

# Managing Voter Registration Lists the Hybrid Way: The Case of Mississippi<sup>1</sup>

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## Abstract

Accurate voter lists facilitate access to the electoral process and are indicative of efficient voter list maintenance. Errors in voter records often result from variation in voter list management practices, which are inevitable given the highly decentralized structure of election administration in the United States. To minimize such errors and facilitate voter record-keeping, the Help America Vote Act (HAVA) required states to adopt statewide voter registration databases. States have responded to this requirement in a non-uniform manner, with many adopting top-down or bottom-up structures. A few opted for a hybrid structure that requires coordination between the state and local election officials insofar as entering and updating voter records. It is largely unknown how these structures are defined or operated, and whether there are administrative benefits with respect to maintaining voter lists. In this paper, we argue that efficient voter list maintenance begins with the availability and accuracy of voter registration records. We examine the state of Mississippi and investigate whether a hybrid management structure facilitates data availability and accuracy at the local level, and if it therefore constitutes an optimal voter registration database structure. We find notable discrepancies in how voter registration data are reported by localities into Mississippi's Statewide Election Management System (SEMS), as well as discrepancies in how such data are reported by the state to the EAC's Election Administration and Voting Survey (EAVS). This suggests that some localities face more challenges in managing records under a hybrid structure than others, which can disproportionately impact voters on Election Day, depending on where they reside.

**Keywords:** voter list maintenance, NVRA, election administration, Mississippi

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## **Introduction**

The 2000 presidential election marked a turning point for election reform in the United States. Ultimately, the race hinged on Florida, with the US Supreme Court effectively deciding the outcome in favor of George W. Bush (Tokaji, 2013). Much of the controversies around the election stemmed from complications with punch card voting machines leaving behind “hanging chads.” Problems with voting technology in a close election such as the 2000 one challenged Florida’s existing recount protocols and further undermined the accuracy of votes cast for President (Kropf and Kimball, 2012). Ballot design issues, such as in the case of the butterfly ballot that confused some voters on how they were to mark their choice for a preferred candidate, attracted national attention. Voters were also complaining that they were erroneously flagged as ineligible to vote, as well as removed from the voter registration rolls, which increased skepticism about the motives, as well as the institutional capacity of state election administrators when preparing for elections (Kropf and Kimball, 2012).

In response to the inconsistencies and irregularities with running elections, as the 2000 election uncovered, Congress adopted the Help America Vote Act (HAVA) in 2002, which aimed to improve many of the weaknesses in the infrastructure of election administration across the states. Several reforms were included in HAVA, but not all have received the same attention. The outpouring of federal funds to assist states in revamping their voting technology is what HAVA is most often remembered for, but the federal law also required states to take proactive measures to ensure that maintenance of voter rolls was handled more efficiently. Indeed, one of the major reforms included in HAVA was the requirement that all states adopt “in a uniform and nondiscriminatory manner, a single, uniform, official centralized, interactive computerized statewide voter registration list”. More specifically, HAVA mandates that states utilize these

computerized lists to store and manage voter registration information, and that “any local official” who receives and processes voter registration information should electronically enter it into the computerized list.<sup>2</sup>

As the Election Assistance Commission (EAC) reports, the adoption of statewide voter registration lists would expedite the process of entering and updating voter records and assure that “the names and information contained in the statewide voter registration list are accurate, secure, and complete”.<sup>3</sup> Interestingly, many of the states have interpreted this mandate differently, resulting in a wide variety of voter registration database structures and associated management practices (Alvarez and Hall, 2014).<sup>4</sup> States classify their statewide registration database and management style as one of three types: bottom-up, top-down, or hybrid. The EAC defines a bottom-up system as one that, “...generally uploads information retained at the local level and compiled at regular intervals to form the statewide voter registration list.” Top-down was defined as a system that is, “...hosted on a single, central platform/mainframe and is generally maintained by the state with information supplied by local jurisdictions.” A hybrid structure was defined simply as some combination of the two.<sup>5</sup>

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<sup>2</sup> The Help American Vote Act (HAVA) of 2002, Section 303(a)1(A)(i)-(vi). Available at: [www.eac.gov/assets/1/6/HAVA41.pdf](http://www.eac.gov/assets/1/6/HAVA41.pdf).

<sup>3</sup> U.S. Election Assistance Commission, “Voluntary Guidance on Implementation of Statewide Voter Registration Lists,” July 2005. Available at: <https://www.eac.gov/assets/1/1/Implementing%20Statewide%20Voter%20Registration%20Lists.pdf>.

<sup>4</sup> U.S. Election Assistance Commission, “Statewide Voter Registration Systems,” August 31, 2017, <https://www.eac.gov/statewide-voter-registration-systems/>.

<sup>5</sup> U.S. Election Assistance Commission “2016 Statutory Overview Instrument,” January 17, 2018, Available at: [https://www.eac.gov/assets/1/6/2016\\_Statutory\\_Overview\\_Instrument.pdf](https://www.eac.gov/assets/1/6/2016_Statutory_Overview_Instrument.pdf).

The scholarship on election administration is largely agnostic as to how these hybrid systems are structured and whether there is a “one size fits all” when it comes to hybrid structures. Very importantly, there is little, if at all, that we know about how they impact voter list maintenance. The centralized, live-updating nature of top-down systems is considered an efficient way of maintaining clean voter rolls. Support for the decentralized nature of bottom-up systems, on the other hand, may be justified as the best way to ensure that localities maintain control of their jurisdictions’ administrative and electoral dynamics. It seems then that hybrid systems may be in the unique position to inherit the benefits of both. At the same time, however, they may be prone to the same challenges associated with any top-down or bottom-up administrative structures. Moreover, since hybrid systems are classified as any combination of top-down and bottom-up practices, each hybrid system is likely to vary across the states.<sup>6</sup>

In this paper, we take an in-depth look at how voter list maintenance is managed in Mississippi, which self-categorizes as maintaining a hybrid structure of voter registration data structure. We theorize that the hybrid system has profound effects on the efficiency of voter list maintenance because it allows for significant variation in administrative practices at the local level. We extend our analysis beyond the EAC’s county-level data and supplement by looking into a snapshot of Mississippi’s voter file from October of 2016. We highlight issues with data completeness and data accuracy that seem to stem from Mississippi’s unique hybrid system. We also provide some administrative context by documenting the different procedures that county elections officials have adopted to update and maintain voter registration rolls, such as

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<sup>6</sup> According to the 2016 EAVS statutory report, the states that identify as managing hybrid database structures are Oklahoma, Rhode Island, Texas, Arizona, Florida, Mississippi, North Carolina, Washington, and Wisconsin. Available at: <https://www.eac.gov/statewide-voter-registration-systems/>.

processing new and pending voter registrations, as well as removing ineligible and deceased voters.

### **The Complex Process of Maintaining Voter Lists**

Voter list maintenance is a complex process that must be conducted in compliance with federal and state election laws. The National Voter Registration Act (NVRA) of 1993 mandates that states maintain voter registration lists by using practices that are “uniform, non-discriminatory, in compliance with the Voting Rights Act, and not be undertaken within 90 days of a federal election.”<sup>7</sup> Because the NVRA does not restrict states from systematically cleaning voter lists during an election cycle, many have amended their election codes to require monthly voter list maintenance and clearly outline the procedures to clean voter registration rolls.<sup>8</sup>

The EAC clarifies that “the NVRA allows states to remove voters who have not voted in two consecutive federal general elections and failed to respond to a confirmation notice from an elections office. Other reasons for removal include death, felony conviction, having moved from one jurisdiction to another, mental incompetence, or at the voter’s request.”<sup>9</sup> Given that the American electorate is highly mobile, states have engaged in data-sharing to improve the accuracy and efficiency of voter list maintenance. These partnerships indicate a joint

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<sup>7</sup> U.S. Department of Justice, “About the National Voter Registration Act,” available at: <https://www.justice.gov/crt/about-national-voter-registration-act>.

<sup>8</sup> National Conference of State Legislatures (ncsl.org), “Voter List Accuracy,” available at: <http://www.ncsl.org/research/elections-and-campaigns/voter-list-accuracy.aspx>.

<sup>9</sup> U.S. Election Assistance Commission, “Fact Sheet: Voter List Maintenance,” Available at: [https://www.eac.gov/assets/1/6/FACT\\_SHEET\\_-\\_Voter\\_Confidence\\_and\\_NVRA.pdf](https://www.eac.gov/assets/1/6/FACT_SHEET_-_Voter_Confidence_and_NVRA.pdf).

commitment towards accurate voter registration lists, although it is documented that active and eligible voters are often erroneously removed as a result of “false positives.”<sup>10</sup>

Determining if a registered voter should be switched from active to inactive status or should be removed from the state’s voter rolls begins with the aforementioned confirmation notice, but the most significant component lies in the event that triggers the voter information updating, and often voter registration removal process. An undeliverable jury summons for instance, constitutes the most common trigger for election officials to send confirmation notices in the state of Mississippi. USPS postal changes, death records, or records from state and local departments of corrections are other triggers justifying the issuing of a confirmation notice. Registered voters can also be removed from a particular jurisdiction and assigned to a new one as a result of redistricting or in case they are assigned to a new polling location.<sup>11</sup>

New voter registration cards that return to the local elections office as undeliverable are another trigger, which justifies the issuing of a confirmation notice. In effect, the processing of new voter registrants constitutes another part of voter list maintenance, but one that has not attracted much scholarly attention until recently (Merivaki, 2018). Prospective new voters that apply to register to vote are not entered into the statewide voter registration rolls until their information is verified. States and localities have adopted and implemented various procedures in order to verify the information provided by new voter registration applicants. In Mississippi

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<sup>10</sup>Christopher Ingraham. “This anti-fraud program gets it wrong over 99 percent of the time. The GOP wants to take it nationwide,” The Washington Post, July 20, 2017. Available at: [https://www.washingtonpost.com/news/wonk/wp/2017/07/20/this-anti-voter-fraud-program-gets-it-wrong-over-99-of-the-time-the-gop-wants-to-take-it-nationwide/?noredirect=on&utm\\_term=.5eae3d898f8e](https://www.washingtonpost.com/news/wonk/wp/2017/07/20/this-anti-voter-fraud-program-gets-it-wrong-over-99-of-the-time-the-gop-wants-to-take-it-nationwide/?noredirect=on&utm_term=.5eae3d898f8e).

<sup>11</sup> Although this is process may not be considered as part of the purging process in the conventional sense, it is important as voters who are assigned to new polling locations, yet still show up to vote in their old location, will cast an invalid provisional ballot.

for example, new voter registrants are marked as “pending” until they are mailed a voter registration card, or until local elections officials contact them to complete any missing information on their voter registration application. If all information is verified, then the new voter will enter the voter rolls as “active,” and appear in the poll books on Election Day.

It is not clear how states and localities respond to new applicants whose new voter registration card returns as undeliverable or those whose applications remain incomplete (have missing information) when Election Day arrives. In Florida, local officials deny voter registration to the former and mark the latter as incomplete. Both types of prospective voters will have to vote provisionally and have their provisional vote rejected (Merivaki, 2018). In Mississippi on the other hand, both sets of voters will remain pending until Election Day and might be able to cast a valid provisional ballot.<sup>12</sup>

It is clear that entering new voter records, updating existing ones, and removing ineligible voters is a data-intensive and time-consuming task, but one that must be conducted by local and state election administrators in order to ensure that eligible voters are able to cast a vote prior to, or on Election Day. HAVA’s requirement to adopt and maintain statewide voter registration lists intended to facilitate this process, with the expectation that a centralized list would minimize errors when entering new voter registration information, as well as increase the opportunities to correct errors from existing records. HAVA explicitly left implementation at the discretion of the states and instructed the EAC to assist the states with creating statewide voter registration database structures (Alvarez and Hall, 2014). States vary in terms of which structures they

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<sup>12</sup> This is potentially a practice that varies at the local level, which we are in the process of systematically investigating.

adopted, with most opting for top-down and bottom-up structures, and very few opting for a combination of the two.<sup>13</sup>

### **Voter List Maintenance Structures and the Accuracy of Voter Rolls**

The EAC's efforts to categorize states with respect to election data management structures reflects their suggestion that top-down databases are "most closely akin" to HAVA's statutory language definition of what qualifies as an appropriate voter registration database. Top-down structures are defined as those maintained at the state level and accessed by localities, who do not "presumably" maintain a local database.<sup>14</sup> This means that, as data are entered in one jurisdiction, any changes are instantly visible and available to any other, since all jurisdictions have access to the statewide list. Bottom-up lists, on the other hand, are kept in-house by localities and then transmitted into a single master file at the state level. As a result, rather than having real-time updates, records can only be compared and merged at predefined intervals. Some often-touted advantages of a bottom-up structure are allegedly lower administrative costs, ease in identifying and purging registered voters who move between jurisdictions in a state, and the potentiality of cross-checking registrations between states.<sup>15</sup>

Scholars and practitioners engage in an intricate debate about the relative advantages and disadvantages of these "Voter Registration Database Structures", or VRD Systems, as the EAC

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<sup>13</sup> EAC, "Voluntary Guidance on Implementation of Statewide Voter Registration Lists," July 2005. Available at: <https://www.eac.gov/assets/1/1/Implementing%20Statewide%20Voter%20Registration%20Lists.pdf>.

<sup>14</sup> U.S. Election Assistance Commission, 2014 Statutory Overview. Available at: [https://www.eac.gov/assets/1/1/2014\\_Statutory\\_Overview\\_Final-2015-03-09.pdf](https://www.eac.gov/assets/1/1/2014_Statutory_Overview_Final-2015-03-09.pdf).

<sup>15</sup> electionline.org, "Assorted Rolls: Statewide Voter Registration Databases Under HAVA" (The Pew Charitable Trusts, June 2005), [http://www.pewtrusts.org/~media/legacy/uploadedfiles/wwwpewtrustsorg/news/press\\_releases/election\\_reform/electionline0605pdf.pdf](http://www.pewtrusts.org/~media/legacy/uploadedfiles/wwwpewtrustsorg/news/press_releases/election_reform/electionline0605pdf.pdf).

calls them. In the literature of policy implementation, the terms “bottom-up” and “top-down” are extensively utilized to explain how administrative structures impact the successful implementation of policy (Sabatier, 1986). In the context of maintaining clean voter registration records, it is not clear whether top-down or bottom-up structures are contributing to efficient voter list maintenance. Theoretically, top-down lists increase both access and the integrity of elections because they make it easier to prevent voter list maintenance errors, such as the existence of duplicate records of registered voters, while simultaneously reducing the odds that eligible voters are inaccurately purged or otherwise denied the opportunity to vote.<sup>16</sup> Scholars note that many top-bottom states have “very robust linkages with other databases,” which suggests that centralized databases facilitate data sharing among various governmental agencies (Alvarez and Hall, 2014). At the same time, however, bottom-up structures might also contribute to efficient voter list maintenance. In effect, supporters of bottom-up structures argue that localities are more sensitive to and able to respond ad hoc to the unique circumstances in their individual jurisdictions, presumably resulting in cleaner voter lists (Ansolabehere et al., 2010).

Moreover, the inherently decentralized nature of bottom-up databases may be a secure way to efficiently maintain voter rolls. It would require sprawling, multi-pronged cyber-attacks to drastically alter every county’s voter registration list. Given that localities have their own lists, a decentralized structure would allow them to correct any tampered data in the event of a breach of the aggregated list (Shackelford et al., 2017). Top-down lists, on the other hand, suffer from having a centralized point of vulnerability that, if altered in a cyber-attack, for instance, could theoretically overwrite local level lists and the aggregated statewide list simultaneously

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<sup>16</sup> electionline.org, “Assorted Rolls: Statewide Voter Registration Databases Under HAVA.”

(Shackelford et al., 2017). That said, one must also consider that states with top-down structures will likely have less difficulty finding knowledgeable, professional staff, who could be more capable of preventing and fending off attacks more aptly than their local jurisdiction counterparts, who may have minimal to no technological expertise (Craig, 2015).

In the interest of investigating the accuracy of claims from both sides, Ansolabehere et al. (2010) conducted a pilot study comparing jurisdictions from California, who operates a bottom-up system, and Florida, a top-down system.<sup>17</sup> Utilizing a mail-based registration audit, they found that Los Angeles, California, had a lower rate of invalid records than Florida jurisdictions did. Some of the issues involved missing voting records for individual voters, or mismatched reports of turnout and voter registration estimates on county websites, as well as the state's election website. Such discrepancies indicate that localities may not be properly collecting or reporting voting information into their databases, which could result in voters being prematurely marked as inactive due to inactivity to vote in a federal election. Despite that Los Angeles county had fewer incorrect records compared to some Florida counties, such as Duval and Hillsborough, the authors question whether larger counties may be more efficient in maintaining voter records due to the greater availability of resources, suggesting that perhaps the database structure is not necessarily a factor in explaining voter list maintenance problems (Ansolabehere et al., 2010).

Other scholarship has examined the relative effectiveness of HAVA's mandate for statewide voter registration databases, a technical solution, versus more procedural reforms,

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<sup>17</sup> In their work, Ansolabehere et al. (2010) classify Florida as top-down. According to the EAC's statutory reports, Florida identified itself as bottom-up in 2008 (<https://www.eac.gov/assets/1/1/Statutory%20Overview.pdf>), and as hybrid since 2010 ([https://www.eac.gov/assets/1/6/FINAL\\_2010\\_Statutory\\_Overview\\_Report.pdf](https://www.eac.gov/assets/1/6/FINAL_2010_Statutory_Overview_Report.pdf)).

namely Election Day Registration (Hall, 2013). Hall (2013) for instance, suggests that Election Day Registration (EDR) would have been a more effective way of achieving the goals outlined in HAVA because it would have done more to alleviate the problems statewide voter lists attempt to address for less cost. Hall (2013) finds that EDR has a pronounced effect on voter participation because it combines registration and voting into a single process. Furthermore, the study reports that there is no statistically significant difference between the different types of voter registration systems, top-down, bottom-up, and hybrid, regarding the reasons given by voters for why they weren't registered to vote. Also, EDR states with a top-down voter registration database structure were more likely to have fewer voters reporting not voting due to registration problems than bottom-up and hybrid systems also having Election Day registration. A caveat to this study is that it does not separate bottom-up and hybrid from one another, so it is impossible to discern from these results how hybrid systems, specifically, impact this relationship, though it would seem reasonable to infer they are less likely to reduce voter difficulties than top-down systems.

There is limited research addressing the relationship between voter registration database structures and efficient voter list maintenance. Based on HAVA's statutory definition, the purpose of operating centralized, computerized, and interactive voter registration lists is to improve the voter list maintenance process. Data inconsistencies and missing or incomplete information indicate that states or localities are not updating voter registration lists efficiently. Since the structure of the voter registration database essentially determines which records should be collected and how often, as well as who is responsible for record keeping, it follows that some database structures may be facilitating more accurate record keeping. For instance, top-down

structures are more centralized, which suggests that local officials have limited room for discretion when it comes to entering and updating voter registration records. In bottom-up structures on the other hand, the responsibility to process, update and maintain voter records might be more fragmented, and so the room for discretion, or the possibility of errors arises. Burden (2014: 59) finds evidence of this, where top-bottom structures are more associated with consistent reports of voter registration estimates than bottom-up states, which are “subject to less uniform data entry and reporting.”

The manner with which management databases are structured can condition the level of oversight the state has over local officials, who process and report voter registration records. Given the constraints that localities face in terms of capacity and expertise (Hale and Slaton 2008), localities may not be able to efficiently perform their tasks, even if the state requires them to. States can increase oversight by adopting uniform rules and procedures or requiring mandatory training of local elections officials, or statutorily requiring that local election officials collect and report voter registration and turnout data (Burden and Stewart, 2014). In the absence of state oversight, local discretion may be unavoidable, leading to variation how localities maintain voter rolls, and thus increasing the likelihood of inaccurate records. In that respect, in top-down structures the state could have more oversight over the localities, compared to bottom-up or hybrid structures.

Evaluating the efficiency of voter list maintenance across the states implies that the necessary data are reported by localities and states, updated and maintained at regular intervals, as well as available, in compliance with the NVRA and HAVA. Researchers studying election administration often rely on the data reported by localities and states to the EAC. The EAC’s

Election Administration and Voting Survey (EAVS) constitutes the most comprehensive source of such data for systematic analysis. Assuming that most, if not all, the voting registration and turnout information that localities and states report to the EAC are exported directly from their statewide data management systems, we should expect that data is reported by all jurisdictions. If the data is missing, or is inconsistently reported, it might suggest issues with maintaining voter records into the statewide database. If local lists are kept, they should match with the statewide lists. If state-level lists are kept, they should be checked against and, ultimately, match the local data that they came from. This is important because, while states maintain voter registration records in an electronic format, as HAVA mandates, localities often do not use electronic poll books, opting instead to use paper poll books.

As Ansolabehere et al.'s (2010) work on the accuracy of voter records across localities suggests, mismatched or missing data across sources may indicate potential issues with proper and timely reporting. That said, whether reported on the state's election website or the EAVS, voter registration records represent an actual snapshot in time. This can justify some deviations among the different sources (EAC, localities, and the states), but there is little reason that the data shouldn't match, except in some minor deviations due to temporal differences in reporting the data. Voter registration records of removed and duplicate voters, as well as new and rejected voter registration counts should be numerically consistent across these sources when the data are reported within a specific timeframe. Information relevant to federal elections that are inherently connected to voter registration records, such as absentee and provisional ballots, should also match, especially when they are reported after election results are certified by the state.

It is possible that voter list maintenance is a bigger challenge for some jurisdictions than others, despite the state's management structure or existence of uniform rules and procedures regarding voter list maintenance. In effect, localities vary in terms of population size, demographics, as well as human and financial resources (Ansolabehere et al. 2010). It is unreasonable to expect that every jurisdiction within a state is conducting voter list maintenance at the same time and frequency. Missing data, inconsistent reports, or data errors may suggest that cleaning voter records may be particularly challenging for some jurisdictions.

### **Mississippi's Hybrid Voter Registration Database Structure**

According to the 2016 EAVS statutory overview, Mississippi identifies as managing a hybrid voter registration database, where local jurisdictions transmit voter registration information to the SEMS instantaneously".<sup>18</sup> This response suggests that Mississippi's statewide voter registration management database operates under a top-down structure. The state maintains a Statewide Election Management System, or SEMS, hosted on a single, central platform with information supplied by local jurisdictions. A notable component of being top-down is that the state not only houses and maintains the database but also updates the data based on the information supplied by the localities.

How is Mississippi's hybrid structure different from a top-down structure? The Secretary of State's election team and legal counsel clarify that Mississippi does not, in fact, edit any data.<sup>19</sup> Localities update and maintain their lists themselves within SEMS and transmit the data in real-time to all other localities and the state. In the state of Mississippi, this responsibility is

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<sup>18</sup> U.S. Election Assistance Commission, "2016 EAC Statutory Overview," Available at: <https://www.eac.gov/research-and-data/2016-election-administration-voting-survey/>.

<sup>19</sup> Interview with the Mississippi Secretary of State's legal counsel on 4-3-2018.

divided between the county circuit clerks, who are the county's record keepers, and five election commissioners, who are required to authorize when a registered voter is to be removed from the rolls and a new voter is to be added. Although the counties, rather than the state, are responsible for maintaining voter registration lists in their respective jurisdictions, Mississippi's structure differs from a bottom-up one because the data are entered and maintained into SEMS in real time instead of regular intervals.<sup>20</sup>

The Mississippi Secretary of State's office has a supervisory role in operating SEMS, but "does not have the statutory authority to engage in the actual maintenance of the voter rolls."<sup>21</sup> The state requires that county elections officials receive an annual voter list maintenance and SEMS training.<sup>22</sup> Insofar as maintaining voter lists, the state mandates that "registration and poll books never show more voters registered in a given county than are possible."<sup>23</sup> The Secretary of State's office also regulates who has access to the system and what level of viewing and editing permissions each person has. For example, county circuit clerks have the broadest access permissions in that they can generate and review reports of voter records, such as the list of all active and inactive voters. Further, county clerks have full edit permissions, whereas county election commissioners cannot generate every report that the system is capable of and have

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<sup>20</sup>U.S. Election Assistance Commission "2016 Statutory Overview All State Responses in PDF Portfolio," Available at: [https://www.eac.gov/assets/1/6/2016\\_Statutory\\_Overview\\_All\\_States\\_Compiled.pdf](https://www.eac.gov/assets/1/6/2016_Statutory_Overview_All_States_Compiled.pdf).

<sup>21</sup> Mississippi Secretary of State's Office, "Guidelines for voter roll maintenance." Available at: <http://www.sos.ms.gov/Pages/SearchResults.aspx?q=voter%20roll%20maintenance>.

<sup>22</sup> All county election commissioners are required to attend the main, or a make-up training, otherwise they are legally required to resign.

<sup>23</sup> 2017 Annual ECAM Convention training materials, available at: <http://www.sos.ms.gov/Elections-Voting/Pages/2017-Annual-ECAM-Convention.aspx>.

limited edit permissions, meaning that they cannot act unilaterally.<sup>24</sup> This is in accordance with Mississippi statutes that require any change to a voter's status be classified as official business which must be agreed upon by a quorum. In other words, no individual commissioner can act on their own initiative to alter voter statuses without approval from the commission.

The SEMS database matches voter records electronically with data provided by other state agencies, namely the Mississippi Department of Public Safety, Department of Health, and the Administrator of the Courts, as well as the interstate data sharing database Crosscheck. This facilitates the verification of social security numbers and driver's license numbers, and assists officials determine whether a potential change in a voter's status needs to be made due to either death or conviction of a disenfranchising crime. Also, changes of address reports through the USPS National Change of Address (NCOA) are uploaded by the Secretary of State's office into SEMS, which then alerts each county's users when a possible match exists so that they can process the data in accordance to the NVRA. Further, SEMS notifies county circuit clerks about voters that may have duplicate records or require updates of their voter information, but it also alerts other county officials when a change is made to any record that might be relevant to them. Specifically, when a record update is proposed by one county official, in case of a voter who moved to another county, the circuit clerk from said voter's previous county of residence receives an electronic alert and approves the merge.<sup>25</sup>

Mississippi elections officials are given minimal discretion as to how often they are expected to update voter lists. The state's election statutes set minimum and maximum

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<sup>24</sup> Interview with Mississippi Secretary of State Office legal counsel on 4-3-2018.

<sup>25</sup> Secretary of State's Office: Voter Roll Maintenance – ECAM 2017 training materials.

requirements for how often election commissioners and circuit clerks must meet to revise registration records, but the maximum number of days that election commissioners can be paid for their duties is a function of a county's population, ranging from 50 days for counties with less than 15,000 residents, to 240 days for counties with 275,000 or more residents.<sup>26</sup> Since county election commissioners meet more often in populous counties, we should expect that counties with larger population have more opportunities to update their voter records than less populous counties.<sup>27</sup> We also do not expect smaller counties to meet more than they are statutorily required to meet, especially when there is no monetary incentive for local elections officials to do so.

### **How Accurate are Mississippi's Voter Registration and Turnout Records?**

Researchers note that one of the challenges in thoroughly evaluating how states and localities conduct elections and maintain voter records involves the accuracy and reliability of the data reported to the EAVS (Merivaki and Smith, 2016; Burden and Stewart, 2014).<sup>28</sup> Insofar as Mississippi's reporting is concerned, Merivaki and Smith (2015) note that at least 11 of the 82 counties consistently did not report voter registration information in the 2008, 2010, 2012 and 2014 EAVS, such as new valid voter registrations, absentee ballots cast and counted, as well as provisional ballots cast, counted, and rejected. The Secretary of State's Election Division clarified that the state upgraded SEMS in 2012 and that state elections officials completed the 2016 EAVS, which suggests that voter registration and turnout data pertaining to the 2016

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<sup>26</sup> Mississippi Code Title 23. Elections §23-15-265.

<sup>27</sup> We were not able to collect the exact number of times that county commissions met during the 2016 election year, so our estimates are based on Mississippi's statutory requirements and our assumption that county commissioners have no incentives to exceed the maximum number of meetings because they would not be paid overtime.

<sup>28</sup> The Pew Charitable Trusts, "Elections Performance Index: Methodology," April 2014. Available at: [http://www.pewtrusts.org/~media/assets/2014/04/07/epi\\_methodology.pdf](http://www.pewtrusts.org/~media/assets/2014/04/07/epi_methodology.pdf).

Presidential election were collected, reported into SEMS, and available for all 82 of Mississippi’s counties.

The data we are interested in are the county estimates of active and inactive voters, removed voters, duplicate registrations, rejected voter registrations, absentee ballots requested and returned, and provisional ballots cast and rejected. We argue that these are important variables that inform us about voter list maintenance efficiency, because inaccurate voter registration records can increase the rates of provisional ballots, and also the rates of undeliverable absentee ballots. We compare the data reported to the 2016 EAVS with two data sources from Mississippi’s Secretary of State’s Election Division: the statewide voter file, and the county provisional and absentee ballots reports, as exported through SEMS for the 2016 election. In the 2016 EAVS, the data are reported and available from all 82 counties, which allows us to compare across the two sources as a first step to evaluating their accuracy.

**Table 1. Voter Registration Records in Mississippi Voter File**

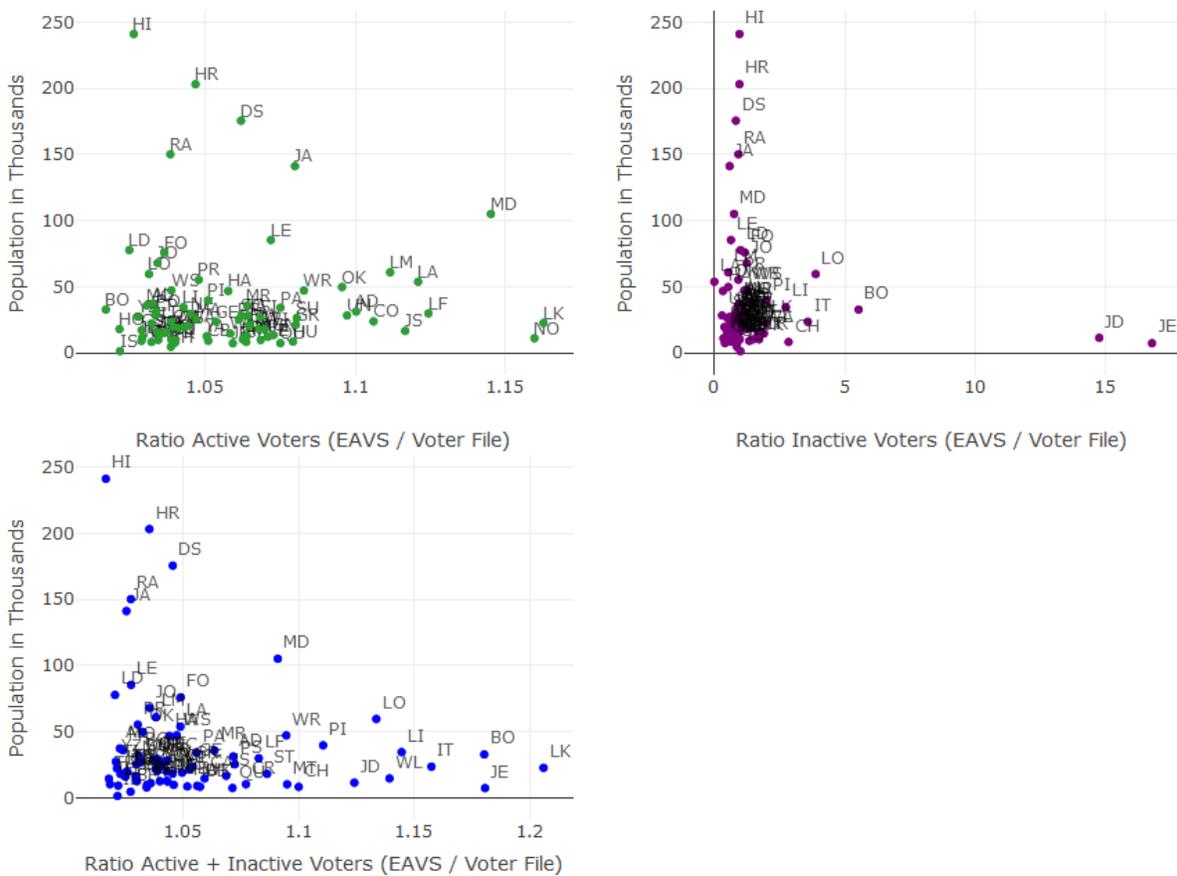
<b>Date</b>	<b>Active</b>	<b>Inactive</b>	<b>Pending</b>	<b>Purged</b>	<b>Rejected</b>	<b>Total</b>
Total Oct. 2017	1,842,050	192,249	813	1,204,940	2,024	<b>3,242,085</b>
Total Oct. 8-Dec. 31, 2016	13,589	326	0	135	50	14,100
Total Jan. 1-Oct. 31, 2017	44,395	832	812	325	201	46,565
<b>Total CB Oct. 8, 2016</b>	<b>1,784,075</b>	<b>191,091</b>	<b>1</b>	<b>1,204,480</b>	<b>211<sup>29</sup></b>	<b>3,179,858</b>

We obtained a copy of the voter file in October 2017. We anticipated that the EAVS data and the copy of the voter file received from the Mississippi Secretary of State’s office would not exactly match. This can be explained by the temporal lag between data collection times. The EAC requested that states submit the EAVS in February of 2017, although the requested voter

<sup>29</sup> The number of rejected registrations from all individuals in the voter file with 2016 the effective year of voter registration.

information records the eligible and registered voters during the states' voter registration closing book deadline. In Mississippi, the voter registration deadline was October 8, 2016. To ensure that the records match the timeline we are looking at, we exclude all voter records from the voter file with effective date of registration of October 9, 2016 until October 17, 2017. As of October 2017, therefore, the Mississippi voter file contained a total of 1,975,166 active and inactive voters whose effective date of voter registration was October 8, 2016 and earlier (Table 1).

**Figure 1. Ratios of Active and Inactive Voters, EAVS<sub>2016</sub>/MS Voter File**



As Figure 1 shows, the county estimates of active registered voters reported in Mississippi's voter file closely match the estimates reported in the 2016 EAVS, with an average

ratio of 1.06. which means that on average the county estimates of active voters are slightly higher in the EAVS than in the voter file. However, some counties deviate from the average by far, such as Jefferson and Jefferson Davies County, who reported 3,753 more and 3,174 fewer active voters in the EAVS than in the voter file respectively. Noxubee County also reported 1,211 more active voters in the EAVS than in the voter file.

The estimates of inactive voters tell a different story, with very few counties' estimates matching between the two sources. Jefferson Davis County reported only 62 inactive voters in the voter file, and 852 in the EAVS a ratio of 14.7. Jefferson County followed a similar pattern (16.8). In other counties, such as Lafayette, the EAVS estimate has only two inactive voters compared to 2,001 in the voter file. Interestingly, Issaquena and Kemper Counties' estimates were a perfect match, although the former reported having only one inactive voter, while the latter reported zero inactive voters as of October 8 of 2016.

Regarding removed, or purged, voters we also find significant discrepancies in the reported estimates when comparing the EAVS and the voter file. The total number of removed voters on the voter file exceeds by far the number of removed voters reported by the counties into SEMS. For example, Adams county is listed as having 18,557 purged voters in the state voter file, yet the 2016 EAVS indicates that Adams county only removed 1,408 voters that year. A discrepancy this extreme suggests that the state voter file only includes cumulative counts of purged voters.

This inconsistency makes it challenging to establish how many registered voters were removed during the 2016 cycle. The purged voters in the state voter file do not have an associated date indicating precisely when they were purged. Rather, the state voter file merely

includes their voter registration date and their last date voted.<sup>30</sup> While last date voted can help us infer roughly when they may have been purged, it would be an imperfect estimate, because purging does not only take place as a result of a voter's inactivity.<sup>31</sup> We estimated the number of voters removed from Mississippi's voter file after having voted in the 2010, 2012, and 2014 federal elections out of all voters who voted in that specific election year.

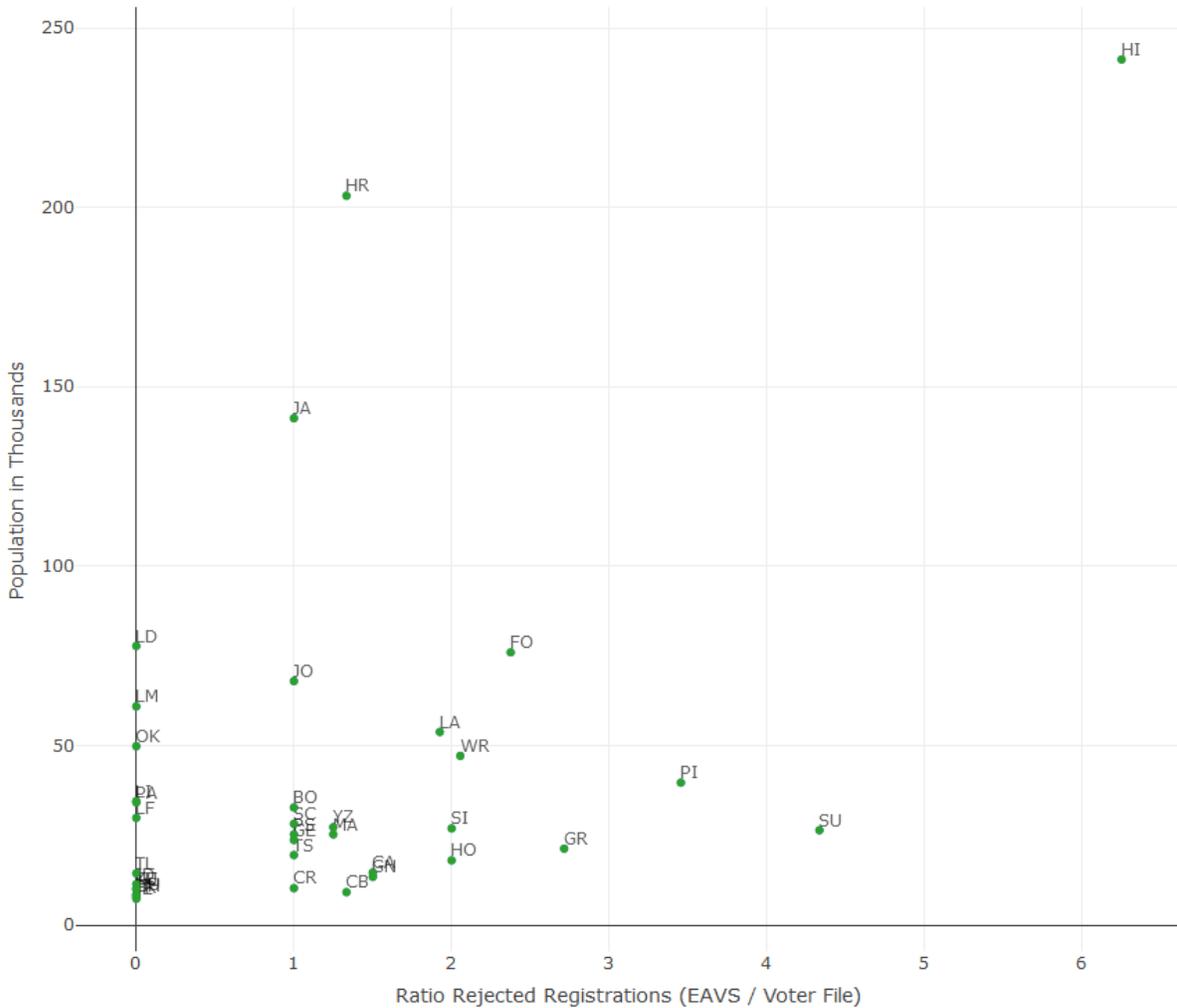
According to the data in the voter file, the rates of purged voters across all counties are quite high, especially after the 2010 and 2014 midterm elections, despite the fact that the raw numbers of removed voters are higher in 2012. Even when we add the numbers of voters who were removed after voting in the 2010, 2012, and 2012 elections, none of the estimates match with the data provided in the EAVS, and in fact, in many counties the removed voters in the voter file are up to five times smaller than what is reported in the EAVS (see Table 2 in Appendix).

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<sup>30</sup> The state's SEMS database connects with and tries to match its records electronically with data provided by other state agencies, namely the MS Department of Public Safety, MS Department of Health, and MS Administrator of the Courts. In addition, the state uploads a list from Crosscheck database on a monthly basis. This aids in the conduction of social security number checks and driver's license number checks for determining whether a potential change in voter status needs to be made due to either death or conviction of a disenfranchising crime. Also, SEMS has National Change of Address (NCOA) data uploaded to it by the Secretary of State's office, which then alerts each county's users when a possible match exists so that they can process the data in accordance to the NVRA.

<sup>31</sup> This raises the question as to how the removal estimates for the 2016 election cycle were pulled from SEMS in order to complete the EAVS. As county circuit clerks explained to us in a series of interviews, SEMS allows its users to produce snapshots of voter registration data, so it is possible that the state was able to produce the report for the 2016 survey. According to the Attorney/Assistant Secretary of State of Communications, "the larger number provided was all purged/rejected voters in the system at that time, and the smaller number was specific to the sate range of the survey. We maintain all voter records on SEMS, even purged status. This is not considered "deadwood" but historical records with no voting rights." Email communication, 06-25-2018.

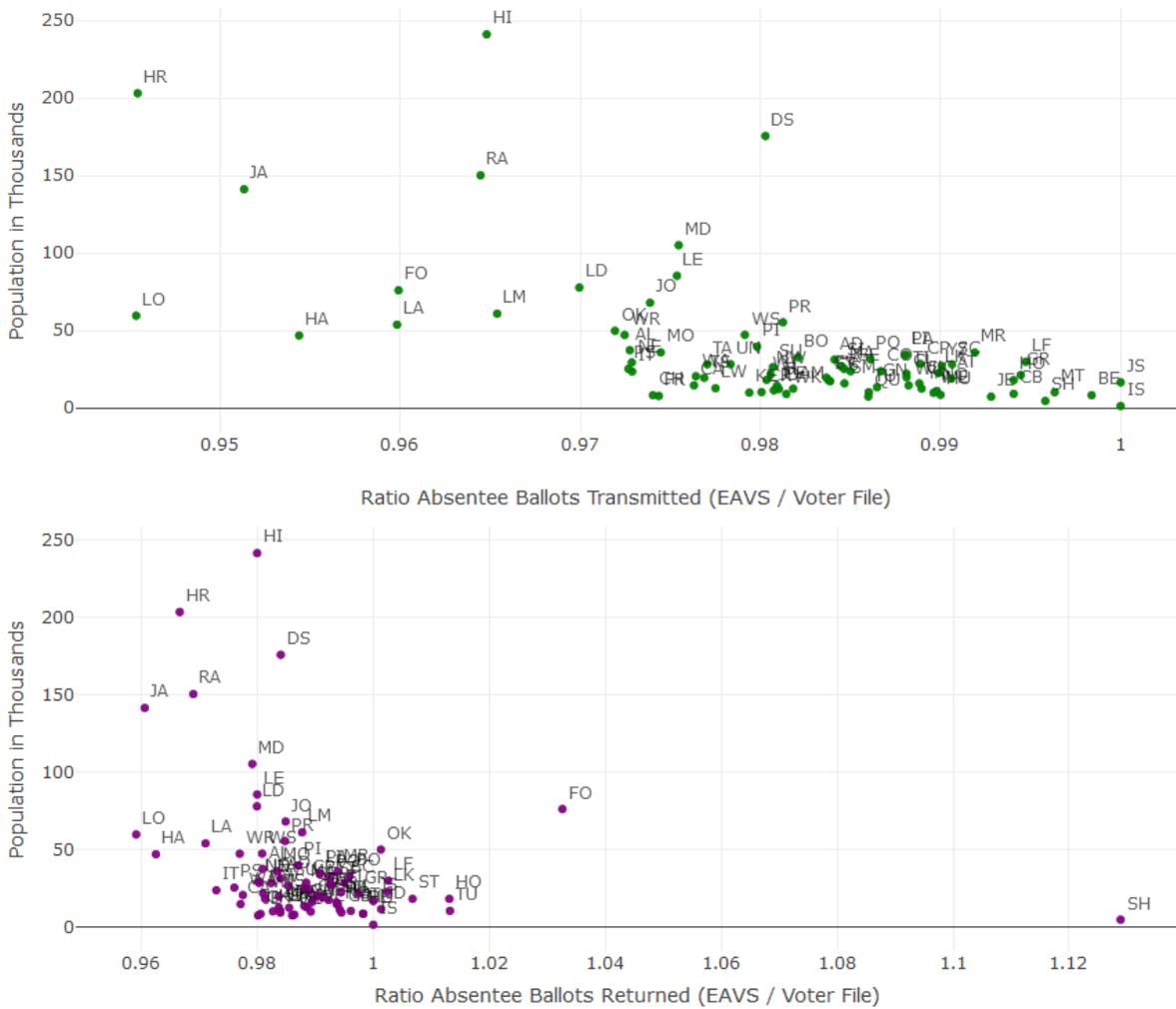
**Figure 2. Ratio of Rejected Voter Registrations, EAVS<sub>2016</sub>/MS Voter File**



Comparing the estimates of rejected voter registrations between the 2016 EAVS and what the voter file contains was a challenge (Figure 2). According to many county circuit clerks, voter registration applications are “never rejected.” In effect, 56 percent of the 82 counties (46 counties) reported zero rejected voter registrations in both the EAVS and the voter file. Among the counties that reported rejecting invalid voter registrations, the highest estimate reported in the EAVS was 181 in Lafayette County. All other counties reported rejecting fewer than 50 registrations regardless of population size, which is interestingly low and seems consistent with

the claim that Mississippi county elections officials “never” reject a voter registration application. The zeroes, however, might also mean that counties do not report rejected registrations. In fact, according to the Oktibbeha County Circuit Clerk, copies of all voter registration applications that are incomplete or unverified by the state’s closing book deadline are kept at the Clerk’s office, but the information is not entered in SEMS.

**Figure 3. Ratios of Absentee Ballots Requested and Returned, EAVS<sub>2016</sub>/MS Voter File**



The county estimates of absentee ballots requested and returned in the EAVS closely match the estimates we received from the Secretary of State’s office. As Figure 3 shows, two out

of the 82 counties matched at a 1:1 ratio, and 78 counties' estimates were fewer in the EAVS by a small margin. Coahoma and Lawrence Counties were the notable outliers. According to the Secretary of State's reports, Coahoma received zero absentee ballots from a total of 676 returned. In the EAVS, it is reported that 667 absentee ballots were requested, and 676 were returned. The fact that the number of ballots transmitted is smaller than the number of ballots returned in the EAVS, combined with the zero absentee ballots returned in the EAVS is a strong indication of reporting errors in Coahoma County. This is interesting, since both estimates are drawn from SEMS, albeit at different points in time. However, the EAVS report was submitted prior to the date when we received the reports, so we cannot infer that by the time the EAVS was submitted Coahoma County might not have entered all absentee ballot information into SEMS.<sup>32</sup>

When we addressed this during our interview with the Mississippi Secretary of State's legal counsel, we were advised to "ask the counties," as they are responsible for the accuracy of the data. We followed-up with the Coahoma County Circuit Clerk and her deputy clerk clarified that the estimates were the same in the EAVS and their records in SEMS and suggested that the zeros must reflect a reporting error at the time the Secretary of State's office produced the report.<sup>33</sup> This interaction demonstrates the possible complexities in maintaining a hybrid structure insofar as producing such reports and who the state perceives as responsible for maintaining accurate records.

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<sup>32</sup> When we addressed this during our interview with the Mississippi Secretary of State's legal counsel on 4-3-2018, we were advised to "ask the counties," as they are responsible for the accuracy of the data. We followed-up with the Coahoma County Circuit Clerk on 7-3-2018, and her deputy clerk clarified that the estimates were the same in the EAVS and their records in SEMS and suggested that the zeros should reflect a reporting error at the time the Secretary of State's office produced the report.

<sup>33</sup> Interview with Mississippi Secretary of State Office legal counsel on 4-3-2018.  
Interview with Coahoma County Circuit Clerk and deputy clerk on 7-3-2018.

Lawrence County is an outlier for a different reason. Technically, both estimates of absentee ballots sent and returned match, but the number of absentee ballots returned were zero. This suggests that Lawrence County does not report the data into SEMS, or none of the voters who requested absentee ballots cast a vote in 2016, or that the absentee ballots did not reach the voter, or the elections office due to an error. In fact, Lawrence County reported in the 2016 EAVS that 565 of the 667 absentee ballots transmitted were not returned for reasons unknown. This strongly indicates issues in the process of verifying these voters' information to ensure that the requested absentee ballots will reach them.<sup>34</sup>

Among all the variables that we compared, the estimates of provisional ballots cast and rejected were the most inconsistent for approximately 22 percent of Mississippi's counties (18). As Figure 4 shows, Adams County is the biggest outlier. In the Secretary of State's reports, only six provisional ballots were cast and three were rejected. In the 2016 EAVS, however, Adams County reported 271 provisional ballots cast, and 42 rejected. What is more, five counties reported zero provisional ballots cast in the 2016 election both in the EAVS and the Secretary of State's reports.

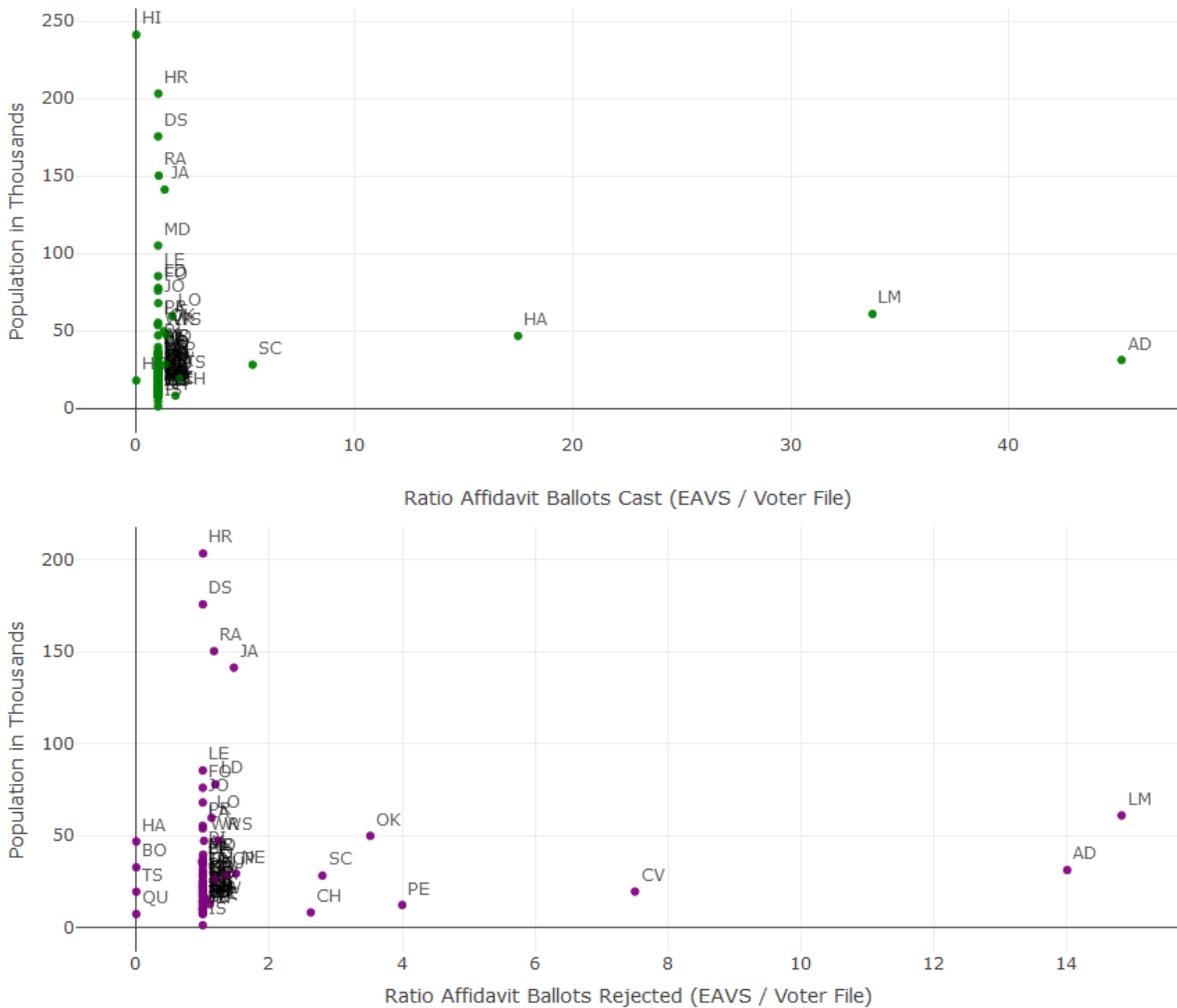
Two counties, Hinds and Holmes have zero provisional ballots in the Secretary of State's report yet reported 2,068 and 61 provisional ballots cast in the 2016 EAVS respectively. Again, these estimates are pulled from SEMS, albeit at different points in time. It is not clear why the totals of provisional ballots would change or not exist in SEMS eight months after they were reported to the EAVS, however, unless there is an error in how the data were entered. According

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<sup>34</sup> In effect, Lawrence County reported absentee ballots estimates only in one of the four bi-annual EAVS between 2008-2014 (Merivaki and Smith, 2015).

to Kemper County Circuit Clerk, the state did not require counties to report provisional ballots, unless they were cast due to lack of photo id. If that is the case, then the zeros indicate lack of reporting from some counties. But it still does not explain why estimates from Hinds and Holmes Counties were reported in the EAVS, and not in the Secretary of State's reports.

**Figure 4. Ratios of Provisional Ballots Cast and Rejected, EAVS<sub>2016</sub>/MS Voter File**



The estimates of provisional ballots are particularly important, because they are issued when a voter's voter registration status cannot be verified at the polls or her name does not appear in the poll books. Such inconsistencies make it difficult to determine why voters did not

cast a regular ballot in 2016, and whether provisional voting rates were high or low in Mississippi. What is more, Mississippi did not report to the EAVS the reasons why voters cast provisional ballots, although the Secretary of State's report contains that information, albeit with several counties reporting zeroes. When we followed up with the counties who reported zero provisional ballots cast in either the EAVS or in SEMS, we were told that they simply did not report the estimates into SEMS, but they retain copies of the ballots. This is another indication of the potential impact of a hybrid data management structure on retaining and updating records, especially when we move beyond accurate voter registration estimates, such as active and inactive registered voters, which seems to be the state's priority.

### **Are Some Counties More Efficient in Cleaning Voter Rolls Than Others?**

It is possible that the discrepancies we observe when comparing voter registration and voting estimates in the EAVS and Mississippi's voter files reflect issues in data reporting, rather than issues with maintaining accurate voter registration records. When entering and updating voter records on a weekly basis, errors might be unavoidable. According to Ansolabehere et al. (2010), however, inconsistencies in data reporting strongly indicate the existence of errors in localities' voter files. If erroneous records, such as nonsensical voter registration and voting dates, missing information, as well as data entry errors, appear in some counties at higher rates than others, then it is possible that voter list maintenance is more challenging for these counties. In terms of capacity to conduct list maintenance, large counties may contain more errors in their voter records purely in terms of population size. In contrast, small counties might be more familiar with the voters, and thus more able to update their records in a timely manner than large counties. As Figures 1-3 suggest, however, smaller counties had the most inconsistencies in reporting consistent voter registration and voting estimates. That said, Hinds County,

Mississippi’s largest county, has the most inconsistent estimates of provisional ballots cast and rejected.

Table 3 presents the number of counties whose voter records contain errors and inconsistencies, from nonsensical voter registration and last year voted dates of registered voters whose status is active or inactive, existence of duplicate records and non-reported rejected applications (zeroes). 66 counties contain voter records with registration dates ranging from 01/01/01, 01/01/1801 to 01/01/1920. Indicatively, Sharkey County reportedly has 1,313 registered voters whose registration date is 01/01/1801, 1,258 of which are active voters. This is interesting, as Sharkey County’s population is 4,552 with a total of 3,099 active registered voters.

**Table 3. Number of Mississippi Counties with Erroneous/Non-Reported Records**

	Yes	No
<b>Voter Registration Year 1-1920</b>	66	16
<b>Last Year Voted 1801-1899; 2022</b>	19	63
<b>Active Voters; No Last Date Voted</b>	20	62
<b>Duplicate Records</b>	16	66
<b>Non-Reporting Rejected Registrations</b>	49	33
	<b>N = 82</b>	

The Mississippi voter file also contains records of active and inactive voters whose date of voting is recorded erroneously, such as 01/01/1801 or 01/01/2022. Hinds and Forrest Counties have 6,386 and 1,896 active and inactive voters respectively who reportedly last voted in 1899 or 1899. Although the numbers appear large, these erroneous records make up approximately 4 percent of the total registered active and inactive voters in the two counties’ records. What is more, 20 counties keep records of active and inactive voters with no information of their last voting date. Scott County has the highest percentage of these voters from the total of active and

inactive registered voters in its records (15%). Alcorn, Leake, Washington and Yazoo Counties were also among the few counties with rates of active and inactive voters whose voting date is missing, ranging from 11 to 14 percent of total active and inactive registered voters. As Ansolabehere and Hersh (2014: 81) explain, accurate voter registration and voter history dates are very important insofar as maintaining records of voters who may be inactive long enough and should be removed from the rolls. If a voting date is erroneously missing, or if the voter registration date cannot be verified, a voter's status may prematurely switch from active to inactive status.

In the 2016 EAVS, Mississippi reported that estimates of duplicate registrations are not available. This may be because once a county election commissioner approves that a record is duplicate, SEMS automatically updates the voter records, which suggests that no voter record will exist more than once in the voter file. However, this is not the case. Aside from the 239 records that the state marked as duplicate and retains for "tracking and auditing purposes," seventeen registration records were duplicated more than once, and thirty-three others were duplicated once.<sup>35</sup> As Table 2 shows, only 16 of the 82 counties contained duplicate records. It is possible that at the time the voter file was produced, these duplicate records were not yet approved by county election commissioners. If that is true, then a duplicate record implies that a voter moved from one county to another, so her status should be active. Interestingly, the slight

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<sup>35</sup> The Mississippi voter file contains duplicate voter records in a -NNNNNNNN voter identification format, while the non-duplicate records are in a NNNNNNNN format. Excluding the marked duplicates, we discovered the remaining duplicated records by matching the voter registration file with the voter history file for all federal elections since 2000.

majority of the records contain purged voters, which is another indicator that some counties retain records of purged voters, even in duplicate form, at higher rates than others.

It is not clear why the voter file would contain duplicate records, regardless of whether they are marked as such by the state. SEMS facilitates county coordination in voter list maintenance. In effect, not only can SEMS help county officials identify voters that may need to have their records merged or purged, but it also alerts other county officials when a change is made to any record that might be relevant to them. Specifically, when a record merge is proposed by one county official, it is electronically sent as an alert to the other county official for approval.<sup>36</sup> Given that counties have the ability to instantly update voter records we would not expect duplicate records in the voter file, especially when county elections officials clarify that they do not keep track of them.

Every prospective voter who submits a new voter registration application is marked as “pending” in SEMS until her information is verified and a new voter registration card is mailed. In that case, the voter will be marked as active. The applicants whose information is either incomplete or not verified will be switched from pending to rejected. There is significant variation in how county elections officials are processing such records. As Table 2 shows, 33 counties report rejected records in the voter file. As mentioned previously, some county circuit clerks report that they “never reject” voter registrations, while others are very clear they will reject applications when the applicant’s information remains incomplete or unverified. In that case, the counties who report zero rejected registrations should be those who “never reject.” When we followed up with some of these counties, however, the circuit clerks told us that they

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<sup>36</sup> Secretary of State’s office: SEMS PROCESSING – ECAM 2017.

do not report such records in SEMS. The zeroes, therefore, do not necessarily mean that registrations are “never” rejected, but that they may not be reported into SEMS, and therefore not available in the voter file.

In order to investigate whether small counties experience more challenges in cleaning voter rolls, as the descriptive statistics suggest, we run five logistic regressions with robust standard errors, clustered by county. The dependent variables are whether the county contains erroneous records or non-reported items, as described in Table 1.<sup>37</sup> The main independent variable is the county population, and we also control for the number of voter list maintenance meetings that county elections officials are statutorily required to meet per year, averaged by month.

**Table 4. Population and Administrative Impact on Probability of County Voter List Errors**

	<b>Nonsensical Registration Year</b>	<b>Nonsensical Election Year</b>	<b>No Election Year (A)</b>	<b>Contains Duplicates</b>	<b>Non- Reported Rejected</b>
<b>Population</b>	+*	+**	+**	<i>NS</i>	<i>NS</i>
<b>Average Meetings</b>	<i>NS</i>	-*	<i>NS</i>	<i>NS</i>	<i>NS</i>
<b>N = 82</b>					

As Table 2 shows, the county population is positively correlated with the likelihood that a county’s records contain nonsensical registration years, election years, or active voters without a voting date. While it appears that larger counties are more likely to contain nonsensical election dates, more voter list maintenance meetings decreased the likelihood of such errors, ceteris

<sup>37</sup> An alternative would be to create a combined measure of erroneous records out of the five items. However, the Cronbach’s alpha coefficient was below .65, and thus we could not use the measure as a dependent variable.

paribus.<sup>38</sup> Neither population size nor the average number of voter list maintenance meetings predict whether the county's records will contain duplicate records or zero rejected records. This is an interesting finding, which suggests that county election officials may update records that involve active and inactive voters more rigorously than processing records of incomplete voter registration applications that may result in a rejected registration.

We find no evidence that errors in the voter file are associated with issues in reporting voter registration and voting estimates in the 2016 EAVS. This may be contrary to the expectation that erroneous records in the voter file are associated with inconsistent reporting of voter registration and turnout estimates, as Ansolabehere et al. (2010) suggest. It is likely, therefore, that voter list maintenance is "efficient" to the extent as it does not significantly impact the status of eligible voters when they turn out to vote. If a voter is "active" and shows up to cast a ballot, perhaps it is not a priority to correct the voter's nonsensical voter registration date, but rather ensure that the voter's status remains "active".

## **Conclusion**

According to our analysis, discrepancies in the Mississippi voter file are strongly correlated with the county's population size. This suggests that cleaning voter rolls may be a challenge for larger counties due to the size of the rolls. In effect, the counties which contained every type of erroneous records, from missing date of voting for active voters, to nonsensical voter registration and turnout dates, were Mississippi's largest counties, namely Harrison, and

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<sup>38</sup> We also run a logistic regression controlling for whether the county uses an electronic poll book to update a voter's history. Having e-poll books was not statistically significant in the model. We do not report it in Table 4 because the model was weak in statistical significance ( $p=.096$ ) and did not perform as well as the base model (BIC).

Hinds Counties. As the descriptive figures showed, these two counties often stood out in terms of inconsistencies in reporting voter registration and turnout estimates in the 2016 EAVS.

Despite the statistical significance of population size in predicting errors in the voter file, we find that it is also worthwhile to address why small counties not fit the general pattern. Over 44 percent of Jefferson Davis County's records for instance contain errors, which is the highest percentage of erroneous records in the voter file. Jefferson Davis is the clear outlier, therefore, which strongly suggests that voter list maintenance is especially challenging for such a small county.

It is perhaps unrealistic to expect that voter registration lists will be 100% error-free. In the context of our study, there were a little over 2 million active and inactive registered voters in the Mississippi voter file, but also 326,688 active and inactive voters with no election date recorded. The errors we observed in the voter file reflect discrepancies in the frequency that data are updated by localities, as well as in the attentiveness to correct voter records that have missing or incomplete information. Several of the inconsistencies we found in the voter file involve active voters who voted in the 2012 and 2016 presidential elections. They should have been given the opportunity to update their information at the polls. The fact that erroneous and duplicate records appear only in specific counties strongly suggests that such issues are county-specific, rather than a statewide issue.

In a hybrid structure such as the one that Mississippi identifies itself, counties have complete control of which data they will report to SEMS, as well as how often they will report and whether the data entered will be complete. The state regulates access to the database and is able to pull records to maintain the statewide voter list, as well as to report to the EAVS. Our

analysis has barely scratched the surface of how consistently data are reported between the localities and the state, and whether the information reported to EAVS is accurate. As Merivaki and Smith (2015) argue, localities and states have improved in reporting complete data to the EAC, especially with respect to estimates of total registered voters, active and inactive, and turnout estimates. Many localities still do not report important information that can assist us in evaluating the efficiency of voter list maintenance across the states, such as new valid and rejected voter registrations, duplicate registrations, and rejected provisional ballots. Mississippi officials, for instance, informed us that they were not required to report voters who cast a provisional ballot for any reason except due to lack of voter id in the 2016 election.

We are limited in how much we can extrapolate by our analysis of one state's hybrid structure about efficient voter list maintenance in other hybrid states. Since databases are different from state to state, states are inherently different from one another in terms of demographics and operations, and hybrid systems specifically are all unique, it is nearly impossible to create any sort of meaningful benchmark to compare data to. Furthermore, since the creation of the database in 2006 is what has progressively increased data completion and data quality throughout the years, it would be impossible to make accurate comparisons of data before the database's implementation and after.

Our next steps are to compare the voter file's aggregated voter lists to each individual county's list for accuracy, as well as investigate deeper how localities are maintaining records of purged voters. When we asked county clerks how they address erroneous records, they respond by saying that they have been actively correcting such records "since they came into office." Interestingly, the county clerks who gave us this response are newly elected, which adds another

dimension to our research, namely the tenure of the local election officials. Many county officials argued that purchasing electronic poll books facilitates record-keeping particularly insofar as updating voter history information, although our analysis does not confirm this claim. Nevertheless, these are important factors that can help uncover issues with maintaining voter lists at the local level. A notable challenge is the fact that missing or inapplicable data is sometimes reported to the EAVS by Mississippi as zero rather than null, making it difficult to tell what is truly missing and what is truly zero. As other researchers note (Pew, 2014), however, validation of the data constitutes an integral part of evaluating how states conduct elections, which should include how voter lists are updated and maintained.

While at this time the study is ongoing, one can already draw important conclusions about how Mississippi's hybrid system performs. Despite the theoretical advantages of this type of hybrid system relating to data accuracy and voter list maintenance efficiency, it is important that Mississippi policy makers continue to make reporting data to the SEMS system statutorily mandatory before academic studies will be able to analyze this empirically in a conclusive way. Still, it appears that the hybrid system does, at the very least, allow counties to make ad hoc decisions about how to maintain voter records in their respective jurisdictions. Election administration reform advocates, such as the Election Assistance Commission (EAC), strongly suggest the adoption of post-election audits, which Mississippi does not statutorily require. The Secretary of State announced that it will pilot the first statewide post-election audit to assess the counties' performance in the June 2018 primaries for U.S. Congress. This indicates that oversight may be necessary to ensure the quality of voter list maintenance under a hybrid

structure, which may have similar implications for states that operate under a bottom-up structure.

In the future, researchers should seek to take a descriptive, case-study approach toward other hybrid systems so that systematic similarities can be identified, and unique differences can be analyzed with closer scrutiny. Furthermore, researchers should seek to clarify the relationships between removed, duplicate, and rejected registrations and demographic factors between hybrid states and among counties within hybrid states.<sup>39</sup> Finally, future research should seek to shed light on the differences between hybrid, top-down, and bottom-up structures regarding processing new, duplicate, and invalid voter registrations, as well as removing ineligible voters.

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<sup>39</sup> Unfortunately, the Mississippi voter file constrains us in that it does not report voter demographics or date of birth.

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**Table 4. Estimates of Removed Voters After the 2010, 2012, and 2014 General Elections**

<b>County</b>	<b>Voted 2010</b>	<b>Voted 2012</b>	<b>Voted 2014</b>	<b>Total 2010- 2014</b>	<b>Total EAVS</b>	<b>Diff.</b>	<b>Ratio EAVS/ Voter File</b>
Adams	199	1,186	282	1,667	1480	187	0.89
Alcorn	146	723	89	958	845	113	0.88
Amite	56	445	101	602	837	-235	1.39
Attala	108	567	108	783	976	-193	1.25
Benton	43	335	55	433	696	-263	1.61
Bolivar	174	542	114	830	4,904	-4,074	5.91
Calhoun	62	368	61	491	576	-85	1.17
Carroll	48	297	57	402	293	109	0.73
Chickasaw	80	312	59	451	669	-218	1.48
Choctaw	61	249	47	357	919	-562	2.57
Claiborne	83	334	58	475	1,059	-584	2.23
Clarke	78	400	125	603	1,023	-420	1.70
Clay	133	439	119	691	1,259	-568	1.82
Coahoma	104	563	109	776	1,296	-520	1.67
Copiah	186	675	151	1012	826	186	0.82
Covington	116	375	111	602	547	55	0.91
DeSoto	877	3,697	1,015	5589	8,047	-2,458	1.44
Forrest	518	1,456	433	2,407	3,059	-652	1.27
Franklin	31	319	53	403	551	-148	1.37
George	172	478	123	773	767	6	0.99
Greene	64	282	50	396	488	-92	1.23
Grenada	137	664	143	944	810	134	0.86
Hancock	287	726	312	1,325	1,093	232	0.82
Harrison	875	2201	763	3839	3,890	-51	1.01
Hinds	1,029	3,160	1,789	5,978	7,766	-1,788	1.30
Holmes	78	265	116	459	445	14	0.97
Humphreys	55	289	54	398	450	-52	1.13
Issaquena	15	34	7	56	233	-177	4.16
Itawamba	80	348	86	514	936	-422	1.82
Jackson	1,014	2,460	868	4,342	6,477	-2,135	1.49
Jasper	137	480	107	724	1,543	-819	2.13
Jeff Davis	103	378	86	567	559	8	0.99
Jefferson	81	283	47	411	258	153	0.63
Jones	349	1,280	507	2,136	2,351	-215	1.10
Kemper	32	225	39	296	508	-212	1.72

Lafayette	328	1,242	279	1,849	1,939	-90	1.05
Lamar	512	1,314	442	2,268	2,497	-229	1.10
Lauderdale	265	1,732	446	2,443	2,193	250	0.90
Lawrence	75	330	101	506	716	-210	1.42
Leake	128	478	96	702	813	-111	1.16
Lee	459	1,601	377	2,437	4,725	-2,288	1.94
Leflore	169	553	166	888	2,395	-1,507	2.70
Lincoln	180	1,007	199	1,386	3,020	-1,634	2.18
Lowndes	441	1,027	278	1,746	1,386	360	0.79
Madison	463	1,910	637	3,010	3,675	-665	1.22
Marion	181	835	171	1,187	1,221	-34	1.03
Marshall	220	801	152	1,173	1,061	112	0.90
Monroe	181	775	173	1,129	1,482	-353	1.31
Montgomery	50	334	66	450	587	-137	1.30
Neshoba	106	509	125	740	810	-70	1.09
Newton	91	511	121	723	639	84	0.88
Noxubee	71	259	63	393	544	-151	1.38
Oktibbeha	248	918	292	1,458	1,773	-315	1.22
Panola	291	635	123	1,049	4,124	-3075	3.93
Pearl River	322	919	315	1556	2,254	-698	1.45
Perry	63	256	61	380	576	-196	1.52
Pike	205	1,344	256	1,805	1,963	-158	1.09
Pontotoc	93	403	99	595	637	-42	1.07
Prentiss	255	593	140	988	1,837	-849	1.86
Quitman	59	324	91	474	544	-70	1.15
Rankin	546	2,093	849	3,488	3,244	244	0.93
Scott	71	355	91	517	591	-74	1.14
Sharkey	35	180	27	242	234	8	0.97
Simpson	125	518	130	773	851	-78	1.10
Smith	71	397	114	582	1,454	-872	2.50
Stone	109	332	95	536	516	20	0.96
Sunflower	107	555	122	784	973	-189	1.24
Tallahatchie	38	233	51	322	268	54	0.83
Tate	157	593	164	914	1,563	-649	1.71
Tippah	99	373	95	567	1,128	-561	1.99
Tishomingo	124	282	106	512	828	-316	1.62
Tunica	33	265	35	333	348	-15	1.05
Union	194	469	126	789	1,031	-242	1.31
Walthall	106	389	105	600	1,182	-582	1.97
Warren	275	921	316	1,512	2,303	-791	1.52
Washington	239	1,195	275	1,709	2,956	-1247	1.73

Wayne	105	480	110	695	1,106	-411	1.59
Webster	70	172	78	320	419	-99	1.31
Wilkinson	44	188	34	266	1,423	-1,157	5.35
Winston	72	510	114	696	760	-64	1.09
Yalobusha	72	278	80	430	368	62	0.86
Yazoo	89	537	124	750	830	-80	1.11

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