. It was a very lively, interesting, and I think important discussion. We are following in that tradition today. Today the Brookings Press is releasing a new book called "Election Fraud: Detecting and Deterring Electoral Manipulation" which is co-edited by Mike Alvarez, Thad Hall, and Susan Hyde, our colleagues and presenters today.

Election fraud is a dangerous word. It's a word with all kinds of political connotations. In fact, you could probably identify the partisanship of a person speaking in terms of their inclination toward talking about fraud or accessibility. This doesn't surprise you. This issue is very much caught up in some intensely partisan debates about election law and administration. We've had a major Supreme Court decision recently on the Indiana voter ID law. We're beginning to implement in the primaries and now in the general election laws in half the states regarding

some forms of voter identification, all presumably built or in large part built upon the aspiration to prevent or deter various forms of election fraud.

Those contesting the issue and new laws argue this is a solution in search of a problem in that never has anyone really accurately demonstrated in the ways in which fraud is committed that would be deterred through the requirement of some kind of photo identification. And yet at the same time, the inferences about the impact of such requirements on voting participation have little other than sort of inferential evidence suggesting what the cost would be. All of which I think was part of the backdrop that led my three colleagues here to say that we need to clear away the underbrush. We need to begin to understand what election fraud is, what's the historical experience in the U.S., what is the experience in other countries, what efforts have been made to detect such fraud and to deter it.

It turns out it's a whole lot more complicated than one might have thought initially, but I believe this volume takes us a good distance in beginning to properly conceptualize fraud, to measure it, to find new ways of detecting it, and to begin to imagine some institutional changes that might actually deter it in some effective way. That's the purpose of the volume and that is the purpose of our session today. We'd like to share with you the knowledge, the insights, the perspectives of the editors

drawing on this volume initially, and then to have a broader discussion about the set of issues surrounding election fraud.

The three people who we have with us today, and I'll introduce them in the order in which they will make initial presentations, beginning Thad Hall, who teaches political science at the University of Utah. I've known Thad for a number of years. He is one of the people early engaged in issues having to do with voting technology, with fraud, and with electoral participation. He has collaborated a good deal with Michael Alvarez, who is sitting close to me, in writing books. They have a new book out called "Electronic Elections: The Perils and Promise of Digital Democracy," but have done a number of studies and conducted research for the Department of Defense, the Election Assistance Commission, and other entities. As we say at home and abroad, they've come to touring Estonia which is at the cutting edge of internet voting in their elections.

Susan Hyde next to him teaches political science and international politics at Yale University. She was a colleague of ours as a Research Fellow 2 years ago. She had done a wide range of research, but for the purposes of this book and this discussion, she has been very much involved internationally in studying the democracy promotion efforts and has participated in a number of efforts to observe elections.

And finally, Michael Alvarez, and the West Coast is properly represented. He has been teaching at the California Institute of Technology since 1992. He's been the co-director of the MIT-Caltech project that formed in the aftermath of Florida in 2000. He's been an active scholar on a range of subjects including voting behavior at campaigns and elections. But again for the purposes of this volume and this session, he's been actively involved in a host of research projects that try to begin to help us understand what's in the black box, how it is we ensure that the votes of in this case American citizens are cast and counted fairly and honestly.

So that's our team. Our strategy is Thad is going to begin by helping us think about how to define election fraud. Susan is going to tell us how to measure it. And Mike is going to tell us how to detect it and how to deter it. We have limited modest objectives as you can see for this afternoon, so let's proceed. We begin with Thad.

MR. HALL: Thank you very much, Tom, for that wonderful introduction. Tom has been a very avid supporter and helper to Mike and I and to Susan in our work for quite a long time. I want to start out by thanking a couple of other people. Mary Kwak is in the back. She is from the Brookings Institution Press and she played an instrumental role in getting the volume that you have, taking a bunch of academic papers that were very good but not necessarily the most crisp papers in the world and

turning them into something really great, and we really appreciate the work that she did for us and her staff at the press did. Secondly, I want to mention that Craig Donsanto is here from the U.S. Justice Department. Craig was one of the contributors to our volume and he is the dean, elder statesman, great human being in knowledge of election fraud and so if you have questions about American election fraud, please feel free to ask him.

I want to just tell you that this project came out of Susan, Mike, and I having a discussion about election fraud. There's a lot of work that was being done by different academics. So we brought a group of people together in Salt Lake City in 2006 and we held a conference, and these papers represent the intellection contribution that each of the members made.

I want to start out by just saying that it's great to be here at Brookings to discuss this because Brookings has been discussing this since 1934. There was a guy here named Joseph Harris who wrote "Election Administration in the United States." It was the only book on election administration in 2000, and it was written in 1934. He also wrote books on voter registration, and he was the guy on this. So Brookings has a long and storied history in this field, and I just want to note that Tom is continuing in the legacy of all this.

MR. MANN: You'd think we would have figured it out by now.

MR. HALL: So my job is to kind of kick this off and talk about what fraud is. I want to point out that we have several chapters that talk about it. In the introduction of the book we discuss the fact that fraud in many ways is contextual. Fraud is contextual because the definitions of fraud have changed over time. For instance, in Craig Donsanto's chapter he discusses the fact that we know if an election is fair when all qualified individuals are eligible to vote. Think about elections in 1950. Were they fraudulent? You could answer of course they were because we systematically disenfranchised swaths of people from voting. Were elections in 1904 fraudulent because we disenfranchised half of the people in this room, all the women who were here? So the context for understanding fraud varies over time and by place by who we allow to vote and who don't allow to vote and these things have changed.

Right now when Tom was speaking at the beginning when we were talking about citizens voting, how do you think they got people to move to Wisconsin and Minnesota? They told people who came in from Germany you should really move to Minnesota. We'll let you vote. We'll let you participate. They didn't tell them it was really cold, but they told them you could participate and you could vote. One of the ways that we settled the Midwest was by letting noncitizens participate in elections, so it is not something that is out of our range of experience to let noncitizens vote, but today we don't think about it that way. So context is important.

You also have to remember that it's contextual to countries. In the Mexican election, there were claims of fraud made in that election. One of the methods of fraud was that the president of the country endorsed a candidate which is a little bit taboo. They did certain types of canvassing door to door that we take for granted that was considered to be pressuring tactics to pressure people to vote and turn out in certain ways. So the context of what is considered fraud varies by where you are and the country you're in.

You also have to remember that intent is important. One of the things that's very important about election fraud is to understand that it's contextual and that people have to have intent to commit fraud. Let me give you an example. A person may do something that is a violation of some rule, but if they don't intend to commit fraud, it's a mistake. In general there are statutes that do not require intent, but by and large they require you to have some intent to commit fraud. Likewise, we have administrative errors that occur in elections and some people look at those and they say clearly people are trying to commit fraud. The question is, do people have intent to commit fraud or is it just kind of a mistake? So one of the things that we have to sit back and think about is are people actually trying to commit fraud.

The other thing, and I'm glad you used the words black box because elections since we've had a secret ballot have a big black box

problem. You cannot audit an election. I cannot know how any person in this room votes, and I don't want to know that because I want to be able to preserve their secret ballot. If I could though, I could make sure that there was no fraud because I would attach every person to every vote in every way. So I could commit fraud in other ways, but at I'd at least know that your vote was counted the way it was supposed to be. And I would just point out to make a shameless plug, we did write a book on electronic voting called *Electronic Elections* from Princeton University Press, there's information about it outside, and we talked expansively in the book about the black box problem and how you can try to overcome it and the fact that you in some ways can't overcome it but you have to understand how it works.

I want to turn to a couple of the chapters in the book at the very outset. One of the primary chapters about understanding fraud in the U.S. was written by Craig Donsanto and he outlines for us what is election fraud throughout the statutory body that we have at the federal level in the United States. He presents these very principles for what is a fair election. It has six components. One, qualified individuals who are eligible to vote can vote. Votes are counted fairly. Unqualified votes should not be counted, so of the people who do try to commit fraud, the fraudulent vote shouldn't be counted. Votes should not be coerced, so no telling your spouse how to vote. You should be able not to vote which is something

we don't normally think about, but you should be able to freely disengage from the process. You shouldn't have to vote. And finally, you shouldn't get stuff for voting, which is kind of bummer, but, alas, the federal government frowns upon people giving you stuff for voting. It wasn't so long ago that in the 1800s you could get really cool stuff for voting and now it's all illegal.

Then there are certain international principles for understanding whether or not votes are counted correctly. We can think about the fact that regular elections are very important, and the U.S. was a very key player in this. The U.S. was the first country to ever hold an election in the middle of a civil war. The 1864 election is a very important election. We held an election in the midst a civil war. People don't normally think about that, but we have held regular elections in all conditions.

Elections need to be transparent, and here is something that we talk in a book a little bit, how some states in the U.S. do not hold very transparent elections. You can't monitor elections in certain states. And we're signatories to the Helsinki Conventions which are supposed to allow election monitoring, and we don't allow election monitoring, so if you go to Ohio, you can't engage in election monitoring. You have to think about what does this mean for understanding election fraud and understanding transparency in the process. A couple of other key issues that we should

have professional elections and that the way elections should be done is professionally, and one could look at our election administration process and kind of question whether or not we quite have the professionalism that we want.

I want to close by making one other critical point. We have a really nice chapter in the book by scholar Gamze Çavdar who wrote about elections in the Palestinian Territories and in Iraq. She made this really interesting point which is that focus on so much often about elections being free and fair and we use those words and that we should promote democracy, and she makes this interesting point which is this, if elections are free and fair and you don't have any institutions that work, you have to wonder if the free and fair elections are the most important thing you should be focusing on. It's kind of an interesting thing that we have to think about, what do elections get us if we don't have institutions that don't work very well? I know that's something Tom has written on as well in the American context. So let me turn everything over to Susan who's going to talk to us a little bit about how we understand fraud.

MS. HYDE: My task is to talk about what is really the second section is the book is which generally dealing with measuring election fraud. Measuring election fraud as we traditionally think of it is a very difficult business and it's related to both defining what we think of as election fraud and deterring and detecting fraud and what I think are quite

complicated ways that I'm not going to go into right now. But we have included a number of chapters in this volume that tackle this difficult issue of how we might go about attempting to measure election fraud across a variety of different settings and using what I think are a very creative set of techniques and ways of looking at how we might go about measuring election fraud. This is obviously a difficult and error-prone endeavor, attempting to measure election fraud, but it is one where our contributors certainly think that there is much to be learned and much work to be done, and I'm going to talk a little bit about how they've gone about attempting to measure election fraud.

In general, all of the five chapters that I'm talking about take the approach that if there is election fraud taking place, if it is occurring in a society, you might not be able to have an exact measure of every instance of election fraud that's going on, but you should be able to see some observable implications of the fact that there is some type of election manipulation going on. I think it's important to underscore that we don't believe that we're presenting a silver bullet or a magic menu of techniques for measuring election fraud that allow us to do this in all places and across all time. In fact, I think we agree that we're not entirely sure this is possible. If there's anyone here who thinks otherwise, we would love to talk to you and maybe invite you to participate in our next project. But this is certainly something that we think is very difficult in part

because of the very nature of election fraud. It's something that those committing election fraud would be best served by not leaving any traces of the fact that this is going on, so it's a particularly difficult problem.

There are at least three ways that the contributors to this volume have identified as ways that you can use to collect information that can help us try to measure the extent of election fraud if it exists in a particular election. The three ways, I'll just go over them briefly and then I'll talk about how the how each of the five chapters fits into these three ways to go about measuring election fraud.

The first method is really the highest standard possible and that's when you can actually document and prove that on this day in this place using these methods that election fraud actually took place. Obviously there are many types of election fraud where that's not possible, but it is something that is clearly an area where you can do research. Another category or another way to go about measuring election fraud is to focus on what I'm calling suspicious behavior. This is not proof of election fraud. It's more of a system of looking for red flags and then trying to establish what normal is in terms of types of behaviors associated with elections and to the extent that the patterns deviate from what is normal to investigate those areas further to look for red flags. There are a number of ways to go about doing this. This is a relatively big category.

The third way that our contributors have come up with for measuring election fraud is to look at perceptions among experts and within society. So this is definitely an indirect way of getting at this, but in some sense we think that perceptions of election fraud even if they're not accurate can be just as destructive to an electoral process as election fraud, or perhaps not as destructive, but can certainly be destructive. The reason for this is that perceptions of election fraud if they're widespread either among experts or people working in the process or among citizens can really reduce confidence in the process and can have effects like reducing turnout, causing people to just not bother participating in the electoral process. So this is just one way that the contributors to this volume have looked at to get at these things.

Very quickly I'm just going to give you a taste of what some of these chapters in them to hopefully prompt you to read them. In terms of the first type, in terms of documenting cases of fraud with real evidence, there are two chapters that deal with formal allegations of fraud.
The idea behind is, one chapter by Delia Bailey is looking at recent allegations of federal election fraud cases and the idea is if you look at these types of cases you might get a sense of at least how many people are complaining about the fact that there is election fraud. Similarly, Mike Alvarez and Fred Boehmke look at state-level records of election fraud from both California and Georgia and find some really interesting pieces of

information about what goes along with complaints of election fraud. They can tell you quite a bit about the type of setting in which a lot of complaints, a lot of formal allegations and charges, about election fraud are typically found and so this is something that can be used as a foundation for future research.

A third chapter that is actually very creative looks at the types of election manipulation that might take place in advance of election day. They're studying the specific case of election fraud in the gathering of signatures for ballot initiatives. They took specifically at the case of Washington State and are able to show some great variation, and they actually look at the signatures and look at the number that are missing and the number that are invalid and show widely fluctuating rates of how accurate these petitions are and make the case that in many cases there is something fishy going on.

In terms of suspicious behavior, there's one chapter that is very creative in looking at incident reports from election officials. So this is a very basic technique but something that turns out to be extremely informative. There are election officials sitting in police stations all day during elections and this chapter relies on reports that they were asked to full out detailing things that happened on election and it's really a fascinating chapter. There are some quite strange things that happen

during the course of election day, and just documenting this can be very informative in terms of the things that might have disrupted elections.

Finally, in terms of perceptions within the society among experts and among the population, there's a chapter that by Mike Alvarez and Thad Hall, my two co-authors, on measuring perceptions of threats to the electoral process, and surveying experts and citizens about what they perceive as the biggest threats to the electoral process and there is some very interesting information there.

All of these chapters focus on the U.S. case, but in the third section which is on detecting and deterring election fraud, Mike is going to discuss this primarily, but my chapter is in there and I just wanted to make a couple of points from the chapter that I wrote on how international election monitors detect and deter election fraud. International election monitors are one of the more prominent types of international actors who are familiar with the challenges associated with trying to measure and detect election fraud, and as some of you know, this is quite a bit closer to my area of expertise. I do want to say, and we frequently don't acknowledge this, but U.S. elections have attempted to have been observed by the Organization for Security and Cooperation in Europe, so I think that that's a relevant thing to point out. They haven't set many observers, but they have observed the last several federal elections. International election monitors do much more than look for election fraud,

but they're frequently looked to in trying to make a summary judgment about a process that maybe had a lot of irregularities, a lot of problems, but they're having to make a summary judgment about whether the sum total of those irregularities add up to a fraudulent election and this is a very difficult judgment to make in terms of how to aggregate all of this information. I just wanted to make one very simple point but one that I think is underemphasized in many of our discussions and that is when you're looking for election fraud, an excellent time to look is election day. An election manipulator isn't very effective if the election manipulation isn't ultimately reflected in vote totals. If they're not having an effect on that, then they're probably not doing their job particularly well. But election day is by no means the only time to look for election fraud, and this is well recognized by international election monitors and I think is something that can inform further research on this subject. Election manipulation can be conducted before campaigns start, during the campaign period, on election day, and during and after the tabulation of results. In this chapter there are a number of examples of what has been viewed by international observers as blatant election fraud and things that are masked as administrative incompetence or are difficult to judge whether it's just an accident, something that happened that could be perceived as fraud or could be perceived as administrative incompetence. We were joking earlier that if we were advising governments about how to steal elections,

one of the things we might tell them is that you should manipulate things in such a way that it looks like you just don't know what you're doing so that the election process looks like you're a bad administrator of elections and that this can be a somewhat effective way to disguise fraud. I think I've probably gone on a little bit too long here, but we have a number of creative chapters that get at this issue of how to measure election fraud and I encourage you to take a look at them.

MR. ALVAREZ: My job is to wrap it all up and talk about some of the research in the book on detecting and deterring project, but before I do that, just a couple of quick things. Thad talked about the origins of this project. Part of the origin of this project of course was just approximate origins, the conference that we held at the University of Utah, and we do want to make sure that we thank a number of folks for helping us with that. Certainly the Caltech-MIT Voting Technology Project and our supporters, the Carnegie Corporation of New York and the Knight Foundation helped provide some funding for that, as well as the University of Utah. I'd also like to thank not just Tom but also the other members of the AEI-Brookings Election Reform Project, John Fortier, Tim Ryan, Molly Reynolds is in the back, Norm I don't think is here, he's got another commitment, and that it's really exciting to work with them and to be involved with their efforts to build more collaboration in this area which has not been a real vibrant area of research as Thad pointed out since 1934.

But it's a lot of fun and they've done a lot I think to really help scholars out in the field get together and network and communicate a little bit more about the sorts of research that we're doing here.

One of the things that I realized when I walked in the room today was that I actually happened to be at the kickoff for the AEI-Brookings Election Reform Project, the event that they had right here, in fact, I was sitting I think in Thad's chair. I think I was a little bit jet-lagged that morning, it was pretty early, and I think I had red-eyed in. The keynote speaker for that was one Barack Obama. It was a very fun event and Tom reminded me that we can actually go and it's still on the website and we can view that. It was a fun event because he gave a really, really fascinating speech on the Voting Rights Act. I'm definitely going to have to back and check that out again, but it's nice to be back in that context.

Now as I said, there hasn't been a lot of research on in particular deterring and deterring election fraud, there has been some, and some of that actually has been done by four people sitting in this room. Thad mentioned Craig, and Craig of course has been very instrumental in helping us learn a lot more about election fraud. But also we have Curtis Gans here, we have Dick Smolka and we have Roy Saltman, all of whom were valuable references and resources for us way back in 2000 when we started to look at some of the kinds of questions because they had done a lot of the foundational work in this area and it's really a lot of fun to be in

the same room with the four with them and then talking about this. This subject has motivated them for decades and decades. Really we kind of in a sense are standing on the shoulders of giants as we like to say. I, in being a professor at Caltech, have to use overheads. It's part of the job description so I'm going to use overheads.

I know every single one of you probably has a credit card. A lot of the detection strategies that our social scientists here are using are very similar and in some cases directly drawn from the same sorts of techniques that the credit card and the financial industries use to detect fraud. I have a variety of credit cards and every once in a while I get that dreaded voice mail message at home or at work saying this is a Visa security and we've detected something weird going on with your card. Please call us back. Then you have to call them back and they ask you to verify the last three, four, five, six transactions on your card. What they're doing there, of course they know every single thing that you do with that credit card, and of course they also know every single thing that everybody else with their credit cards, and they have people who are smarter than me in computers and are much faster than mine, and massive databases. Essentially what they're doing is engaging in a variety of data-mining routines to determine what is a typical pattern of behavior for Mike Alvarez with his credit card and to detect anomalies. For example, if all of a sudden they start to see that my credit card is

being used in Estonia and I haven't alerted them to that fact before, to them that looks strange. And a lot of times as many of you know that kind of thing will trigger one of those calls. Or again if you have another kind of anomaly where you'll have a lot of relatively small transactions occurring at a gas station which happened recently to my wife, and that triggers one of those kinds of calls.

Essentially what they're doing is they're trying to forecast what your routine behavior will be with your credit card and when they see anomalies from that behavior, significant anomalies, they give you a call, and that's really what we're doing in a lot of these chapters here. As Thad said earlier, it really is hard even with sophisticated types of data-mining routines to really detect intentional from unintentional fraud. But what a lot of these techniques are going to do is find an anomaly and what the anomaly will do is not tell you that there's necessarily fraud, but what it will tell you is that there's something you want to investigate. So again, these techniques are techniques that I think we're asserting are probably valuable techniques for producing instances of anomalies that ought to be investigated. Some of you here know me know that this has been my hobbyhorse for the last 10 years, one of the things that we really need to engage in this kind of enterprise as well as all the other kinds of enterprises we're engaged in when we try to study election administration is really high-quality data, and I'll return to this point later.

One of the other things about detecting fraud that makes it very difficult is we have to know where to look and I think that that's where some of the earlier chapters in the book are very informative. Some of those chapters, again, Craig's contribution, Delia Bailey's contribution, the contribution by Donovan and Smith, my contribution, where we're looking at the distribution of reported fraud cases in many cases will help us to determine where to look.

The title says "Politics Meets CSI." You can see it in the slide. This is on the slide. This is actually an area that my colleague Ted Selker many years ago termed election forensics which is why we used the term CSI here. Again what these contributions in our book are trying to do is just give you some sense for these kinds of data-mining techniques ranging from very simple ones to very complex ones, again, the same sorts of techniques that are being used or are very similar to the same sorts of techniques that are being used by the credit card industry in trying to use high-quality data to detect election fraud.

The contribution that I put in the volume with my colleague Jonathan Katz at Caltech, we take a look at the case of the 2002 gubernatorial and senate elections in the State of Georgia. In 2002 that was the year in which the state moved to its statewide implementation of Diebold touch-screen voting devices, and it's also an election in which two Democratic incumbents lost very closely contested races in a very

unexpected way. What we do is we just use past election data to try and forecast what would happen at the country level throughout the state. What we find is that in each case our model overpredicts in one case and it underpredicts in the other case which to us at least indicates that it's hard to systematically say that somehow Diebold would magically or in some malicious way try and alter the outcome of this election that just gives you a sense of a very simple type of forensic tool.

Walter Mebane who is a political methodologist and one of the smarter people in the world who is now a professor at the University of Michigan uses something that's called Benford's Law. He actually uses in particular something called the second-digit Benford's law. Benford's Law is something that I have to confess I'm not an expert in, but it's basically a law that says when you look at any list of statistical data -- are you laughing at me? Like I said, Walter is one of the smartest guys in the world. But it's a law that says when you look at a list of data, there is going to be a relatively well-known statistical distribution of digits. What Walter does is he develops a statistical test that looks at the second digit that helps you determine whether or not the second digit deviates significantly from that known pattern of digits. Again it's a case where if you see that there's a deviation from that known pattern, again it's a tool that you can use to try and say here's a situation where we might want to look a little more closely.

The third contribution is from my colleague Peter Ordeshook at Caltech. Mikhail Myagkov who's a former graduate student of us who's at the University of Oregon, Dimitry, who is in Moscow, and they for many years have been studying elections in the former Soviet Union and East Europe. They have developed a tool that they call flow of votes analysis which is very similar in some ways to what Jonathan and I did in our analysis. They're looking at, take for example an individual country, you collect all the data like at the precinct level and what you do is look at how the votes are moving over time, and they show in some of their analyses in particular in the case of Russia and earlier work that they've done in Ukraine that with this kind of model you can again detect instances of places where you might want to look more closely, in particular where you see patterns in the flow of votes that deviate from what you think should happen, they don't make sense politically, or they deviate from what you think should happen statistically, in other words, turnout goes above 100 percent or the percentage of people who are voting for a particular candidate goes above 100 percent, things that are just statistically illogical. It's a very nice contribution, and I just have to point out that they also have a book manuscript that Cambridge University Press has just agreed to publish on their technique.

We do have two contributions in this section on international election monitoring as a possible tool for better detection and deterrence

of fraud, and Susan has already talked her contribution in this area. We have what I think is a really chapter in here by Alberto Simpser who's a professor at the University of Chicago. His argument really is that we have to be careful about all these techniques and we have to be very cautious as social scientists because again we have to recognize that politics is a very strategic business. This is one of the things that in particular I have to remind my students at Caltech. We often get students who come in and they're excited about economics in our Ph.D. program in particular, and my job is to take these students who are interested in economics and get them excited about political science. The way I usually get them excited about political science is to point out to them that economics is exciting and it's fun to study, but in economics generally speaking the sort of institutions that actors behave in are in some sense fixed or exogenous to the game that they're playing in. That's not true in politics. In politics, the rules of the game are endogenous to the process. In other words, the people who are playing inside the game set the rules. And again, when we're studying election fraud and setting forward techniques to detect and perhaps deter election fraud, we have to be very careful of the potential unintended consequences that might arise because, again, these very actors may know what the rules are but they'll probably try to get around the roles and they actually set rules in place

that may even help them commit various forms of election fraud or try and cover it up. So it's a very nice cautionary tale.

Conclusions. Again we go through a whole bunch of different topics when we're studying election fraud here and one of the most important we've talked about is the problem of measurement. As a social scientists when we step back and think about what do we need to do as social scientists in particular to help improve the policy and research discussions regarding election fraud, we really need to step back and think more about this as a theoretical concept because as a number of the contributions in this volume point out, the narrow legalistic definitions of election fraud may not be sufficient for studying election fraud, and again as Thad pointed out, it's very context driven. It's dependent upon time, it's dependent upon place, and we really I think as a set of academics and scholars need to think more about how we're conceptualizing election fraud and use stronger conceptions of election fraud as we go forward to try and study it.

I said I would return to the subject of data. This is something that is a very bedeviling problem in the study of election administration. Actually, I think today is the deadline for submitting comments for the Election Assistance Commission's Election Day Survey, an attempt that the Election Assistance Commission has been putting forward, a great attempt, to try and systematically collect better election administration

data. Currently what we don't really have access to in large quantities is really, really helpful information when it comes to try and studying election administration and election fraud. These kind of data-mining techniques, these kind of forensic techniques that we use in this book and that I think are techniques that will be used in a more widespread way in the future both here in the U.S. and abroad really do require that we have access to a large quantity of high-quality data and we really need to work not just as an academic community but work with election officials to really help them understand this better and to really work with them to help them figure out easy ways that they can produce the sorts of data that we and they need to better understand election administration.

Methodology. Basically we just need to keep doing what we're doing. These contributions in this book really represent just a tip of the iceberg in a whole variety of different approaches that people have put forward to try and study, detect, and potentially deter election fraud. It's a very vibrant area of research and, again as Tom said early on, this book represents I think a sort of first step to try and help build more of a scholarly debate and hopefully to really help strengthen the policy debates about measuring, detecting, and deterring election fraud.

This is just a reminder for my academic colleagues. One of the things that we really need to do is we need to figure out ways to make these usable for policymakers. Again, most election officials in this

country certainly don't have the time or resources and in many cases the inclination to go out and learn what the second-digit Benford's Law test is, or to learn how to conduct a regression analysis, or to do the flow of votes analysis that's discussed in the book. What we really need to start doing is I think working more closely with election officials to figure out ways to help them understand these kinds of techniques and perhaps help them apply these techniques. There was a lot of discussion at our conference about the possibility of trying to build software kits. The idea would be that an election administrator could take an Excel spreadsheet, dump it to a website somewhere, and that website could help you produce all these kinds of forensic statistics that we have in this room. There are a lot of things that can be done like that and I think that there are things that we as the research community need to do to think outside the box as to how we can actually help election officials and others to use these kinds of techniques.

The third bullet point here is about credibility and this is where again I think the AEI-Brookings Project, the Caltech-MIT Voting Technology Project, and a lot of the other academic projects in this area can help. One of the problems in the area of studying election fraud is elections occur and allegations arise immediately and we as academics are sort of like the great aircraft carrier out in the ocean. It's very difficult to get us to turn on a dime and to focus our energies on allegations in this

county, that county, this country, this other country, and to actually do the kind of high-quality peer-reviewed type work that I think is necessary to really try and substantiate or refute these kinds of allegations. It's difficult for us as academics to do and we need to develop more types of collaborative products again like the AEI-Brookings project or the other projects that have followed some of the recent elections where you can put together task forces and groups of scholars who can move quickly on some of these questions and put forward research and provide some answers regarding some of these allegations that are made after each election in a timely, useful, and credible way. I think we need to explore more of those kinds of opportunities.

The last thing, and this is something that I think really has been Thad's mantra for many years, is that we really need to develop communication in particular between the academic research community and the election administration community. Dick's laughing at me because he was telling me before the talk that he thought this was hard 30 years ago and I keep telling him I think it's harder today, but we can argue about whether it's improved or not, but it really is something that we need to improve. Again, people like Dick and Roy Saltman have been trying to do this for a long time and we're trying to continue that effort and to build stronger collaboration between election officials, the research community, and the policy community. Thank you.

MR. MANN: Thank you, Michael. We're going to turn to you all very quickly, but before doing so I'm going to press my colleagues on one particular question and in order to respond to it you will leave the world of certainty or hard evidence. But having wrestled with this now for a number of years, I'd like you to give us your sense of, if you will, the nature of the problem in the United States today, election fraud. What can you tell us? Is it more evident at lower levels of government or higher levels of office? At what stage in the whole electoral process is it most likely to be seen? To what extent do we have a conjunction of very close elections and significant fraud such that the election outcome itself can be called into question? Are the efforts at fraud highly organized or is this a matter of individuals or small groups of individuals acting on their own? Is there something today equivalent to stuffing ballot boxes that was the norm in earlier periods of our history? Anyway, those are some of the questions that occurred to me. I'd love to get your reflections so that we can get a handle on the nature of the problem here in America as best as we can detect it now. Thad?

MR. HALL: I'll answer some of this. The first thing I want to point out is that one of the things that we learned in all this is that fraud is committed by winning candidates. So think about election fraud for a moment. You never hear the winning candidate go, oh my God, there was fraud in that election. Shockingly, losers are the ones who complain about

election fraud. So the first problem of course is that people keep losing elections, so if we could solve that problem we'd solve the fraud problem.

One of the issues with fraud is that the closest of elections are generating some of this I think. The other thing to keep in mind, too, we have a great chapter by Delia Bailey on looking at federal cases of election fraud. Fraud is committed by morons it would seem if you read these cases because there's a case where if you took "I Voted" sticker and you ordered a Slurpee, they would pay you for your vote. There is an amazing array of bizarre cases of local election fraud and many of the cases that we see in this book are of local election fraud, people trying to steal very local races because that's where you can make a big difference and if you're a developer or people like that, there are ways that you can try to influence the process. So there are some really interesting aspects of the story that we see from these various chapters looking at that.

I do think that the internet, and this is not something that's directly in the book, is playing a big role in discussions of election fraud because people can make claims, they get widely distributed, and the rebuttals to those claims do not get equally as widely distributed. I think that's part of what Mike was talking about the end, that one of the big issues we have right now where after the 2004 election there were claims made all over the place that there was fraud that occurred and when you investigated them there wasn't the same sort of evidence that that was

actually the case. So I think that one of the major problems that we have is that we don't have really good real-time data to be able to evaluate claims of fraud and to know whether or not fraud has occurred or not occurred or we should be concerned about fraud having occurred or not occurred, and I think that that's a big, big issue.

MR. MANN: Should my takeaway from that, Thad, be that there are many more charges of fraud than there are in reality as best as you can tell?

MR. HALL: In the book we show that there are many more claims of election fraud than there are prosecutions of fraud or even cases that move to being seriously considered for prosecution, that there are a lot of fraud that occur that there is not sufficient evidence to back it up.

MS. HYDE: I'll take this from a different angle which is that I've come to decide that much of which is focusing on U.S. elections from an international perspective where you look at some elections that are just blatantly rigged, North Korea, 100 percent of the people vote for the same candidate and they detail how the comatose are able to cast ballots for the governing party. Clearly, relatively speaking, elections in the U.S. are good, but one of the things that I really was stuck by in studying these things is that there seems to be an impression among certain groups of people that transparency in the electoral process is some type of an admission of guilt, and from our perspective, transparency has much to

recommend it, that making a lot of this information available to people like us, we're not on a crusade to try to discredit local election officials or anything like that, but there's a lot that can be learned from just more information and making that information public and making things like this more transparent might serve to increase voter confidence in the process. So one of the things that I've just noticed about the U.S. is that this fear that it's all just a sham which exists in some communities can be really cancerous I think to the way that people participate in democratic politics and that would be the thing that I would identify with as the problem that is most easily addressed.

MR. MANN: Mike?

MR. ALVAREZ: I think I'd just reiterate what Thad said in one sense which is that all the kinds of analyses that we have in this book by and large cover what you might think of as large-scale elections, statewide elections, federal elections, and what I don't think we know enough about are local elections in the United States and that's probably the case based on the work of Delia and some of the things that Craig has written about. When we have seen prosecutions at the federal level isn't sort of onesies and twosies at the lower-level elections, but that's also a place where I think we really do need a lot more analysis.

Again on the other hand, Thad and I since 2000 have probably observed ourselves here in the United States, I'd say scores, I

don't know how many different elections, hundreds, maybe thousands of polling places, and we've never seen any evidence of fraud ourselves or at least I don't think we've ever seen any evidence of fraud, but we have seen a lot of evidence of a lot of other problems, again the unintentional sorts of problems that Thad talked about which I really do think in the end are related to much more disenfranchisement and are affecting the outcome of elections in a much more sweeping way than the types of fraud that at least we've been talking about here.

MR. MANN: Thank you. We'd like your questions and we have mikes, and Tim is going to have the first one.

MR. RYAN: Thinking internationally, are there any countries that you would point to as being a good role model for us to look at in terms of detecting and preventing fraud?

MR. MANN: Zimbabwe.

MS. HYDE: There certainly are countries that have very -- one of the things that I think we can learn from a lot of the countries that have recently democratized is that it is possible in a very large country to do release national election results down to the precinct level. This is something that was made available in Indonesia a country with more than 500,000 polling stations and they were able to make this information transparent and available to the public at not very much cost to them. So I guess that some of the lessons to be learned are that these steps to

increased transparency and to make it possible to study these things are not so difficult that they would be prevented from taking place here. Countries that are perfect models of elections? I don't know how to answer that one. I like to study the countries that are more messed up I guess.

MR. ALVAREZ: I think at the risk of mentioning Estonia again, Thad and I have had the opportunity to see elections in places like Estonia, Argentina is another place where I've been and, again, I think to underscore the point of transparency, when we were in Estonia is was truly remarkable the level of access with which we and all the other monitors of that particular election had. We could go into polling places. We had immediate access and instant access to all the election officials at the federal level which was a pretty remarkable thing.

MS. HYDE: I actually do want to add one more thing. I'm just going to go back to Robert Dahl's work on democracy and polyarchy and the idea that there is no perfect election ever. There's always some flaw somewhere that one can point to. So then it becomes the challenge of evaluating the degree to which something is a problem.

MR. HALL: One point that I would make about this is to underscore something that Susan said which is that when you think about looking at countries when you were talking about countries that have perfect systems is that you have to back up and think about what's the

transparency that they have throughout the process and not just on election day or right after, but do their election codes look like, do they have a professional body that runs the election and things like that. There are a whole array of other things that you need to think about because in many ways it's a lot easier to rig an election before the election and then have a perfectly fair election where you count all the ballots and you don't rig ballot boxes or stuff any, you just threaten to kill people if they vote for the wrong candidate so you engage in some sort of suppression ahead of time or maybe you don't let the right candidates run. There are a lot of ways to think about elections in that way where it's not just what happens in election, but it's the process, to go back to Zimbabwe example, they can have a perfectly free and fair election if you threaten to kill the candidate who's running against the president. That does tend to deter.

MR. MANN: Just to press you on one thing, I know a number of the countries you've worked with and observed have various forms of electronic voting. I would be interested since DREs here have attracted such a lot of attention and many activists are concerned about the possibility of rigging those systems in various ways to produce outcomes that can't be detected after the fact. What's the international experience with electronic voting machines, and in general do they offer any advantages as far as avoiding or detecting fraud absent someone getting inside the black box?

MR. ALVAREZ: This takes us to our other book, "Electronic Elections," and one of the things that we write a fair bit in that book when we talk about the black box problem, are better methods and better approaches for election officials in particular, but also the public to use to think about how you would detect and deter these kinds of threats. That isn't something that we do a lot of here in the U.S. There are some examples of counties in the U.S. and some states, in particular, Travis County, Texas is an example we talk about in our book, and the State of Oregon and a couple of other places where election officials are required to document very carefully the types of procedures they use to really try and detect and deter fraud where with not just electronic voting devices but with all voting devices that they use. So one of the things we really argue a lot for in terms of public policy is a much better analysis of threats and the better development of threat models and also a much better development of procedures and processes to deter known types of threats.

I think that the international experience that at least we've been part of, one of the lessons that we've drawn from that is here in the U.S. we really don't like to conduct what we think of as scientists carefully controlling elections when we come to changing our electoral process. The kind of experiment we do here in the U.S. is a wholesale experiment, we'll change everything at once, and we won't really do small-scale pilot

tests and we won't really do carefully controlled experiments. That really isn't our tradition here in the U.S. One of the things we've seen though in many of the other countries that we've worked in is very careful types of pilot testing, controlled experimental types of approaches toward development and implementation of new voting technologies, and I think that those more carefully controlled small-scale type projects are models that I do think we could better emulate here in the U.S.

MR. HALL: Just to add a couple of points to that, I think one thing to keep in mind that's kind of implicit in the question is, and we talk about this in the book, that you have to think about what's the status quo system and what's the fraud effort that can occur there. So one of the problems that can occur with paper ballots versus electronic voting, and there was this election in 2000 that was a little problematic with paper ballots.

MR. MANN: Where was that?

MR. HALL: I don't remember exactly.

MR. ALVAREZ: Estonia probably.

MR. HALL: Estonia probably. Exactly. The other thing that we've learned in watching this is that other countries take election auditing more seriously than we do. So for instance in Estonia when they use their internet system, KPMG Baltic runs the audit for that whole process. They audit it from start to finish the use of their electronic machines so they

bring in professional auditors to audit the process, to audit every aspect of the voting process. In India they moved to electronic voting because there was less threat of fraud because people would take over polling places and stuff ballot boxes, and so with the electronic machines they were able to control some of that. So you see people using technology often to try to address concerns that have occurred in the past.

MR. MANN: Please, a question right here. The mike is on the way.

MS. SERGEANT: Good afternoon. I'm Ann Sergeant. I am a precinct chief judge in Montgomery County, Maryland. It's the precinct where I live so I know 90 -- not 90 percent, but 50 percent of the people who come in, they're from my neighborhood and I know then and if they have a complaint about the election, I'm the person they come to, and I'm also the chief judge in the city of Takoma Park which has a different system than some other places. We let noncitizens vote, for instance. My perception of the system, at least the county system, is that people could commit fraud, it's got to be possible, but if they did it would require a lot of people to be involved because we have many checks and balances, and it would also require everybody involved keeping their mouths shut which I think is the weakest link in the chain personally. So part of my question is does that fit with your experience?

The other perception I have is that if there's going to be inadvertent fraud, errors and so forth, it's going to be because there's just not enough people there and that we are tired from being there from 6 o'clock in the morning until after midnight on occasion. So does that fit with your experience too? Thanks.

MR. HALL: Actually, Mike and I had a chapter in the book that we ended up taking out that's now coming out as a different article about standard operating procedures in elections. One of the key things about elections is you have to have these procedures in place and follow them, and what you talk about hits on quite a bit of things that Mike and I have studied over time. The issue of training poll workers, of having standard operating procedures to make sure that things work correctly. The fact that we vote on a Tuesday in the middle of the work week doesn't help things, and we vote in crowded school buildings and all sorts of things. There's an array of issues that kind of fit around that that we could write a book about, and maybe we should, but that's a very tricky thing.

The other thing too, the point that you make about the conspiratorial part, we see that in the book in some of the examples we see of election fraud and that's a big problem, that people tend to blab about their fraudulent behavior and get caught, hence I refer to them as morons.

MR. ALVAREZ: To reiterate though, process and procedures are very important. That theme runs throughout almost all the work that Thad and I have dome recently. We're now doing a project for the Pew Charitable Trusts where we're studying postelection audit procedures in Utah and New Mexico. New Mexico is moving toward having a pretty rigorous postelection audit in this current cycle. One of the things that we've been doing there systematically is trying to write out procedures for them as to appropriate chain of custody for ballots and balloting materials. Again if you think about this from Craig and people like that who are lawyers and prosecutors who know more than I do about chains of custody in legal cases, but if you think about what you watch on TV, you know that evidence has to be protected and preserved some way and we're trying to conceptualize the chain of custody process in election administration from that kind of lens to say we have to be careful that everything that's done with elections and balloting materials is supervised by multiple people, it's logged and recorded, to just have a very carefully delineated set of procedures and to make sure that those procedures are followed. Generally speaking, my guess is that if we can develop those kinds of procedures and ensure they're followed, you're going to knock out most of the obvious types of potential for malfeasance as well as eliminate lots of possible forms of unintentional error.

MS. HYDE: I'll just add one thing. The point that you make about coordination and that it would require all of these people keeping this quiet I think applies to many types of election fraud but not all. So there are certain things that we've identified in other countries that involve so few people but are so effective. For example, the mysterious poisoning of a leading presidential candidate. That only requires one person who actually knows about it and doesn't require a large-scale conspiracy necessarily but could have an enormous impact on the fairness of that electoral process. I've used an extreme example, but I think there are other things. The incident reports article I think discusses jamming up traffic intentionally so that people start giving up and going home and inside the polling station would never notice that many people haven't been able to park or haven't been able to get there but if you were just trying to create disruptions on election day, you might be able to do that in such a way that people inside the polling station maybe wouldn't be aware of those types of irregularities.

MR. MANN: Please.

MS. RUSSELL: Good afternoon. My name is Marik Russell. I work for the Inter-American Development Bank and I am just starting a project in El Salvador for the improvement of the civil registration system. It so happens that in El Salvador the civil registration body is separate from they call (Spanish) and so they are very aware that these two things

have to be a part. My question to you is that is there any research or any study about this relationship between the identifying body of the citizens? In the case of El Salvador, this same institution called RNPN (Spanish) they are the ones who issue the identification to the grownups but there are a lot of technical issues like for example there are a lot of dead people who are still in the system and they sometimes vote. My question what research exists or maybe there are some orientations here that are being talked about about the relationship between this identification and election fraud.

MS. HYDE: I was looking at these guys because they've been studying the voter identification issue and filed an amicus brief for the recent Supreme Court case related to voter identification in Indiana. This is still a relatively understudied area and I'll be happy to tell you a couple of citations that might be useful after, but I don't know of anything on this specific issue although there are some things that might be very relevant.

MR. ALVAREZ: Here in the U.S. that discussion has taken a slightly different twist. Post the Help America Vote Act, states now when someone registers to vote are supposed to verify whether or not the driver's license information or the provided Social Security information really is accurate. One of the things that the National Academy of Sciences panel on voter registration databases is currently studying is the

relationship between the state election entity that's checking that information and the state DMV and the Social Security Administration. So I would urge you to check into that, and I can also provide you citations to that.

MS. HYDE: There is one method that I think might be of general interest that I'll mention. I think the National Democratic Institute has started assisting countries engage in a voter registration audit which might be useful where they do what's called a list to voter audit and then a voter to list audit, so they check through random sampling in both directions I think that that is a method that has been done successfully in a number of countries and it might improve some of those relationships.

MR. MANN: All the way in the back there, please.

MR. SAUDER: My name is Chris Sauder. Among other things, I'm a recount attorney and I've been involved in many of the major recounts around the country. To echo what you have said, invariably in almost every situation there are allegations of fraud and except in my home state of Indiana I can't remember a single incident in which there was fraud and I'm curious as to whether or not in your studies in the United States did you actually find instances of fraud in which fraud was actually found as opposed to alleged.

MS. HYDE: How far can we go back? There are a lot of wonderful historical cases.

MR. SAUDER: Chicago and Indiana.

MR. HALL: We do have some chapters in the book that do detail specific evidence and cases of fraud. I can let Mike talk about the chapter that he wrote on this, but I think the (inaudible) cases are the historical ones. That's one of the reasons why we have lever machines because it turns out they're really hard to stuff and they're really hard to steal because they weighed a thousand pounds. And it turns out when they adopted them in Kentucky, violence went down dramatically after elections. They kept shooting poll workers. So see, your life could have been worse, and it turns out lever machines were really important. But let me let Mike talk a little bit about the data that he has from California and Georgia.

MR. ALVAREZ: Just to give you an example, what we have from California and Georgia are databases. Each of the secretaries of state in those states has an office or a team that's in charge of investigating complaints that come to their office and there's evidence at least in California where I know more about the process, that then gets referred to the county district attorney usually for prosecution. From 1994 to 2000 in California there were a total of almost 1,300 complaints that reached that office, and I'm trying to find the table here but I can't find it. It's somewhere. But a relatively small fraction of those end up being prosecuted and only handfuls end up with successful prosecution. So the

evidence at least from what we see as revealed instances of fraud and complaints that are further investigated, there doesn't seem to be a lot of widespread evidence of fraud in the United States.

MR. MANN: Roy?

MR. SALTMAN: Thank you for mentioning that the allegations of counting fraud that occurred in for example the 2004 election were very destructive. There were several books that were published with the word fraud or fraudulent or various uses of that term in their titles and when you looked into them the actual existence of such matters just sort of evaporated. Then there was the proposal or the charge that because the exist polls showed that Kerry would win in Ohio but he didn't proved somehow or other that there was massive fraud in Ohio in 2004, and I know that Mitofsky is turning over in his grave if he were able to hear because he knows and told everybody that the exit polls were not for the purpose of determining the results of elections but were only for getting the results quicker to the media.

I haven't read your book yet and I certainly hope to, but I wondered whether you have policy recommendations there with regard to what we can do about the voter registration issue. I think the problem in that is that many of our voter registration lists are in very poor condition because of the limited way that we can throw people off the voter rolls and I think we need to go back to the National Voter Registration Act of 1993

to see whether that can be updated on the basis of computer application rather than sending a first class mail letter to an address where somebody can fraudulently say that that person still lives there and returns the letter and therefore the person is not there. Even if that is done, that the person longer can be eliminated from the rolls, that process has I think been one of the causes of excessive interest in requiring photo ID besides which I think there are other reasons for that among which are an attempt to get back at the people who won't solve the illegal immigration problem and it's the conservatives' way of getting back at those people who have failed to do that.

But in terms of the voter registration issue as I pointed out, the National Voter Registration Act and the limitations of that law, Rick Hasen from Loyola Law School has made some proposals about a national voter registration system and we had the election director for the country of Mexico here not too long ago who made a presentation on his country's system and that's an example of country whose registration system we might look at. And I wondered whether you have studied that particular issue and looked at some of the possible solutions so that there may not be a lot of fraud as Tom suggested in his opening remarks, but there's concern due to illegal immigration, due to failures of completeness and accuracy in voter registration lists that fraud is possible and though we may have had a solution without a problem, but the problem is up

there around us even though it may not actually have resulted in significant fraud. So I hope you have looked at that problem in your book and if not, I hope there are avenues for future research.

MR. MANN: Mike?

MR. ALVAREZ: In this book we're not specifically focused on the U.S. case so we don't make those kinds of specific policy recommendations. But in many other areas I think you know that voter registration lists have been a particular concern of mine because again I do think that the issue here is that, not that anybody should quote me on this, but if I were going to try to engage in a scheme to commit fraud, certainly that would be one of the places that I'd target because once you've got names on the list, it certainly makes it a lot easier to engage in other forms of fraud.

But I do think some of the research that we're doing in other areas, in particular this project with the National Academy of Sciences on voter registration databases are some of the areas in which I think we're going to start moving forward certainly at the state level to try and produce cleaner and more accurate voter registration lists. Thad and I have another project we're working on in Ohio, Indiana, and Kentucky, trying to help them improve the processes of voter registration. Again I think there are a number of other Pew projects that are targeted at this process and

making it easier and more accurate for people to update their voter registration information.

MR. SALTMAN: Just one more point, that for example looking at policy recommendations for public policy, there is no requirement in the Help America Vote Act that new registration in one state by a person results in a message being sent to the previous state saying that that person is no longer in that state. There's no recommendation.

MR. ALVAREZ: I'll let Thad comment on that. We wrote a report about that.

MR.SALTMAN: I think that that was simply something that they didn't think about but sounds to me like an important requirement that should be put into amendments.

MR. HALL: Let me just make two comments in regard to your question. One is that throughout the book one of the things that we find is that voter registration is a very problematic area. So if you look at the chapter that Mike did with Fred Boehmke, the most common claim of fraud in Georgia and in California are voter registration fraud questions. And if you look at the biggest source of incident reports in Cuyahoga County when we studied that, they were voter registration problems, so voter registration is clearly an area where there are quite a few problems.

On the question you were mentioning specifically about communication across states, states have siloed voter registration databases. They communicate within their own state. They do not communicate to each other. We wrote a report for the IBM Center of the Business of Government which you can download on the benefits of interoperability and how interoperability will address a lot of these problems. So when I moved to Utah from Washington, D.C., I bothered to contact Alice Miller and let her know that I was moving and to take me off the list, but there is no system in place that when you move from one state to another that there is that kind of communication and that's very critical because people don't realize how many people move every year. It's really a phenomenal rate of interstate mobility. We are a highly mobile society and so it's very important that we have this sort of connectivity in the future across states on voter registration.

MS. HARRIS: Jackie Harris. I'm a 17-year veteran of election administration in most recently Fairfax County, Virginia. I have two questions for you. One is when you say there's no really method for exchanging the data between the states, and obviously there are already a number of states including Virginia who routinely one another and a number of states do not, so we always know those states that we never hear from. But I do want to ask a question. In my time in this industry, it is very difficult to find opportunities for those in academia and those who are

doing the research to meet directly with us, those of us who are actually doing frontline voter registration and election administration. How would you envision that happening? I make the recommendation that it not happen at the level of NASS and NASED but even the next step down, they really do have some people who do frontline registration and election administration.

MR. HALL: States do exchange lists. It's not that the databases don't communicate as directly if they could if they were matched up. If the databases were completely interoperable, you could do it and it would be a lot cleaner. To answer your question though, you should contact academics in your area. There are really good people who study this at George Mason University and various places and you should talk to Tom and get invited to his forms. But Mike and I, we're always looking for people like you to come.

MS. HYDE: And we did have several election officials at our conference in Salt Lake City which was immensely information at the beginning of this project. So it's just a matter of trying to meet people who are interested in having interaction.

MR. HALL: Exactly.

MR. MANN: A question?

MR. HENNING: My name is Mike Henning from the U.S. Agency for International Development and we fund a lot of this work

around the world, NDI and IFES and others, and one thing that we do a lot of is international election observation and domestic election observation, but as I learned from Craig on one of his visits to Bosnia on my last post is that some motivated prosecutors with some time and resources can actually do just as much or more to tamp down fraud than someone sitting in a room. So that's something that we want to support more of, and I was eager to hear some of the practical recommendations that Mike had, for example, the software suite and other things and would love to hear more. I'll buy the book and read it up, but are there other things that practically could be done that would be globally applicable along those lines or is that something that you all are going to look at down the road?

MR. ALVAREZ: As much as I appreciate the idea that you're going to buy the book and read it, we can take this conversation offline and carry it forward because again I think that's something that we've all thought a fair bit about, and we had a lot of conversation about a lot of these practical kinds of approaches at our conference. I think that what we really need to do, and again this goes to the earlier question, that we as scholars my background is basically in statistics and math and economics and we can do all of these highfalutin statistics, but what we need to do is get a better sense from you all about what the particular problems are and also to be able to get the kind of data that we need on a very rapid basis to do these kinds of tools.

I think a lot of that is going to come from just talking more about what are the applications that you all really need and how can we go about translating some of this research into the kind of practical tools that I think would be very helpful both in the U.S. and abroad. It's probably just more a case of continuing these kinds of conversations and trying to see if some of the ideas that we've had and our colleagues have had can be translated into practical terms.

MR. MANN: We have our marching orders. Thank you to our co-editors and thank you all for coming. We are adjourned.

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